UNIVERSITY OF MARYLAND EXTENSION

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

**Commercial Horticulture** **September 24, 2021**

## 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)
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)

## Pollen – Ridiculous Levels Over the Top in 2021

By: Stanton Gill

It's not your imagination: The allergy season of 2021 has been brutal. So were the past few years. In fact, a 2020 University of Wisconsin study indicated allergy season has been getting longer and stronger for the past 30 years. Pollen and mold induced fever happens when allergens like pollen enter your body. Your immune system thinks they are a threat and begins producing histamines. The histamines trigger sneezing, watery eyes, and other symptoms.

Last Thursday, the MNLGA held a nursery field day at Fieldstone Nursery. Several of the nursery owners and landscapers with whom I spoke all said over the last 2 weeks they have been stuffed up, sniffling, and many reporting sinus headaches from the extreme highly pollen count. The hot humid weather combined with mold allergies made it a very tough two-week period. Grass pollen and ragweed pollen counts have been extremely high. Just know, if you are suffering, you are not alone.

## Tuliptree Scale, San Jose Scale, and White Prunicola Scale

By: Stanton Gill

These three scales are still in crawler period or settled 1st instars this week in central Maryland. This is a good week to apply Talus or Distance. If you are applying material to fruit bearing trees, you want to use Esteem which is an insect growth regulator labeled for use on fruit bearing trees.

## Fall Armyworms – Next Generation

By: Stanton Gill

We continue to receive reports of neo-natal (1st instar) larvae of fall armyworms being found in lawns in the 3rd quarter of September.

This information was from an email from Dan Potter in Kentucky: "Three days after my tall fescue lawn received a rescue treatment with bifenthrin I was still finding plenty of active mid- to late instars. So, reports of pyrethroid resistance seem credible, at least based on my experience. I spot-treated those areas with Acelepryn and so far have not seen further damage. This is the first time in 42 years of homeownership that I've used a preventive insecticide on my lawn. Will be paying for some expensive power reseeding later this month to renovate all the chewed-down bare spots which so far don't seem to be responding to light fertilization."

In Delaware, David Owens, Extension Entomologist, reports activity of fall armyworm in two counties of DE. Here is an email from David: "Last Tuesday I visited a home in Delaware that had a lawn heavily damaged by FAW. The siding was covered in egg masses and the largest were beginning to hatch. I suspect that they will be easy to scout for this week as they should be around 3rd instar in that particular location. What I heard from Virginia is that chlorantraniliprole was providing more than 30 days of control, so if that was used, presumably the lawn should still be protected. My understanding is that the other insecticides labeled for FAW have short residual activity and would not control this next wave."

I (Stanton) received an email from a Tennessee entomologist saying fall armyworms were at record numbers this summer, and they are also seeing another generation occurring in Tennessee. The good news is that all of this rain and cooler weather should stimulate cool season grasses to produce new shoots and blades rapidly and possibly beat out the consumption of leaves by the fall armyworm larvae.

**Fall armyworm egg mass (left) and just hatched caterpillars (right) on siding of a house**
**Photos: David Owens, University of Delaware**

## Brown Marmorated Stink Bugs

Marie Rojas, IPM Scout, is reporting that brown marmorated stink bugs are beginning to congregate on the outside walls of her farm house in Montgomery County this week.

## European Hornets
By: Stanton Gill

This year is turning out to be a big year for “insect outbreaks”. We continue to get an unusual number of reports of European hornets attacking customers' fruit, especially apples, pears, and figs this week. People are reporting that when they are harvesting, they are being stung and are obviously not happy about the situation. Many reports of run-ins with these large European hornets is resulting in painful stings. The interesting thing is several people reported European hornets flying about at night. If you turn on a light, they show up rapidly and migrate toward the light source. I went outside to cut some Limelight hydrangeas in the dark using a flashlight. Within 30 seconds, I had European hornets buzzing about. The reports are correct – they do fly at night, which is rather unusual for many Hymenoptera species.

**European hornets scraping off the bark of a buddleia stem**

## Spotted Lanternfly
By: Stanton Gill

Thanks to all of you who have been reporting finding adult spotted lanternflies in various parts of Maryland. Continue to report finds to the Maryland Department of Agriculture at DontBug.MD@maryland.gov. We are getting reports of adults in many counties in Maryland. MDA will determine if they are establishing and laying eggs in new areas. Two different people have reported seeing adult spotted lanternflies at gas stations positioned on the gas pump plexiglass cover for the gas price, one in Frederick County and another in Washington County.

## Spotted Lanternfly Update from MDA
By: Kenton Sumpter, MDA

Hello again,

Kenton Sumpter with the Maryland Department of Agriculture (MDA) here with an update on the current status of spotted lanternfly (SLF) in Maryland and the state’s efforts to help manage them. First, SLF has expanded widely across the state. The last update had seen monitoring traps go positive in Washington, Kent, and Baltimore Counties. Now, we have discovered SLF populations in Baltimore City, Anne Arundel, Montgomery, Howard, Carroll, and Frederick Counties. Each of these populations are still small. We are trying to survey these sites and gather permission from property owners to apply treatments. Currently, MDA and the USDA are limited to contact sprays with broad-spectrum insecticides. As egg masses grow in quantity, we will switch to dormant oil sprays. We hope to expand our treatment efforts this Fall and next year.

While the MDA cannot offer insecticidal treatments to residents, we are striving to attack small, satellite populations in the new counties. If you live around such a population, you will be contacted by the MDA asking for permission to survey your property for SLF and tree of heaven. We will send a series of three letters asking for permission. Please respond to these letters as quickly as possible. If we send all three letters and receive no reply, then we will enter the property and proceed with our survey.

If you discover SLF, please report your sighting to the MD Spotted Lanternfly Online Survey. In this survey you can give as much contact info as you are comfortable with. You can also place a marker on the map as to where you sighted SLF. Please be sure to place the map marker as accurately as possible. This greatly reduces the amount of time it takes the MDA to arrange a survey. You can also include information about where, how many, and what life stage of SLF that you saw.

If you have questions about SLF, please call the MDA at 410-841-5920 or email us at dontbug.md@maryland.gov. Please be aware that the MDA is no longer conducting surveys of infested residences inside the quarantined counties (Cecil and Harford).

If you own a business inside the quarantined counties, you need to get a permit. This applies to all businesses that ship goods and operate company vehicles. Drivers need to be individually permitted. Employees of businesses that do not operate any vehicles do not need to be permitted. It is sufficient for a single representative of a company to receive permitting and train other employees on SLF identification and management. Permitted parent companies can pass their permitted status on to their subsidiaries. Simply call the MDA at 410-841-5920 to let us know about your situation. The link to the permit site is available here. Private residents can also view the training videos and take the test to acquire a permit. This is not required, however the training materials are very informative.

The final note before I end this update is to stay on the lookout for SLF egg masses. The adults are swarming in some areas. They are mating and looking for places to lay their eggs. This swarming/seeking behavior makes treatment of adults less effective this time of year. By destroying egg masses, you can get a jump on next year's crop of SLF. Search tree limbs, tree trunks, piles of natural materials and flat, man made surfaces for attached egg masses. SLF likes to hide their eggs, so get creative with your searches. Destroy the egg masses by scraping them off of the object they're attached to. Deposit the eggs into a jar of alcohol or vinegar to suffocate them. Don't leave eggs on the ground, as they can potentially still hatch next Spring. You can also spray dormant oil on egg masses weather permitting. Be sure to follow the label on any product that you use to maintain maximum safety and efficacy. That's all for now. We here at the MDA hope folks are weathering the SLF-storm well. We greatly appreciate the tips and cooperation we've received from Maryland's residents!

## Ambrosia Beetles

Elaine Menegon, Good's Tree and Lawn Care, found active ambrosia beetles on a red maple on September 22 in Hershey, PA. It's likely that activity is finished in Maryland, but if you do see frass tubes in Maryland, let Stanton know at sgill@umd.edu.

**Frass tubes on this red maple trunk are a sign of ambrosia beetle activity**
**Photo: Elaine Menegon, Good's Tree and Lawn Care**

## Orange Assassin Bug

Marie Rojas, IPM Scout, found this cool orange assassin bug, *Pselliopus barberi*, in Laytonsville. In the Beneficial of the Week on May 22, 2021, Paula Shrewsbury noted that these assassin bugs are commonly found on flowers in the spring and the fall. Check out the article for more information on this predator.

**Orange assassin bugs are predaceous as nymphs and adults**
**Photo: Marie Rojas, IPM Scout**

## Beneficial of the Week

By: Paula Shrewsbury

**Katydids "sing" in the night and eat other insects**

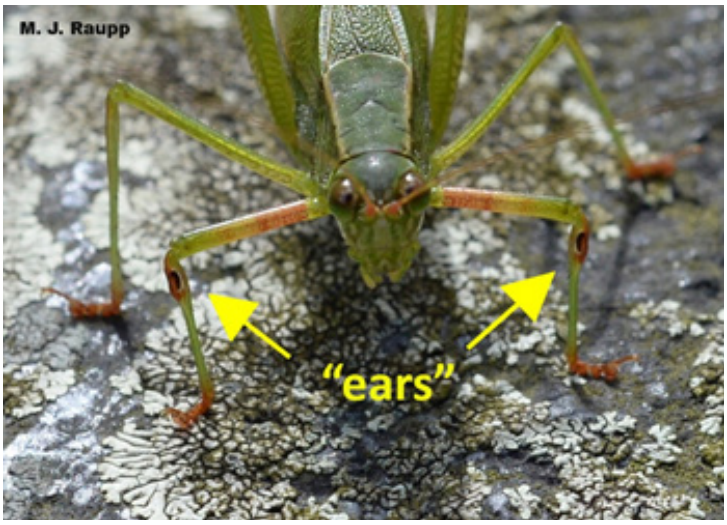
Katydids are in the order Orthoptera and therefor are related to grasshoppers and crickets. Insects in this order have saltatorial legs which are long and thin for jumping. Within the Orthoptera, katydids which are sometimes called bush crickets, are in the family Tettigoniidae. There are about 6,000 species of katydids and they occur throughout the world, except Antarctica. In North America, there are around 255 species. Species range in size from 0.5" to over 5". Katydids can most easily be distinguished from grasshoppers by their antennae. Although both have what are referred to as filamentous (straight) antennae, katydid antennae on thin and longer than their body length, whereas grasshopper antennae are thicker and usually much shorter (not longer than their body). Adult female katydids have distinctive, upwardly curving ovipositors for egg laying. Many species are bright green in color, but not all. Wing length of adults differ between species, some have very short wings where others have wings the length of the body (see image). Overall, most species are poor flyers and they usually flutter their wings when leaping from one location to another. Katydids are active from summer into the fall. There is usually one generation per year and they overwinter as eggs (see image).


**The wings of this male curve-tailed bush katydid, *Skudderia curvicauda*, have veins like a leaf.**
**Photo: M.J. Raupp, UMD**

Katydids major form of defense is their remarkable use of mimicry. They have cryptic coloration and shapes that blend them into their environment making it difficult for predators to see them (see images). Amazingly, many katydids have evolved to look like leaves, and leaves of different color (ex. green or brown). Some even have spots or marks on them that give them the look of a diseased or ratty looking leaf. The peacock katydid, *Pterochroza ocellata*, for example, mimics the discoloration of a dead leaf (see image). In addition to mimicry, this katydid uses "startling" behavior to ward off predators.

**The peacock katydid, *Pterochroza ocellate*, mimics a dead leaf, leaf spots and all, protecting it from predators. Photo: P. Naskrecki, today.uconn.edu)**

Katydids are primarily nocturnal insects and known for the loud and repetitive songs that they use for communication. The common katydid, *Pterophylla camellifolia*, song sounds like it is singing "katy-did, katy-didn't". This evening around dusk, annual cicadas will stop singing and the katydids will start. Be sure to listen for this call tonight! However, not all species sing the "katy-did" song. Different species have their own song and there are songs for different purposes (ex. reproduction, territorial, aggressive, or defensive). The songs are produced by a process known as stridulation, where the forewings, one of which has a ridge, are rubbed together to make the noise. Usually the males do the singing. Both male and female katydids have auditory structures called a tympanum for hearing. These "ears" are located inside chambers on the front of their forelegs (see image). Some species also communicate by vibrations they make on the substrate they are on (ex. leaf, stem) which can be detected by another katydid on the plant.




**The dark chambers on the front legs of the katydid collect vibrations in the air enabling it to hear the calls of other katydids.**
**Photo: M.J. Raupp, UMD**

Katydids are omnivores feeding on both plant material and other insects. Of importance is that some species are exclusively predacious and some prefer to eat insects over plants. Insects provide a protein-rich food resource for omnivores.

In a study by Morrison et al. (2016) they examined which predators were eating, and who ate the most, eggs of brown marmorated stink bugs (BMSB) in apple, peach, and vegetable crops. It is well known that ground beetles (carabids) are common predators in many systems and they did find that they were significant predators of BMSB egg masses. Of particular interest, they found that katydids readily consumed BMSB egg masses and lots of them. In their study they found both the straight-lance meadow katydid, *Concocephalus*


**Katydids often deposit several eggs in rows on small branches of trees and shrubs.**
**Photo: M.J. Raupp, UMD**

*strictus*, and the greater meadow katydids, *Orchelimum* spp., (which feed on plants and insects) readily ate BMSB eggs. They also found the shieldback katydid, *Atlanticus testaceous*, which is exclusively predacious.

Katydids have many attributes to appreciate from their songs to their mimicry of leaves to their predacious habits. However, I suggest you admire them from a distance. There strong mandibles can give quite a pinch causing pain when they are handled. One night while in the tropics, I found a large (5-6), brilliant green katydid that I couldn't resist picking up to admire; she then proceeded to latch onto my finger with her strong mandibles. Beautiful but painful!

## Plant of the Week

By: Ginny Rosenkranz


**Cones of golden larch as part of a table display**

*Pseudolarix amabilis* or golden larch is a deciduous conifer that can grow 30-60 feet tall and 20-40 feet wide. The foliage is soft blue green on the top of the needles and light green on the underside of the needles, and turns a golden yellow with the cold temperatures of late autumn. The gracefully arching needles are grouped in whorled clusters. Golden larch has both long and short shoots with needles spaced widely on the long shoots and in dense whorls on the short shoots. The blue green cones resemble small globe artichokes and sit on top of the branches. In the autumn, they turn light gold and open to release their ripened winged seeds, then quickly disintegrate and fall to the ground. The plants prefer full sun and moist but well drained soils and are tolerant of air pollution. These slow growing trees are cold hardy in USDA zones 4-7, and are tolerant of the heat and humidity that is normal during Maryland summers. This beautiful tree was a part of the tour at Fieldstone Nursery sponsored by MNLGA's Field Day. There is a cultivar, 'Annesleyana', which is a dwarf bushy plant with short horizontal and downward arching branches. There are no serious pests listed.

**The foliage of *Pseudolarix amabilis* or golden larch turns light gold in autumn**
**Photos: Ginny Rosenkranz, UME**

## 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 **3284 DD** (Martinsburg WV) to **4181 DD** (Reagan National Airport). The Pest Predictive Calendar tells us when susceptible stages of pest insects are active based on their DD. Therefore, this week you should be monitoring for the following pests. The estimated start degree days of the targeted life stage are in parentheses.

- White prunicola scale – egg hatch / crawlers (3rd gen) (3270 DD)
- Banded ash clearwing borer – adult emergence (3357 DD)
- Tuliptree scale – egg hatch / crawlers (3519 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 September 22)

| | |
|---|---|
| Aberdeen (KAPG) | 3331 |
| Annapolis Naval Academy (KNAK) | 3797 |
| Baltimore, MD (KBWI) | 3904 |
| Bowie, MD | 3912 |
| College Park (KCGS) | 3578 |
| Dulles Airport (KIAD) | 3692 |
| Ft. Belvoir, VA (KDA) | 3725 |
| Frederick (KFDK) | 3553 |
| Gaithersburg (KGAI) | 3531 |
| Greater Cumberland Reg (KCBE) | 3303 |
| Martinsburg, WV (KMRB) | 3284 |
| Natl Arboretum/Reagan Natl (KDCA) | 4181 |
| Salisbury/Ocean City (KSBY) | 3813 |
| St. Mary's City (Patuxent NRB KNHK) | 4040 |
| Westminster (KDMW) | 3956 |

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 calculator. Thresholds in: Fahrenheit °F Lower: 50  Upper: 95  Calculation type: simple average/growing dds  Start:Jan 1

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## Operator Certification (FTC) for Writing Nursery Nutrient Management Plans for Nursery, Greenhouses and Controlled Environments

**Tuesday, November 9th, 2021**
**9 to 3:30 PM**
**Location:**
**Wye Research and Education Center, 124 Wye Narrows Drive, Queenstown, MD 21658**

Nursery Operator Certification (FTC) for writing nursery nutrient management plans will be offered to growers who are interested in attaining Farmer Training Certification for writing nutrient management plans. This training program will assist you in writing a nutrient management plan for your nursery or greenhouse operation or Controlled Environment. You must write a nursery nutrient management plan if you use fertilizers and you gross $2500 or more per year in sales. With this certification, you will be able to sign-off and submit your own plan and annual implementation reports.

Each program consists of a Training Day and an Exam/Signoff Day. The Training Day, **Tuesday, November 9th, 2021** will consist of learning the plan-writing process. After the Training Day you will have about 5 weeks, during which time you will study the Nursery Nutrient Management Training Manual and develop your plan. The Exam/Signoff Day will be at a location and on a date "**to be announced"**. This date will also be for going over your newly developed plan (or renewing your old plan).

The process is relatively simple for small (or low-risk) operations, so if your operation size is less than 5 acres, we would strongly encourage you to think about becoming a certified operator. If your operation is larger than 5 acres or you run a controlled environment, we would still encourage you to become a certified operator, even though the nutrient management process may be a little more complicated. For nutrient management consultants who wish to learn more about the process for developing nutrient management plans for greenhouses and container crop production, this workshop will offer 6 hours of continuing education credits.

The cost for this program is **$35.00** and covers program costs and the MDA exam fee. For consultants not taking the exam, the cost is $15. Payment will be required at the beginning of the program. A check can be made out to ***University of Maryland***. A receipt will be available.

If you wish to register, please do so by **November 1st.** An Event Brite registration page has been created and is linked here. If you have questions please send an email to me (aristvey@umd.edu) or call me at 410-827-8056 x113.

Wye Research and Education Center is located on the Eastern Shore of Maryland, about 20 minutes from the Bay Bridge. A map to WyeREC can be found here.

At present, this is a face to face meeting. Face masks are presently recommended. However the situation with COVID-19 is fluid and we may decide to run a virtual program. Since WyeREC is located in Queen Anne's County it will depend on the County Health Department directives. If this occurs, the registered attendees will receive a link to an online virtual program.

## Conferences

### FALCAN Truck and Trailer Safety Seminar
October 20, 2021
Location: Urbana Fire Hall, Urbana, MD
For more information
falcantruckandtrailer21.eventbrite.com

### December 3, 2021
Pest Management Conference

### December 7, 2021
Turf Nutrient Management Program

### December 16, 2021
Biological Control Confernence
Location: Maritime Institute, Linthicum Heights, MD

### 2022 Advanced Landscape IPM PHC Short Course
This is a recertification short course for arborists, landscapers, IPM consultants, horticulturalists, professional gardeners, and others responsible for urban plant management. The course LECTURES will be VIRTUAL (online). In addition, there will be an IN-PERSON LAB held over two days (available to a limited number of course attendees). Coordinators: Drs. Paula Shrewsbury and Mike Raupp, Dept. of Entomology, University of Maryland
Lecture (virtual) Dates: Tuesday, Wednesday, Thursday; January 4, 5 and 6 AND January 11, 12, and 13
Lab (in-person) dates: Tuesday and Wednesday January 18 and 19
**Course and Registration* Information: https://landscapeipmphc.weebly.com/**
*Registration will open within the next week or so. Please check the site again.
Questions contact: Amy Yaich, 301-405-3911, umdentomology@umd.edu

### January 5 - 7, 2022
MANTS
Location: Baltimore Convention Center

### January 21, 2022
FALCAN Pest Management Conference (currently in person)
Location: Frederick Community College, Frederick, MD
*Snow date is March 11, 2022

### LCA Pesticide & Fertilizer Recertification (Virtual Program, February 2022)
The Pesticide & Fertilizer Recertification will return in 2022 with great speakers and new topics.

### February 17 and 18, 2022
Chesapeake Green Horticulture Symposium
Location: Maritime Institute, Linthicum Heights, MD

**IPMnet**
**Integrated Pest Management for Commercial Horticulture**

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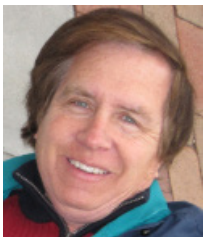

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Photos are by Suzanne Klick or Stanton Gill unless stated otherwise.