UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **August 23, 2019**

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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:
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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)
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New Records on Temperatures This Summer

By: Stanton Gill

BWI airport recorded a new record high for August of 99 °F on August 19. NOAA is also reporting that worldwide we had the hottest July on record. Alaska is suffering through a very unusual hot summer as well.

This hot weather is causing a lot of plants to collapse over the last month. On the good side, figs are recouping from the winter cold and loving this heat. Peaches have excellent flavor this summer because of the excessive heat.

Spencer Ecker found a mayfly adult in August; they don't all come out in May Photo: Spencer Ecker, Potomac Flower & Garden Design

Be on the Lookout for Beech Leaf Disease

by Karen Rane

While in northeast Ohio last week, I visited a site hard-hit by a new disease threatening beech trees in landscapes and forests. The problem was first observed in Ohio in 2012, and spread to counties in PA, OH, NY and Ontario, Canada (roughly around Lake Erie) over the next 6 years. In 2019, the disease was confirmed in beech trees in Long Island, NY and in Connecticut – quite a distance from the original locations. The disease is currently called Beech Leaf Disease, and the main symptom is dark green stripe-like markings on affected leaves. The dark green areas are bordered by leaf veins, and are easiest to see when standing under an affected tree and looking upward through the canopy (Figure 1). In some cases, affected leaves can become thickened or puckered, and the discolored tissue may become necrotic. Over time, affected trees develop sparse, thinning canopies. In Ohio, tree mortality has occurred within 3 years on young understory trees, and after 6 years in larger trees. Native American beech (*Fagus grandifolia*) as well as European beech (*F. sylvatica*) and Oriental beech (*F. orientalis*) can be affected.

For several years, the cause of this disease was unknown, but Japanese researchers recently described a new nematode, *Litylenchus crenatae*, found in symptomatic foliage of *F. crenata*, the Japanese beech, in Japan. The nematode has also been recently confirmed in symptomatic leaf tissue in the US, but there is much more to learn about how the nematode is spread and how it causes disease. **We have not yet found this disease in Maryland**, but this year's discovery of affected trees on the East Coast has raised our awareness and our concern. If you see these symptoms on beech trees in the landscape or in forested areas, please contact me via email (rane@umd.edu) and attach photos of the symptomatic leaves.

Figure 2. Loss of foliage (note bare branches) due to Beech Leaf Disease on two young beech trees. Arrows point to trunks of affected trees.
Photo: K. Rane

Figure 1. Dark green stripes on American beech leaves in Ohio affected by Beech Leaf Disease.
Photo: K. Rane

Fire Blight

By: Stanton Gill

Jeff Lavrusky, BrightView, sent in samples of Bradford pear that had branch dieback. Karen Rane confirmed it was fire blight. Jeff collected these branches from Bradford pears in Northern Virginia last week. He said over 40 trees were showing symptoms. It is a little unusual to see this activity in August. Prune out the infected growth during dry periods, cutting well below the cankered area.

Ambrosia Beetle Active in Late August

By: Stanton Gill

Jim McWilliams, Maxalea Inc., sent in pictures of *Cercis* (redbud) they planted in a customer's landscape 15 years ago. Recently, it showed dieback. On close examination, frass tubes from ambrosia beetle activity was evident on the trunk. It would be activity from the third generation of *Xylosandrus* this summer. I did not see an adult for species identification yet.

In early July, I had a 20 ft high, 12 year old Japanese red maple at my farm attacked by *Xylosandrus germanus*. I have watched the tree over the last 45 days and it has lost ¼ of its branches. In the last week, it started pushing out adventitious growth on some of the branches and appears to be recovering. Often trees that are attacked die, but in some cases, they can recoup and survive.

If you are seeing frass tubes on any trees in August, send me a picture and let me know the location – Sgill@umd.edu.

Third generation ambrosia beetles are producing frass tubes on the trunk of this redbud
Photo: Jim McWilliams, Maxalea Inc.

San Jose Scale

By: Stanton Gill

Back in late July, I mentioned that San Jose scale was in crawler stage and very active on pear, plums, peaches, nectarines, and apples. I received a peach sample this week from a Baltimore area landscaper. The peach was from his customer's tree. They noticed the red spots on the fruit and poor growth of the tree. Normally, a healthy peach tree should have 4 – 8 ft of new wood that formed this season. They had growth that was just a couple of inches in length. The San Jose scale that I examined were mostly in the 3rd instar stage and a few were 2nd instars. The next generation of crawler activity will occur in mid-September which is the point where you want to use either of the insect growth regulators, Talus or Distance, which are labeled for use on not edible fruit trees. For edible fruit trees, look under the chemical name, pyriproxyfen, and you will find several products that contain this growth regulator that are labeled for use on fruit trees. Esteem is one of the brand names.

Look closely at red spots on peaches to see if San Jose scale is present

Tree Crickets – Very Active in August

By: Stanton Gill

Well, it seems just about everyone is taking off on vacation in the middle to end of August. I am getting in emails from landscapers and nursery managers who have been camping with their families. Several asked which insects are causing all of the nighttime racket in wooded areas. These insects are tree crickets. There are many species out there, but most have one generation per year, and August is the big activity month. The bodies of tree crickets are long and skinny with a coloration that matches their host plant.

These guys are influenced by the temperature which decrease the time between chirps. The warmer the temperature, the more chirping that makes more racket. The high temperatures of the last 2 weeks has made for lots of short interval chirping and an almost deafening chorus of chirping. It sounds like an electric line has gone down and can be rather oppressive to some people. To me, it is just one of the sounds of summer. Actually, it is the love calls of tree crickets trying to find a mate.

Snowy tree crickets are very common in Maryland, and we will see the adults feeding on the upper surface of cherry laurel and rhododendrons over the next couple of weeks. The damage really becomes evident in September, but the game is over at that point.

A close-up of a snowy tree cricket on our building

Look for snowy tree cricket damage on plants such as cherry laurel

Crape Myrtle Aphids Very Active

By: Stanton Gill

Crape myrtles are looking beautiful at this time of year with their flower displays. Check the foliage for crape myrtle aphids, which are extremely active in August. Mark Schlossberg, ProLawn Plus, Inc., found aphids on foliage and heavy sooty mold growing on the honeydew coated leaves. Endeavor and Altus both work well in controlling these aphids.

A heavy infestation of crape myrtle aphids is producing honeydew on which sooty mold grows

Redbud Caterpillar

By: Stanton Gill

Three weeks ago, we reported that when visiting a PA nursery we found a caterpillar feeding on redbud. This was the redbud leafroller, *Fascista cercerisella*. Nancy Woods, MNCPPC, sent in these pictures this week of similar damage showing up on her redbuds in Bethesda. The damage was on *Cercis chinensis* 'Don Egolf'. Damage is not extensive from this pest and control is not necessary.

Close-ups of the redbud leafroller caterpillar showing damage and webbing
Photos: Nancy Woods

Oleander Aphids on Milkweed

By: Stanton Gill

Connie Bowers, Garden Makeover Company, found a significant infestation of oleander aphids on *Asclepias incarnata* (swamp milkweed). Connie that she cut off some bad stems and tried to dislodge some with water, but the population seems to be increasing. The are generally not a problem. Predators feast on them and collapse populations.

Oleander aphids can be found coating the stems of milkweeds
Photo: Connie Bowers, Garden Makeover Company

Stinkhorn Fungus

Spencer Ecker, Potomac Flower & Garden Design, found stinkhorn fungus in Great Falls, VA this week. These fungi show up suddenly in lawns and landscapes. Spores adhere to the tip in a smelly slime which attracts flies. They break down old plant material.

The smelly slime on the tips of stinkhorn fungi attracts flies
Photo: Spencer Ecker, Potomac Flower & Garden Design

Katydid Eggs

Erin Kimberly found katydid eggs on wineberry last week. Females lay eggs in late summer. The eggs are oval-shaped, somewhat flattened, and laid in rows on small plant stems or sometimes in the soil. Eggs hatch in the fall. Paula Shrewsbury covered them as the Beneficial of the Week in the October 7, 2016 IPM Report.

Katydid eggs are often appressed to woody plant stems
Photo: Erin Kimberly

Marssonina Blotch on Apple Trees in Your Customers' Landscapes

Kari Peters, Penn State University, posted a disease alert on Marssonina blotch on apples which infects leaves and fruit. This disease can cause premature defoliation. The article also provides control options.

Good Guys Hatch Out

By: Stanton Gill

In July, we started receiving pictures of assassin bug egg masses on trunks of trees. This latest generation just started hatching in central Maryland this week. Nancy Woods, MCNPPC, sent in these pictures of young nymphs of assassin bugs that just hatched in the McCrillis Gardens in Bethesda. Assassin bugs are wonderful general predators and feed on foliage feeders, such as caterpillars and beetles.

Assassin bugs continue to hatch out as we move through August
Photo: Nancy Woods

Beneficial of the Week

By: Paula Shrewsbury

Polistes (paper) wasps kill caterpillars to feed their young.

This has been a incredible year for Lepidoptera (butterflies, moths, and their caterpillars)! It has been great to see all the tiger swallowtail butterflies and monarchs, but not so good to see the abundance of fall webworm caterpillars and their webbed nests and defoliation damage. I do not recall a year with so many fall webworms in Maryland. Last weekend, I was out for a walk and stopped to observe an active nest of fall webworms. I was pondering why large predators (ex. birds) don't just pull the webbing apart and feast on the caterpillars. As I continued in my observation I noticed many of the caterpillars in the nest were "twitching" which is believed to be a defensive response. Within seconds I saw why the caterpillars were twitching. A **paper wasp (*Polistes* sp.)** walked from the underside of the webbed nest to the top where I could closely observe it and take pictures. The wasp was cooperative and I was very excited! As I observed, the wasp began pulling at the webbing with her front legs and mandibles (see image). After about 15 seconds the wasp was able to get through the webbing and grab a caterpillar with her mandibles (jaws). The wasp, with its newly caught prey, walked to the upper edge of the webbed nest where it proceeded to macerate the caterpillar (see image) and click here to see a video (Bug of the Week, M.J. Raupp) of this wasp "processing" the caterpillar with its mandibles. Note how the prey starts off looking like a caterpillar and ends up as a macerated ball of food. Also notice the webworm caterpillars still in the nest twitching.

A Polistes wasp pulling at the webbing of a fall webworm nest to get a caterpillar.
Photo: P.M. Shrewsbury

This *Polistes* wasp is macerating its prey, a fall webworm caterpillar that pulled out of its webbed nest. The wasp will bring the macerated prey back to its nest to feed to wasp larvae.
Photo: P.M. Shrewsbury

Polistes wasps (Family: Vespidae) as a group are referred to as paper wasps with over 300 species or subspecies in North America. Nests of paper wasps are referred to as annual nests and are only active for one season. They are typically located under the eaves of houses or other structures or some other protected location. Nests can also be found attached to tree branches. In the spring a nest is initiated by a female wasp referred to as a foundress. The foundress is a mated female who survived the winter in a protected location such as under tree bark or the siding of a house. The foundress will use her strong mandibles to collect wood fiber from trees and shrubs (click here for video) to start her nest. She chews the wood into pulp which she uses to first build a pedicel attached to the structure she has chosen for her nest. From the pedicel she builds brood cells, ultimately in a hexagonal pattern, in which she lays eggs. The shape of the nest is parasol-like and the cells are open (see image). At first she builds a few cells, lays an egg in each. The eggs hatch into legless larvae that need lots of food to develop. The foundress gets busy hunting for food, caterpillars are a favorite high protein meal, to feed her young. Once the foundress captures a caterpillar she uses her sharp mandibles to cut and macerate the prey and create a "food ball" that she brings back to feed her young. Click here for a video (Bug of the Week, M.J. Raupp) of a Polistes wasp feeding prey to wasp larvae. Once the first brood of young mature to adult wasps (all females) these wasps become

workers and take over the care of the nest and young. Workers do not reproduce. The foundress (queen) is then mainly responsible for reproduction. Not all potential foundresses are successful at starting a new nest. These individuals may join another successful foundress and assist her in brood care. These subordinates may try to lay eggs in the foundress nest, but the dominate foundress finds and eats her subordinate's eggs. She truly is the dominant individual. The colony will grow throughout the summer with more than a hundred workers being produced. As fall approaches the colony changes its production from making workers to making future foundresses and males for their mates. The colony ultimately declines because workers are no longer produced, and the future foundresses leave the nest to mate and find a protected location to overwinter. In the spring the cycle starts over again.

A paper wasp nest attached to a tree branch, being tended by adult wasps, *Polistes annualaris*
Photo: Greg W. Lasley; BugGuide #783786

Because paper wasps consume large numbers of caterpillars they are our beneficial allies. They help reduce populations of caterpillars that feed on and damage ornamental plants. Their nests should be left alone if they do not threaten humans. In the spring, nests being formed in locations near lots of human activity where they might pose a threat (ex. doorways), can be destroyed by using a strong water stream or a broom to knock them down. Later in the season, larger nests should be approached more cautiously, perhaps with a wasp spray used according to label directions.

Weed of the Week

By: Chuck Schuster

The stronger perennial weeds are showing themselves with the heat and lower soil moisture conditions that we are currently experiencing throughout the region. Rainfall has been spotty, heavy in some areas and very light in others. Some very invasive weeds are showing themselves now.

Japanese knotweed, *Polygonum cuspidatum*, is a native of Eastern Asia that was introduced into the United States as an ornamental. The exact date is not known, but its appearance in the late 1800's is documented. It is an herbaceous perennial that grows in an upright shrub form, reaching heights of ten feet and more. This invasive perennial is found in landscapes and abandoned areas. It will tolerate full shade, high temperatures, salinity, and even drought, but prefers moist sites. This weed is often transported to new sites in fill material. Know the source of the fill and ascertain that it is free of this plant prior to accepting it. This is not an easy process. The rhizomes will be notable in the soil, but it only takes an inch or two of this plant rhizome to start a new infestation. In one recent proposal review, the supplier noted that invasive weeds were present, but felt that the disturbance might keep this weed and another under control.

Leaves are arranged alternately on the stem and are five to six inches long and three to four inches wide. They have a broad oval or egg shape with a pointed tip. Rhizomes that produce new plants help promote the thicket growing pattern of this plant. Stems are hollow, jointed, and when mature will resemble bamboo. Each joint has a thin membranous sheath encircling the stem. Flowers are small and white in color in clusters four to five inches in length, that are found at the junction of the leaf petiole and the stem.

Control can be obtained by grubbing out new small plants, remembering that any portion of the rhizome left behind will generate a new plant. Keeping this plant mowed is useful as it does not allow the root system to build up as the upper stems and leaves are needed to send energy back to the roots. Cut stem herbicide

applications work well in most temperatures unless the ground is frozen. Products that can be used include 25% glyphosate, triclopyr (Garlon) with a follow up application on new seedlings. Foliar applications can be used for large areas using a 2% glyphosate or triclopyr with a surfactant. Mow the plant often to keep it under control and in mid-July allow regrowth to have enough leaf material to absorb chemicals. Do not wait until late fall to use foliar application methods, as it requires active growth and temperature above 65 °F.

Japanese knotweed is often transferred to new sites in fill material
Photos: Ginny Rosenkranz

Plant of the Week

By: Ginny Rosenkranz

Panicum virgatum 'Northwind' is a native switch grass that can grow in either wet or dry soils. 'Northwind' grows in a compact clump, prefers full sun, and is cold tolerant in USDA zones 5-9. Plants grow in a tall column, 4-6 feet tall and only 2- 2 ½ feet wide, creating a slender blue green silhouette with pink tinged flowers in a light airy branched panicle that seems to float over the top of the foliage. Flowers fade to soft beige. Seeds persists from autumn into the winter, providing food for many of the native birds. The wide bladed foliage turns light yellow in autumn which with the seeds gives both form and movement in the winter garden. 'Northwind' can be used as a screen, in a border, native and meadow garden and even in rain gardens. They are tolerant of drought, erosion, and air pollution and are possibly deer resistant. Plants can occasionally become susceptible to rust and crown rot if planted too deeply. Japanese beetles, thrips, and spider mites are occasional pests.

***Panicum virgatum* 'Northwind' produces seed that persists into winter for a long season of interest**
Photos: 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 2676 DD (Cumberland) to 3611 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.

Japanese maple scale (2nd generation) crawlers to settled crawlers (2508 DD)
Fall webworm (2nd generation) mid to late instars (2793 DD)
White prunicola scale (3rd generation) crawlers to settled crawlers (3270)
Banded Ash clearwing borer adult emergence (3357)
Tuliptree scale crawlers (3519)

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 August 21)

Abingdon (C1620)	3004
Annapolis Naval Academy (KNAK)	3611
Baltimore, MD (KBWI)	3256
College Park (KCGS)	3010
Dulles Airport (KIAD)	3087
Frederick (KFDK)	3107
Ft. Belvoir, VA (KDA)	3227
Gaithersburg (KGAI)	2964
Greater Cumberland Reg (KCBE)	2676
Martinsburg, WV (KMRB)	2841
Natl Arboretum/Reagan Natl (KDCA)	3564
Salisbury/Ocean City (KSBY)	3223
St. Mary's City (Patuxent NRB KNHK)	3415
Westminster (KDMW)	3328

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

Commercial Cut Flower Growers Tour and Seminar

By: Stanton Gill

We are organizing a one day tour and field seminar on commercial cut flower production on September 10, 2019. We will be visiting **Cool Hollow Flower Farm (Hagerstown)** and **Surreybrooke Farm (Middletown)** to tour their operations. We will have a series of seminar topics in the afternoon at Surreybrooke Farm. Details and registration information are on the **conference page** of the IPMnet website.

CONFERENCES

September 10, 2019
Commercial Cut Flower Tour
Locations: Cool Hollow Flower Farm and Surreybrooke Flower Farm
Registration 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

February 13, 2020
2020 Pesticide and Fertilizer Recertification Conference
Location: Rockville, Maryland

February 19 and 20, 2020
Chesapeake Green: A Horticulture Symposium
Location: Maritime Institute, Linthicum Heights, MD

Montgomery College Courses:

Taught By Stanton Gill and Chuck Schuster

LNTP 215 Pest Management*, ** 3 semester hours
Hone your pest management skills with **Stanton Gill**. Explore the identification of key pests, their life cycles and control methods, with emphasis on integrated pest management strategies.
Thursday, 6:00 - 9:30 p.m. CRN 22291, CRN 22292 Lab

LNTP 190 Pesticide Use & Safety 2 semester hours (Class ends on Oct. 21)
Prepare for the pesticide application certification exam through a thorough understanding of the principles of pest control, including pesticide labeling, regulations and proper handling. Class taught by **Chuck Schuster**.

For further information about the program or courses, contact Stephen Dubik (240) 567-7803 steve.dubik@montgomerycollege.edu

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

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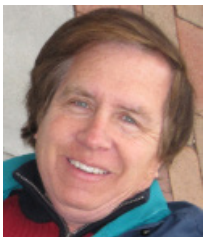
CONTRIBUTORS:



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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.