

Commercial Horticulture

August 12, 2022

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IPMnet
Integrated Pest
Management for
Commercial Horticulture
extension.umd.edu/ipm

If you work for a commercial horticultural business in the area, you can report insect, disease, weed or cultural plant problems (**include location and insect stage**) found in the landscape or nursery to sgill@umd.edu

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Good News

By: Stanton Gill

It is always great to hear some uplifting good news. One the diseases that has plagued us in the 21st century is Lyme disease which is carried by the black-legged ticks. A new vaccine has reached the third phase of approval this week.

The new vaccine is called VLA15, and as of this week, it's now in the third phase of a clinical study in humans. It was created by Pfizer and French drug maker Valneva.

No Report Next Week

Due to vacation schedules, there will not be a report next Friday, August 19, 2022. We will send the next report out on August 26, 2022.

Spotted Lanternfly

By: Stanton Gill

For the last 52 days, we (Gill and Kunkel, et.al) have been testing out systemics for spotted lanternfly control, trying both soil drenches and foliar applications. This week we are seeing an increasing number of adult spotted lanternfly, but there are still 3rd and 4th instar nymphs to be found in Harford County where we are conducting the trial.

It is interesting to note that Sheena O'Donnell found an assassin bug adult feeding on a nymph of spotted lanternfly at our field trial site. Sheena also found a spider feeding on a nymph.

We are finding the soil drenches do provide kill of feeding nymphs and adults with several dead bodies being found below the plants. The interesting thing is replacement SLF move back onto these plants and you can still find them up and down, covering the trunk and branches.

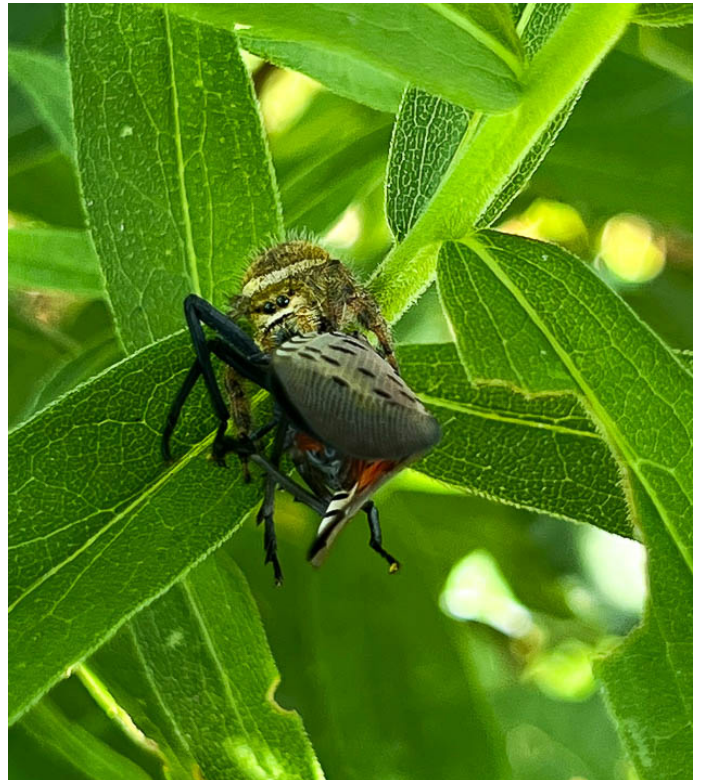
The two systemic sprays provide better control, but still there are plenty of replacement SLF moving in.

We are finding the nymphs and adults concentrating on the ailanthus trees at the site, but nymphs are being found in the nursery owners garden feeding on tomatoes, peppers, sunflowers, citrus trees, various perennials, and basil. There are large number of 3rd and 4th instar nymphs on the stems of sunflowers. Not sure what the attraction to sunflowers is about, but the nursery owner commented they have been clustered on sunflowers for the last 3 weeks. No injury was detected on any of the plants we listed that nymphs were feeding on, even the sunflower looked healthy and was flowering well.

We are getting reports of adult showing up in just about all of the ten quarantine counties and Baltimore City this week. Chris Middendorf, ProLawn Plus, Inc, found a spotted lanternfly on a pin oak in the Tollgate area of Bel Air Maryland this week.



Wheel bug feeding on spotted lanternfly nymph
Photo: Suzanne Klick, UME



Spider feeding on spotted lanternfly adult
Photo: Sheena O'Donnell, UME

Velvet Ants

Marie Rojas, IPM Scout, found velvet ants (which is actually a wasp) this week. The females are wingless; only the males have wings. Velvet ants are not aggressive, but the sting is quite painful so it is best to avoid handling the females. A female velvet ant oviposits one of her eggs near a larva or pupa in the nest of its prey (ground nesting bees and wasps). Adults feed on nectar and water. The immature stages are external parasites of bees and wasps that nest in the ground. Adults will be active through September.



Velvet ants can have a painful sting, so avoid trying to handle them.

Photo: Marie Rojas, IPM Scout

Native Plant Pest

By: Stanton Gill

Several Maryland nurseries are specializing in native plants. We just received in a sample of the native black locust from a native plant nursery with twig swelling. Inside the swelling was a caterpillar. The larvae are *Ecdytolopha insiticihana* Zeller, commonly called locust twig borer moth.

Ecdytolopha insiticihana completes a single annual generation in the North and two annual generations in the South. Adults are present May-June, and again in July-September for the second generation.

Females lay eggs on new shoots of the host. Larvae bore into new growth and induce the formation of elongate galls.

Larvae complete seven instars. Those of the last generation leave the gall and overwinter in flattened cocoons constructed in leaf litter. Pupation occurs in the spring.

I suspect that materials such as Mainspring and Acelepryn, applied preventatively, would control this lepidopterous pest.

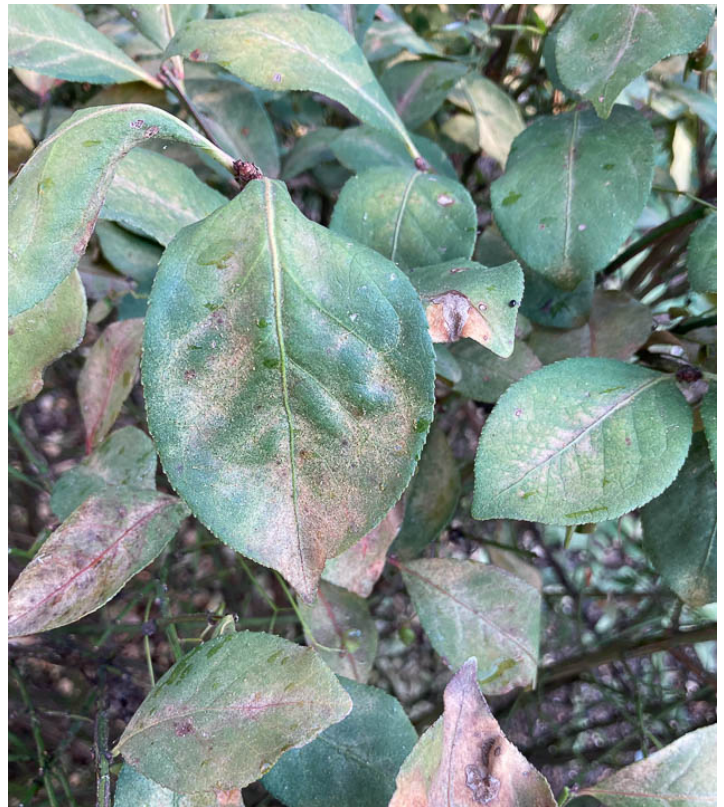


The locust twig borer moth caterpillar has been active this week.

Spider Mites

By: Stanton Gill

Spider mites continue to be active this week. Elaine Menegon, Goods Tree and Lawn Care, found active spider mites on winged euonymus on August 9 in Lebanon, PA. Elaine noted that the client pruned them last week when it was 90 plus which was too hot for an oil application. I found them active on winged euonymus at Deep Creek Lake in Garrett County on August 8. Registered miticides such as Avid can be used for control. When using horticultural oil (not when temperatures are high), be sure to get good coverage of the undersides of the foliage.



Heavy spider mite populations cause yellow stippling and bronzing of foliage

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

Monarch Caterpillar

Eric O'Neal, Good's Tree and Lawn Care, found this monarch caterpillar on August 10 on butterfly weed in Harrisburg, PA. Monarchs are one of many caterpillar species that are active in late summer.



Look for monarch caterpillars on milkweeds

Photo: Eric O'Neal, Good's Tree and Lawn Care

Hemlock Woolly Adelgids

By: Stanton Gill

I found second generation activity of hemlock woolly adelgids in western Maryland in an area that backs up to the forest. The adelgids weren't on the forest trees, but they were present on the trees in the neighborhood. Waxy material from the egg masses and settled second instars were present. An imidacloprid soil drench can be applied. If cool weather now, 1% horticultural oil can be used. In early November, 2 - 3% horticultural oil can be used.

Beneficial of the Week

By: Paula Shrewsbury

Ichneumonid wasps

Ichneumonidae (Ichneumonid wasps) is the largest family within the order Hymenoptera. There are over 4,000 named species in North America alone, with an estimated 60,000 – 100,000 species worldwide. Those numbers are pretty impressive, even for an insect.

Ichneumonid wasps are some of the larger parasitic wasps, with some being 5 cm long (usually range ~1- 2”). Members of the family have long, slender abdomens, with very narrow “waists” (where the abdomen and thorax meet) and long thin antennae and legs. Their color can vary depending on species. They may be tan to orange brown to brightly colored. Female ichneumonids have ovipositors (egg laying organs) that extrude from the tip of the abdomen and can be extremely long in some species. They use their ovipositor to lay eggs into their hosts (not to sting humans, fortunately). Ichneumonid wasps attack the larval stages of many holometabolous insects (ex. caterpillars, wood wasps, wood boring insects) and spiders. It is not



An adult ichneumonid wasp found around a porch light. Note the typical characteristics of the Ophion wasp adult. It has long thin antennae and legs, and the very narrow “waist”.

Photo: Mike Raupp, UMD

uncommon to observe ichneumonid wasps on the bark of trees infested with a wood boring insect. I am always impressed that the female can find a larva, that it can see, in the wood. Females tap their antennae on the wood to sense hosts to oviposit in, and males can be seen tapping wood but they are searching for females as mates. Also impressive is that it the female can work her ovipositor through the wood and find its host. Interestingly, the female’s ovipositor has a tiny ionized metal (manganese or zinc) tip which allows her to drill through bark to reach wood-boring hosts. It has also been found that high metal concentrations are in the wasp’s mandibles, which explains how newly emerged adults can chew their way out of the wood where they developed on their host. Adults will feed on plant sap and nectar. Many species of ichneumonid wasps are well documented to provide biological control for a number of key insect pests.

As many of you experienced, last year was a big year for armyworms. Therefore, of particular interest this year is a species of ichneumonid in the subfamily Ophioninae. Most Ophioninae wasps parasitize caterpillars, many of which are herbivores of ornamentals and turf. Ophioninae are usually nocturnal and attracted to lights. This year I will be checking around my porch light for the ichneumonid, *Ophion flavidus*, which is a parasitoid of armyworms. After the high numbers of armyworms last year, I would expect to see a number of Ophions active this year. Ophions have a very interesting life cycle and are referred to as solitary koinobiont endoparasitoids. In translation, this means that the adult wasp oviposits a single egg into a caterpillar, the newly emerged larva hangs out inside the body of the caterpillar without killing the caterpillar. The wasp larva wants to wait until the caterpillar is bigger and provide it a meal that it can complete its development on. As the caterpillar reaches

its later immature stages and begins to pupate, the wasp larva then proceeds to consume all the body tissue and fluids of its host, killing the caterpillar. The wasp larva spins its cocoon while inside of its host. The adult wasp then emerges from the cocoon, and the caterpillar, and starts the cycle all over again. Ophion wasps are one of numerous groups of parasitic wasps that help to keep armyworms and other caterpillars from causing economic damage to ornamental plants and turf.

Weed of the Week: Small Carpetgrass

By: Kelly Nichols

While doing some yardwork this week, I noticed a small patch of small carpetgrass, *Arthraxon hispidus*. Also known as jointhead grass or hairy joint grass, this weed is a sprawling annual grass that can be found in turf and landscape settings in the eastern United States. Originally from southeast Asia, small carpetgrass can become invasive in sunny or partially shaded moist areas, although wetter areas are preferred.

The leaves are oval or land-shaped, short (1-3 inches in length), and come to a point. The leaves encircle the stem. Hairs are present at the base of the leaf (where the leaf meets the stem) and also on the leaf margins. A small, membranous ligule is also present. Flowers will be present in early fall. Seed heads are in spikes that resemble fingers. The root system is fibrous and the plant can root at the nodes.

As an annual, preventing seed production is key in order to reduce populations for the following years. Mow plants once the seed heads start to form, but prior to seed maturity. Cultural control should include moisture management. Irrigate only when necessary and review downspout splash block areas. Chemical control of this weed in turf can be accomplished using products labeled for crabgrass pre-emergent control (pendimethalin, dithopyr, prodiamine, oxadiazon). Post emergent non-selective herbicides work effectively in landscaped areas.



Figure 1: Small carpetgrass leaves encircle the stem.

Photo: Chuck Schuster, UME Ag Agent, Emeritus



Figure 2: Small carpetgrass seedhead.

Photo: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org.

Plant of the Week

By: Ginny Rosenkranz

Tsuga canadensis also known as eastern hemlock or Canadian hemlock is a native evergreen tree that can grow 40-70 feet high and 25-35 feet wide. It thrives in part to full shade and needs protection from hot sun and strong winds. The eastern hemlock prefers to grow in moist, well drained soils, and is not a fan of the hot and humid summers of Southern Maryland or the Eastern Shore of Maryland. Plants are hardy in USDA zones 3-7 and always appreciate an inch of mulch to maintain the cool and moist soils. The plants grow in a graceful pyramidal form with sprays of short dark green needles with 2 white bands on the underside. The needles are arranged on slender branching stems that give them a lacy look and the lower branches arch then dip to the ground. Early spring color is light yellow green that darkens by early summer. Late summer the trees grow small tan cones about $\frac{3}{4}$ of an inch long. The eastern hemlock can be planted as a specimen or as a graceful hedge. Disease pests can include canker, needle blight and rust. The main insect pest of hemlocks is the hemlock woolly adelgid, a tiny sap-sucking invasive insect that has decimated the hemlocks in the Great Smoky Mountains and the Shenandoah National Park. In the landscape, there are insecticides that will control them. Other insect pests can include bagworms, borers, leaf miners, sawfly, and spider mites. Deer are not a pest of the Eastern hemlock.



Eastern hemlock needs protection from the hot sun and strong winds
Photos: Ginny Rosenkranz, UME

Degree Days (as of August 9)

Aberdeen (KAPG)	2422
Annapolis Naval Academy (KNAK)	2682
Baltimore, MD (KBWI)	2767
College Park (KCGS)	2559
Dulles Airport (KIAD)	2615
Ft. Belvoir, VA (KDA)	2619
Frederick (KFDK)	2446
Gaithersburg (KGAI)	2481
Gambrills (F2488, near Bowie)	2626
Greater Cumberland Reg (KCBE)	2389
Martinsburg, WV (KMRB)	2330
Natl Arboretum/Reagan Natl (KDCA)	2987
Salisbury/Ocean City (KSBY)	2757
St. Mary's City (Patuxent NRB KNHK)	3028
Westminster (KDMW)	2850

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

Pest Predictive Calendar “Predictions”

By: Nancy Harding and Paula Shrewsbury, UMD

In the Maryland area, the accumulated growing degree days (DD) this week range from about **2330 DD** (Martinsburg, WV) to **3028 DD** (St. Mary's City). The [Pest Predictive Calendar](#) tells us when susceptible stages of pest insects are active based on their DD. Therefore, this week you should be monitoring for the following pests. The estimated start degree days of the targeted life stage are in parentheses.

- Mimosa webworm – larva, early instar (2nd gen) (**2260 DD**)
- Japanese maple scale – egg hatch / crawler (2nd gen) (**2508 DD**)
- Fern scale – egg hatch / crawler (2nd gen) (**2813 DD**)
- White prunicola scale – egg hatch / crawler (3rd gen) (**3238 DD**)
- Banded ash clearwing borer – adult emergence (**3357 DD**)
- Tuliptree scale – egg hatch / crawler (**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.

Pests and Disease Control (Hort 230) offered at Howard Community College

David Clement, Plant Pathologist, and **Stanton Gill**, Entomologist, will be teaching a new 3 credit class at Howard Community College in Columbia, Maryland this fall. The class will emphasize diagnostics and IPM for landscape, greenhouse, and nursery plants.

The class will be held on Tuesday evening from 5:30 to 9:30 p.m in SET 181. First class starts August 30, 2022 and semester ends on December 13, 2022. The class will involve lectures and hands-on diagnostics with live samples examined in the lab section. The class can be taken for college credit or can be taken for an Audit.

To register go to: <https://www.howardcc.edu/admissions-aid/apply-for-admission/records-registration/register-for-classes/index.html>

Fall Horticulture Classes at CCBC

You can find out about Fall Horticulture classes at CCBC by going to [their website](#).

Conferences

Solar on the Farm Webinar

August 16, 2022, 1:00 p.m. to 2:30 p.m. ET

Registration is required, but there is no cost for this program

Learn more at go.umd.edu/Solar2022

IPM Scouts' Diagnostic Session

August 25, 2022

Location: Wye Research and Education Center, Queenstown, MD

[To Register](#)

Urban Tree Summit

Dates: September 7, 8, 14 and 15, 2022

Montgomery Parks and Casey Trees, Washington D.C., present the eleventh annual conference — Urban Tree Summit. Presentations will focus on the health and welfare of trees in our increasingly developed landscapes.

Registration Link: <https://montgomeryparks.org/about/divisions/arboriculture/urban-tree-summit/>

September 7, 2022

MNLGA Nursery Field Day

Location: Longwood Gardens

[Registration](#)

September 27, 2022

Cut Flower Tour

Location: Zekiah Ridge Farm, La Plata, MD, and second site TBD

Commercial Ornamental IPM Information
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