

Commercial Horticulture

October 28, 2022

In This Issue...

- [Last regular IPM report of the year](#)
- [Spotted lanternfly](#)
- [Crapemyrtle bark scale](#)
- [Fall caterpillars](#)
- [Dog vomit funugs](#)
- [Oil applications in the fall](#)

[Beneficial of the Week:](#) How insects survive the winter

[Weed of the Week:](#) *Plantago* species

[Plant of the Week:](#)
Symphotrichum novi-belgii
'Henry III Pink'

[Degree Days Conferences](#)

[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 sgill@umd.edu

Coordinator Weekly IPM Report:

Stanton Gill, Extension Specialist, IPM and Entomology for Nursery, Greenhouse and Managed Landscapes, sgill@umd.edu. 410-868-9400 (cell)

Regular Contributors:

Pest and Beneficial Insect Information: Stanton Gill and Paula Shrewsbury (Extension Specialists) and Nancy Harding, Faculty Research Assistant

Disease Information: Karen Rane (Plant Pathologist) and David Clement (Extension Specialist)

Weed of the Week: Chuck Schuster (Retired Extension Educator) and Kelly Nichols (Extension Educator, Montgomery County)

Cultural Information: Ginny Rosenkranz (Extension Educator, Wicomico/Worcester/Somerset Counties)

Fertility Management: Andrew Ristvey (Extension Specialist, Wye Research & Education Center)

Design, Layout and Editing: Suzanne Klick (Technician, CMREC)

It Has Been a Pleasure

By: Stanton Gill

Our IPM team thanks you for participating in the IPM Alerts for 2022. This will be the last regular IPM Alert for 2022. We will put out an IPM Report Alert at least once a month with special issues for the industry until we start up the regular IPM alert season in March of 2023.

Our IPM team made up of Karen Rane, David Clement, Andrew Ristvey, Paula Shrewsbury, Alan Lesley, Sheena O'Donnell, Ginny Rosenkranz, Nancy Harding, Kelly Nichols, Jerry Brust,

Chuck Schuster, and of course, Suzanne Klick have all done a wonderful job of providing up to date articles. We want to also thank all of you who submitted samples in during the 2022 season. This input made us capable of putting out fresh material each week.



Photo: Kelly MacBride-Gill

Spotted Lanternfly – Mother of Invention

By: Stanton Gill

People are really getting innovative and a little over the edge with brilliant ideas for ways to deal with spotted lanternfly. If you go to YouTube you will see short videos of people using Dyson and Black and Decker battery operated vacuums attempting to vac up spotted lanternflies. Some SLF get sucked up, but most leap away before they are sucked into the vac chamber.

The one I enjoyed most was a person using an empty pop bottle with the lid removed. The person narrates that you simply place the opening of the pop bottle over each individual SLF and they leap into the bottle. This YouTube claims it went viral. You would have to have a lot of time on your hands to make this method worthwhile.

This insect is bringing out the creative spirit in people. Eventually, someone will hit on a practical way to deal with this spreading pest.

Do Milkweeds Kill Spotted Lanternfly?

By: Stanton Gill

Two years ago, one of my students from Montgomery College sent along an article written by North Creek Nurseries in PA that she found on the web that claims that spotted lanternfly that feed on *Asclepius* species are killed. The article notes “We've begun to notice Spotted Lanternfly is attracted to milkweed for its thick, sweet sap. They have not co-evolved with this poisonous native plant to know to avoid it. Milkweed sap contains toxic cardiac glycosides that affects heart function known to be toxic to mammals and birds.”

We checked with Penn State entomologist to see if this is true. Below is the response from Emelie Swackhamer, Penn State Extension.

Hi Stanton,

I have also found adult SLF that were dead and/or nearly dead on common milkweed. We had a student who ran an experiment in 2019: They put SLF onto milkweed for a couple of days and then moved them back to Ailanthus (which we know will support SLF). The goal was to see if the SLF were somehow affected by feeding on milkweed. The SLF that ate from the milkweed were no more likely to die than the SLF that were not feeding on milkweed for that time period. The conclusion is that milkweed is not a good host plant for SLF but not actually toxic to them.

So, go ahead and plant milkweed! If it is not a good food for SLF and it is a good food for monarchs and the rest of the milkweed insect community, then it must be a good plant for your garden. But we don't want to raise false hopes that milkweed is actually toxic to SLF. Of course, more research is needed to further investigate the milkweed/SLF interaction.

A few sightings:

Mary Ramsay, MD Master Gardener, saw a spotted lanternfly adult on the sidewalk when she dropped her daughter off at Towson University last week.

Lin Barker, Halcyon Landscapes, found two adults on a grapevine trunk in Boring, MD on October 22. She did not see egg masses on that day.

Crapemyrtle Bark Scale

From Adelaide Figurskey, The Soulful Gardener: "While scouting in the landscape in D.C. yesterday, Heather Zindash and I observed crapemyrtle bark scales (CMBS) still in egg and crawler stage on crape myrtles. We are continuing to see predation by lady beetle larvae, but additionally observed exit holes in the scales on trunks, leaves, and stems. We took branch samples and found parasitic wasps inside CMBS pupa under the microscope. Unfortunately, none of the scale samples contained live parasitoids and the wasps we found were all desiccated."



Purple crapemyrtle bark scale eggs and parasitized scale are present on this crape myrtle leaf.
Photo: Adelaide Figurskey, The Soulful Gardener



Lady beetle larvae continue to feed on crapemyrtle bark scale this fall.
Photo: Adelaide Figurskey, The Soulful Gardener

A Few Fall Caterpillars

Nancy Woods saw several caterpillars over the last week.



A neighbor moth caterpillar, *Haploa contigua*, overwinters as a larva in leaf litter. Nancy noted that leaving leaves provide a winter habitat for this caterpillar.
Photo: Nancy Woods



A unicorn moth caterpillar, *Coelodasys unicornis*, feeding on ninebark.
Photo: Nancy Woods

Dog Vomit Fungus

Bill Miller found dog vomit fungus active on mulch this week. Dog vomit fungus (which is actually a slime mold) shows up in mulched areas, usually after soaking rains. This slime mold is bright yellow and slimy when it is starting its fruiting stage. It becomes duller and crustier as it continues its development. Although unsightly, it is harmless so no control is necessary.



Dog vomit fungus shows up in mulched areas.
Photo: Bill Miller

Horticultural Oil this Fall

By: Stanton Gill

The dormant rate of horticultural oil is 3% for most plants and can go as high as 4%, depending on the plant material. I have tested Ultrafine oil at 3% and 4% rates on hybrid holly, American holly, Leyland cypress, Thuga 'Green Giant' as a November application with no ill effects. Read the label for rates and precautions. Of course, do not apply to blue spruce or fir trees and sugar maple.

At this time of year, I apply a 3% horticultural oil to apples, pears, peaches, plums, persimmons, apricots, and nectarines when the day time temperatures are above 55 °F, and at night, it does not go below freezing. What I like about fall applications is that we have more weather breaks to make an application. In the spring, it is harder because, often it is raining or the temperatures shoot up, then fall very rapidly overnight. It is also a busy time of the year in the spring and hard to properly time an application. That said, if you are trying to kill spotted lanternfly eggs, females keep laying eggs until a very hard frost, so if this is your objective to kill egg masses of SLF it may be wise to make an application in April during a warm period and between rains.

Beneficial of the Week

By: Paula Shrewsbury

What do insects do to survive the winter?

We are not far from the onset of colder weather and winter, which always starts me thinking about how beneficial and other insects are able to survive the freezing cold of winter. Insects are cold blooded animals and are strongly influence by the environmental temperature, they are ectotherms. The answer is “they survive in a diversity of ways”. Insects vary in the life stage in which they “overwinter”. They may overwinter as adults, pupae, immatures (larvae or nymphs), or eggs. For example, predatory wheel bugs spend the winter in the egg stage (see image). Praying mantids are another predatory species that overwinter as eggs within the styrofoam-like ootheca as discussed in last week’s Beneficial (see image). Lacewings (predators) overwinter in their larval stage and some species of butterflies (pollinators), wasps (predators), and bees (pollinators) overwinter as adults. There are multiple strategies used by various insects to get through the winter, some of which are *physiological* and others *behavioral* and some insects use a combination of both.



Woolly bear caterpillars survey the winter by producing “anti-freeze” like compounds that prevent the formation of ice crystals when temperatures drop below freezing. Photo: M.J. Raupp, UMD

Some insects survive winter’s cold through a process called *supercooling*. Supercooling is when water cools below its freezing point without turning to ice. Insects may use avoidance measures to avoid or stop the freezing of their bodies. Because insects are relatively small, their bodies contain little water so supercooling is not too much of an issue. As temperatures drop in autumn and early winter many species of insects produce cryoprotectants, antifreeze-like compounds including glycerol and sorbitol, which prevent the formation of lethal ice crystals in the bodies of overwintering insects. This “antifreeze” allows insects to survive even when ambient temperatures dip well below freezing. Woolly bear caterpillars and many of their relatives use this strategy.

Many insects will *diapause* (similar to hibernation in vertebrates) during the winter. Diapause is defined as an inactive stage of arrested development. Diapause results in the reduction of the insect's metabolic rate to 1/10 or less its normal rate. This allows the insect to use its stored body fat to survive the cold winter, and there is enough body fat because of reduced need with lower metabolic demands. You may have noticed some insects aggressively feeding in the fall in an effort to store up on carbohydrates to help get them through the winter. In the spring, the onset of warmer temperatures will break or stop an insect's diapause and they begin to develop at "normal" or seasonal rates. Other insects, such as the Mexican bean beetle, will develop and breed continuously throughout the year if conditions are favorable, but will "hibernate" as an adult for several months if exposed to low temperatures (37.4°F or lower).



Monarch butterflies migrate south in the winter to escape the freezing temperatures of the north.
Photo: M.J. Raupp, UMD

Migration to warmer climates is a strategy some insects use to escape the freezing temperatures. [Monarch butterflies are one of the most magnificent examples of a beneficial that migrate to warmer temperatures](#) (Oyamel fir Forest in Mexico for Eastern monarchs; coast of California for Western monarchs). As temperatures warm in the spring, the overwintering monarch butterflies start their northward migration.



At this time of year you should see wheel bug egg masses on the trunk of trees. Wheel bugs will spend the winter in the egg stage.
Photo: P.M. Shrewsbury, UMD

Other insects *tolerate* the cold by hiding in protected, warmer habitats or micro-niches. Ladybird beetles move up to rocky outcroppings and hide amongst the rocks. While others, like the multi-colored Asian lady beetle, mistake homes and other structures for rocky outcroppings. Some beetles, like the overwintering white grubs of scarab beetles, burrow deeper in the soil to stay below the frost line and escape the freezing temperatures. Other insects hide in leaf litter, and under dead plant material or stones such as hawthorn lace bug, grasshoppers, and some butterflies. Many wasps and hornets have annual colonies where only the queen overwinters. Queens of European hornets, bald faced hornets, yellow jackets and others will hunker down in piles of wood (ex. firewood) or vegetation, under tree bark, in tree holes, or other protected locations. Others such as bark beetles and checkered beetles hide under bark flakes, lose bark, or in bark cracks of certain tree species. The nymphs of dragonflies and mayflies live in water of ponds and streams where they are active below any ice layer that forms. Some insects, overwinter as larvae in protected locations such as emerald ash borer under the bark of their host trees, or boxwood leaf miner within the leave tissue. Other insects find completely dry locations to overwinter where ice crystallization cannot occur. Other insects completely empty their gut before they go into diapause to reduce the likelihood of ice crystallization.

Other factors that may influence an insect's ability to survive the winter include: how cold the temperatures get, fluctuations in temperatures and how rapidly they fluctuate, how long temperatures stay cold, and if there is snow cover or not.

The reasons insects, as a group, are so successful is their ability to adapt and evolve. So, don't worry too much about beneficial or other insects. Insects have been surviving freezing temperatures for millions of years and have become very good at it.



Some insects, such as brown marmorated stink bug adults, find protected locations to overwinter. Unfortunately, these locations are often houses or other human-made structures.

Photo: P.M. Shrewsbury, UMD

Weed of the Week

By: Kelly Nichols, UME-Montgomery County

There are two species of plantain that plague turf – broadleaf plantain (*Plantago major*) and buckhorn, or narrowleaf, plantain (*Plantago lanceolata*). The Latin word “planta”, used to describe the sole of a foot, is believed to be the source of plantain’s name. Both species are perennials, have leaves that grow in a rosette pattern at the ground, and have prominent veins on the leaves. As the names suggest, the easy way to tell these two apart is that the broadleaf plantain has wider leaves, while the buckhorn/narrowleaf plantain has narrow leaves (Figure 1). The leaves on both species have a smooth, or entire margin; sometimes, broadleaf plantain leaf margins may be wavy. Both species produce a stem with the flowers (and later seeds). The flowers and seeds are all along the stem on broadleaf plantain. On buckhorn plantain, the flowers and seeds are located at the top of the stem (Figure 2). Even though these plants may be small, they are capable of producing several thousand seeds per plant.

Plantain species can do well in compacted or high-traffic areas, so take note of these areas and aerate when necessary. Hand-pulling and digging out established plants is difficult due to their persistent taproots. Mowing



Figure 1. Broadleaf plantain (left) and buckhorn/narrowleaf plantain (right).

Broadleaf plantain photo credit: Chris Evans, University of Illinois, Bugwood.org; Buckhorn plantain photo credit: Ohio State Weed Lab , The Ohio State University, Bugwood.org.

helps to remove seed heads, but with the leaves close to the ground, it is not effective for controlling the whole plant. Keeping turf well maintained with proper mowing height, fertility, and irrigation management in order to ensure a healthy stand that can compete with plantain (and other weeds).

Preemergent herbicide options include indaziflam and isoxaben. Mesotrione is an option for controlling buckhorn plantain. Post-emergent herbicide options include 2,4-D, bispyribac sodium, chlorsulfuron, clopyralid, dicamba, fluroxypyr, mecoprop-p, sulfentrazone (control of buckhorn plantain only), and triclopyr. Most of these products are systemic and move throughout the plant, which is important for killing the roots of perennial plants. Contact herbicides (such as sulfentrazone) only kill the part of the plant that it touches; they can provide control, but good coverage is key. With some contact herbicides, repeat applications may be necessary. Fall is the best time to apply herbicides, especially systemic products. Spot spraying with glyphosate or glufosinate in areas that are densely populated with plantain is another option. In these areas, re-seed turfgrass after the weeds are gone.



Figure 2: Broadleaf plantain (left) and buckhorn plantain (right) seedheads.
Photo credits: Joseph M. DiTomaso, University of California - Davis, Bugwood.org



Figure 3: Broadleaf plantain in turf.
Photo credit: Kelly Nichols, UME.

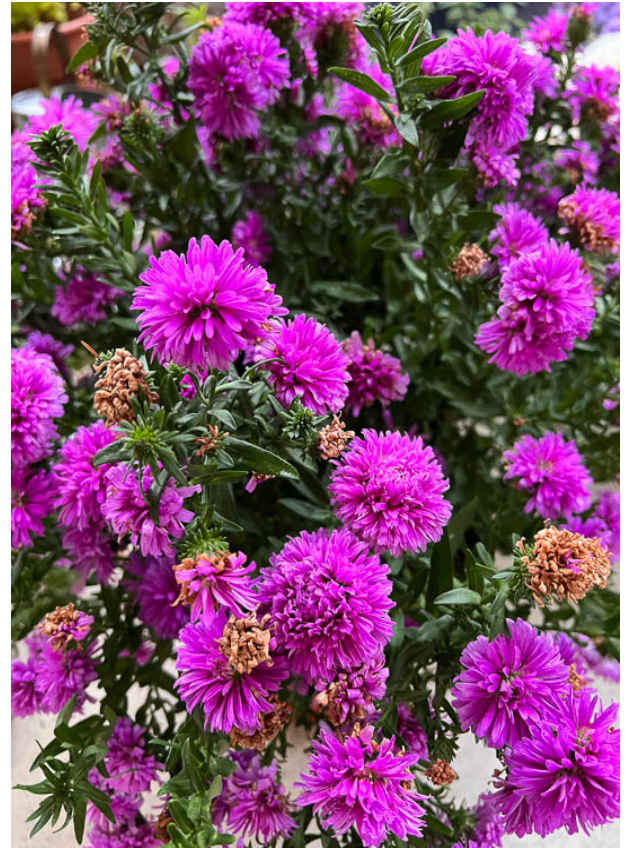
Plant of the Week

By: Ginny Rosenkranz

Symphotrichum novi-belgii ‘Henry III Pink’ is a compact double blooming aster that grows 18 inches tall and 24 inches wide. Plants are cold hardy in USDA zones 5 – 9 and thrive in full sun in moist but well drained organically rich soils. *S. novi-belgii* has 2 common names, New York aster and Michaelmas daisy. The aster's specific epithet of *novi-belgii* stands for New Belgium, which was one of the names the first Dutch settlers called New York. The other common name of Michaelmas is for St. Michael's Day, September 29, when many of these asters bloom. ‘Henry III Pink’ is a late double bloomer with fragrant raspberry pink flowers that open to 1 ½ inches across. When in full bloom the plant is completely covered in flowers! Depending on the deer and rabbit populations, the *S. novi-belgii* ‘Henry III Pink’ is usually left alone by these large herbivores, but there are always many pollinator visitors when in flower, and many native birds feast on the small seeds in the later part of autumn. Good air circulation can help reduce the chance of foliage diseases. The bright green, narrow



leaves can expand to 1 inch long, bringing color to the landscape even before the bright flowers bloom. Diseases can include powdery mildew and rust, although many asters have been bred to resist those foliar diseases. Aster wilt can be a problem in poorly drained soils.



***Symphotrichum novi-belgii* 'Henry III Pink' flowers**
Photos: Ginny Rosenkranz, UME

Degree Days (as of October 26)

Aberdeen (KAPG)	no data
Annapolis Naval Academy (KNAK)	4082
Baltimore, MD (KBWI)	4160
College Park (KCGS)	3854
Dulles Airport (KIAD)	3920
Ft. Belvoir, VA (KDA)	3914
Frederick (KFDK)	3661
Gaithersburg (KGAI)	3681
Gambrils (F2488, near Bowie)	3936
Greater Cumberland Reg (KCBE)	3507
Martinsburg, WV (KMRB)	3443
Natl Arboretum/Reagan Natl (KDCA)	4530
Salisbury/Ocean City (KSBY)	4151
St. Mary's City (Patuxent NRB KNHK)	4593
Westminster (KDMW)	4253

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

Conferences

December 8, 2022 (Morning session)

Turf Nutrient Management Conference

Location: Carroll Community College

December 15, 2022

Advanced Integrated Pest Management Conference

Location: Carroll Community College

Program will be submitted for ISA CEUs and Pesticide recertification credits.

January 11-13, 2023

MANTS

Location: Baltimore Convention Center

January 3, 4 and 5 AND January 10, 11, and 12, 2023

UMD IPM Short Course

Lecture times: 7:45 am – 11:30 am Eastern Standard Time

Location: Virtual via Zoom

2 day in-person lab (8:00AM - 3:00PM)

Lab dates: Tuesday and Wednesday January 17 and 18 (8:00AM - 3:00PM)

Location: In person at University of Maryland Campus, College Park, MD

Course and Registration Information: <https://landscapeipmphc.weebly.com/>

Questions contact: Amy Yaich, 301-405-3911, umdentomology@umd.edu

January 17 and 18, 2023

MAA Winter Conference

Location: Turf Valley, Ellicott City, MD

January 27, 2023

FALCAN Conference

Location: Frederick Community College

February 6, 2023

Western Maryland Pest Management Conference

Location: Allegany Fairgrounds, Cumberland, MD

February 15, 2023

2023 Eastern Shore Pest Management Conference

Location: Salisbury, MD

February 16 and 17, 2023

Chesapeake Green Horticultural Symposium

Location: Maritime Institute, Linthicum Heights, MD

Learn More About Fruit Production

By: Stanton Gill

If you are looking for something to do between December 13, 2022 and January 19, 2023 and want to learn more about fruit production and IPM techniques for fruit insect and disease then we have an online class for you. The class will cover berry fruit through tree production. Class will be in the evening each week, Tuesday and Thursday nights, from 5:30 – 9:30 p.m. with three Saturday live onsite sessions with fruit tree pruning, propagation and training systems for fruit production. If you want a complete syllabus send me an email to Sgill@umd.edu. Web registration: www.montgomerycollege.edu. Look under HORT. Class is listed under Hort 171, Germantown campus listing.

CONTRIBUTORS:



Stanton Gill
Extension Specialist
sgill@umd.edu
410-868-9400 (cell)



Paula Shrewsbury
Extension Specialist
pshrewsb@umd.edu



Karen Rane
Plant Pathologist
rane@umd.edu



Chuck Schuster
Retired, Extension Educator
cfs@umd.edu



David Clement
Plant Pathologist
clement@umd.edu



Andrew Ristvey
Extension Specialist
aristvey@umd.edu



Ginny Rosenkranz
Extension Educator
rosnkranz@umd.edu



Nancy Harding
Faculty Research
Assistant

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery, Landscape, and Greenhouse Association, Professional Grounds Management Society, and FALCAN for your financial support in making these weekly reports possible.

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

The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by University of Maryland Extension is implied.

University programs, activities, and facilities are available to all without regard to race, color, sex, gender identity or expression, sexual orientation, marital status, age, national origin, political affiliation, physical or mental disability, religion, protected veteran status, genetic information, personal appearance, or any other legally protected class.