UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **July 24, 2026**

In This Issue...

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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Pest and Beneficial Insect Information: Laura Nixon and Paula Shrewsbury (Extension Specialists) and Nancy Harding, Faculty Research Assistant
Disease Information: David Clement (Extension Specialist) and Ana Cristina Fulladolsa (Plant Pathologist and Director, UMD Diagnostic Lab)
Weed of the Week: Kelly Nichols and Nathan Glenn, (UME Extension Educators) and Dan Buonaiuto, (Assistant Professor), Dept. of Plant Sciences and Architecture
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)

Stanton A. Gill Symposium: Focus on Biological Control
August 4 and 5, 2026
Location: CMREC, Ellicott City

MDA Pesticide Recertification Approval:
Categories 3A, 3B, 3C, 10, CORE, PVT

Virginia Pesticide Recertification Approval:
3A (23), 10 (10), and 60 (60)

Schedule submitted to DC for approval

IPM Diagnostic Session (1 - 3 p.m.)
August 26, 2026
Location: CMREC, Ellicott City, MD

What's All That Fluffy White Wax on My Plants?

By: Paula Shrewsbury

A few weeks ago, David Krimins (Fairfax County, VA Master Gardener) sent in pictures of a camelia that had a lot of fluffy white wax on the stems and leaves of the plant. Since then, I have had several people ask about this symptom on various plants. This wax is produced by nymphs of flatid planthoppers (family Flatidae). There are three species of flatid planthoppers found in MD and described on Maryland Biodiversity Project website: Citrus flatid planthopper (*Metcalfa pruinosa*), Northern flatid planthopper (*Flatomenis proxima*), and *Ormenoides venusta* (no common name). These insects have a wide host range. I often see them on hosta and numerous other herbaceous perennials and shrubs. There is one generation a year and usually noted in July and August. Flatid planthoppers have sucking mouthparts that they use to feed on phloem sap; they produce honeydew on which black sooty mold can grow. The nymphs are white to light green, and they produce an abundance of white fluffy wax from their back end where they have a "tail" of waxy filaments. The fluffy white wax builds up on plant stems and leaves where the planthoppers are feeding. Adults hold their wings tent-like over their body and make the insect look flat on both sides and they may be light green to tan to grey. They have a light coating of waxy powder. If you see this white fluffy wax on plants, look closely and you may see nymphs within the wax, and adults may also be on the plant depending on time of year.

Stem of a camelia shrub with white fluffy wax, and likely some insects, made by nymphs of flatid planthoppers. Photo: David Krimins, Fairfax County VA Master Gardener

Flatid planthopper nymph on a stem with an abundance of white wax that the planthopper nymph produced. Notice the filaments at the back end of the planthopper where the wax is produced from. Photo: Paula Shrewsbury, UMD

Flatid planthoppers usually do not warrant control measures. The plants can be sprayed with a stream of water that will remove the white wax and insects from the plant.

A fun thing to do: Locate a nymph on the plant stem and follow it slowly with your finger. It will run around to the other side of the stem where your finger is not. They will keep doing this.

Adult flatid planthoppers on a plant stem feeding with their sucking mouthparts.
Photo: Antonia Bookbinder, iNaturalist, (CC BY-SA)

Persimmon Psyllids are Active

By: Laura Nixon

Marie Rojas, IPM Scout, found persimmon psyllid nymphs (*Baeoalitriozus diospyri* prev. *Trioza diospyri*) within the folded leaf margins of persimmon trees this week. This species will feed and reproduce on both native and ornamental persimmons, preferring new green growth. Both adults and nymphs (juvenile stage) feed with piercing, sucking mouthparts, and during feeding injects the plant with saliva which causes leaf curling and deformity. Psyllids also produce honeydew as they feed, resulting in some black sooty mold growth. Although populations can appear and increase very rapidly, they tend to decline just as rapidly. There are many natural enemies that assist in managing this pest, including parasitic wasps, lacewings, lady beetles, syrphid fly larvae, and predaceous bugs. Culturally, avoid pruning terminal shoots during the summer, as this encourages new growth for the psyllids to feed on. If you do have problems with persistent populations, a thorough covering of horticultural oil will target all life stages, whilst preserving natural enemies. Be mindful not to apply horticultural oil to any plants when it is over 90 °F.

Persimmon leaf is uncurled to reveal persimmon psyllid nymphs.
Photo: Marie Rojas, IPM Scout

Elm Zigzag Sawfly Damage

By Laura Nixon

Marie Rojas, IPM Scout, sent us photos of zigzag-patterned defoliation on elm leaves in Frederick County this week. This is a pretty clear indicator of elm zigzag sawfly (*Aproceros leucopoda*) activity; active larvae weren't seen, so we can't report which life stage these are at. Elm zigzag sawfly is newly invasive in Maryland (first reported in 2022) and has not been widely observed or reported. If you find this type of damage on elm leaves and/or see the active larvae, it is important to report these sightings to MDA (fpm.mda@maryland.gov) and/or the IPM team (Lnixon1@umd.edu or sklick@umd.edu).

For more information on elm zigzag sawfly, see June 26, 2026 IPM Report.

Zigzag patterns in an elm leaf from elm zigzag sawfly larvae feeding. Photo: Marie Rojas, IPM Scout

A Perfect Storm Part II

By: Andrew Ristvey

This past April, I wrote about a substrate problem affecting plant growth at a small nursery in Maryland. The usual suspects, pH and electrical conductivity were the culprits. The grower corrected those problems by investing in a different substrate and by initiating a substrate monitoring program that included weekly pour-throughs with pH and electrical conductivity measurements. The grower's habit of detailed record keeping promoted good and timely decision making about irrigation timing. However, are other issues that continue to challenge the grower, mainly with water quality. The grower's water has both high alkalinity and very high calcium levels. These are two different problems that influence nutrient availability. First, some background information for this part of the story.

We'll start with water quality, specifically alkalinity. As a reminder, alkalinity is the content of dissolved carbonates, bicarbonates, and hydroxides in water and is a measurement of the buffering capacity of the water. Effectively, it is the ability of the water source to neutralize acid. Alkalinity is reported in two ways; as parts per million calcium bicarbonate ($CaCO_3$) or as milliequivalents per liter.

Even though $CaCO_3$ is not being measured directly when analyzing for alkalinity, the unit expresses the capacity of water to neutralize acid. For instance, if you have 100 ppm $CaCO_3$ alkalinity, it does not mean that you have 100 milligrams of $CaCO_3$ per liter of water, rather it means that the water's total ability to neutralize acid is the same as 100 milligrams of $CaCO_3$ in a liter of water.

Conversely, the term "milliequivalents per liter" is used to determine the amount of acid needed to neutralize the alkalinity. Think of it as how many hands there are to grab hydrogen ions out of the water so that they do not influence pH. This measurement is used to determine the amount of acid you need to mix into the water to reduce alkalinity. Alkalinity can be our friend at low concentrations to buffer pH (resisting change) or it can create substrate pH problems if too high. Water with low alkalinity can lower substrate pH in time. Water with

high alkalinity can increase substrate pH. Remember that pH is an important water quality parameter, but it says little about how it may affect your substrate's pH. Some growers have acid injectors that constantly measure pH and automatically inject acid to a pH set-point. These systems do not tell the grower what their alkalinity is. If a grower does not have an automated acid-dosing system, alkalinity milliequivalent information is needed to know how much acid is needed neutralize alkalinity.

While calcium (Ca) can be part of the alkalinity measurement, it is also an indicator of water hardness. Interestingly, hardness is also reported as $CaCO_3$, but only for mathematical standardization. Calcium exists as a cation (positively charged ion) dissolved in water, even though its source is probably $CaCO_3$. Calcium is an essential plant nutrient, of course. When concentrations of Ca are high in irrigation water, it can cause uptake suppression of other nutrients, especially micronutrient cations, like iron (Fe).

Our grower has both high alkalinity and high Ca levels. The grower needs to inject acid to neutralize the alkalinity but in doing so, Ca is made more available and this can then cause indirect nutrient deficiencies. To add to the problem, the grower has low substrate pH. This is truly a perfect storm.

Recall that in Part I, the grower's substrate pH was at 3.8, because the consultant did not want to add too much lime for fear of adding more Ca which could cause micronutrient deficiencies. While the problem of high electrical conductivity from fertilizer was solved by ensuring plants get adequate irrigation, the substrate pH needed to be corrected.

Typically, before any substrate lime recommendations are made, a water quality test is conducted to determine alkalinity levels. Based on the grower's high alkalinity, my suggestion was to use a low rate of pulverized lime

Spotted Lanternfly Adults and the Trees They Love

By: Laura Nixon

Although the red spotted lanternfly nymphs (*Lycorma delicatula*) are still abundant, and we are receiving a lot of reports of them on black walnut, the adults have started to pop up. Host plant preferences of adult spotted lanternfly (SLF) are much narrower than the nymphal life stages. You will see the highest numbers of adult SLF on tree of heaven and grapevines; these are also the only hosts that SLF do **direct feeding damage** to. The high numbers and persistence of populations feeding on these hosts causes a decline in the plants, sometimes causing tree or vine death. There is not currently any evidence of SLF directly killing other host plants.

Fourth instar SLF nymphs on black walnut.
Photo: Sam Fisher, Bartlett

However, you may also start to see numerous SLF on other favored hosts, such as maples and willows. The issues with high numbers feeding on these particular hosts is a little more complex. As adult SLF feed from plant phloem, they produce copious amounts of honeydew due to their size. This honeydew coats the tree and surrounding foliage and propagates the growth of thick layers of sooty mold and other fungal growths. This can deteriorate the foliage of the host tree and lead to the death of much of the understory.

For nurseries, systemics such as dinotefuran, are recommended to treat high numbers of SLF; contact insecticides will only kill present SLF, and you will find more moving in from the landscape over time.

For vineyards, apply labelled products with a mind for the pre-harvest interval; post-harvest, systemics can be used to reduce further damage to the vines. In the landscape, there are not a lot of effective options. If you have grapevines that you are worried about, try exclusion netting, and make sure it covers the full grape cordons down to the trunk and ground. For landscape and garden trees, I would not recommend spraying, as more SLF will continue to move into the area.

To reduce numbers in your locality, there are several trap designs including sticky bands deployed with exclusion netting and circle trunk traps. These will capture any SLF climbing up your trees. See PennState's website on making your own traps: https://extension.psu.edu/how-to-create-a-wildlife-barrier-for-a-spotted-lanternfly-sticky-band-trap or https://extension.psu.edu/how-to-build-a-spotted-lanternfly-circle-trap

Spotted lanternfly adult on willow.
Photo: Marie Rojas, IPM Scout

A harvestman carrying a spotted lanternfly nymph home for dinner.
Photo: Justin Schmitz, Historic Londontown

Orange-striped Oakworm

By: Holly Greenberg, UME

Orange-striped oakworm (*Anisota senatoria*) hatch at 1917 degree days, which most regions of Maryland have surpassed this week. The larvae of orange-striped oakworm defoliate trees including oaks, maples, birches, and other hardwoods. Defoliation can be severe for both young and mature trees when combined with other conditions, such as sun scalding. Due to being a late-season pest, the defoliation is less harmful to larger trees as they are likely to have already reserved energy for winter. The caterpillar stage produces a high density of frass, which rains down from the tree and can stain sidewalks and residences.

Once adults emerge in midsummer after overwintering as pupae, they lay eggs on the underside of leaves by the hundreds. The caterpillars hatch after a week. As young caterpillars, they have a greenish-yellow color with two horns behind their head. This stage feeds gregariously. As they develop further, their 8 orange stripes become

more distinct, and their bodies turn black. Full-grown caterpillars are about 2 inches in length and feed in solitude.

Early instar orange-striped oakworm larvae feed in clusters on foliage. Photo: Marie Rojas, IPM Scout

Maryland has one generation per year, making control not necessary. For high densities, one option is to prune out growing tips where large numbers of the caterpillars are feeding. Natural predators such as birds, wasps, and parasitoids will also assist in population control. Parasitic wasps feed on this caterpillar and will leave mummies of the caterpillars behind. Paula Shrewsbury covered parasitic wasps of orangestriped oakworms in the August 21, 2020 Beneficial of the Week article. If you do need to treat, *Bacillus thuringiensis* (Bt) works well for early instars. Other options include spinosad (Conserve), chlorantraniliprole (Acelepryn), and cyantraniliprole (Mainspring).

Stink Bug Nymphs Hatching

By: Laura Nixon

Marie Rojas, IPM Scout, sent a photo of stink bug nymphs hatching from eggs laid on a black cherry leaf. Plucking off the leaves and disposing of these nymphs is the easiest course of action. Stink bug eggs are barrel-shaped and laid in large clutches, however, it is not often possible to identify which species they contain. Some stink bugs are predatory and feed on pest insects, whilst other, such as brown marmorated stink bug and green stink bug, are plant feeders.

Brown marmorated stink bug nymphs hatching. Photo: Marie Rojas, IPM Scout

Dogwood Sawfly are Causing Significant Defoliation

By: Paula Shrewsbury

James Metler reported dogwood sawfly, *Macremphytus* species, activity and defoliation to grey dogwood in Croom MD on July 17th. James' dogwood has mid-late instar sawfly larvae which are causing significant defoliation to his dogwood. I wrote about the biology and management of dogwood sawfly in the June 17, 2026 IPM Newsletter (click here for more information). If you have plants that look like this, implement some type of management tactic or your dogwood may soon be totally defoliated.

Management Recommendations: Treating dogwood sawfly when they are young is optimal. Dogwood sawfly larvae can be hand-removed from the plant and destroyed, or since they feed gregariously, heavily infested branches can be pruned out. Other options include treating them with chemicals such as spinosad or azadirachtin. For early instar larvae, horticultural oil (ensure full coverage and don't use in extreme heat/humidity), and insecticidal soap can be effective. Other options include systemic chemicals such as chlorantraniliprole (ex. Acelepryn), cyantraniliprole (ex. Mainspring).

Image showing waxy instars and the non-waxy last instar larvae of the dogwood sawflies.
Photo: Joe Boggs, Ohio State University Extension

Defoliation to dogwood by mid-late instar larvae of dogwood sawfly.
Photo: James Metler

Guignardia Blotch and Fairy Rings

By: David L. Clement

Guignardia leaf blotch caused by the fungus, *Guignardia aesculi*, is common on horse chestnut, (*Aesculus hippocastanum*), red horse chestnut (*A. x* carnea), Ohio buckeye (*A. glabra*), painted buckeye (*A. sylvatica*) and red buckeye (*A. pavia*) at this time of year. Bottlebrush buckeye, (*Aesculus parviflora*) is known to have a high level of natural resistance to leaf blotch compared to other members of the *Aesculus* genus. However, it is not completely immune to leaf blotch.

The initial symptoms appear as scorched foliage which can be confused with drought, or root injury. As the blotches expand, they become dry and turn orange, brown in color. When severe, the diseased foliage will tightly curl and twist. This distorted foliage will often remain on the tree for a long period before defoliation. Look for small black spore producing structures within the blotches. These fruiting bodies will overwinter on infected leaves and release spores next season to initiate new infections.

Management
Leaf blotch in landscapes has a relatively limited impact on the overall health of vigorous trees since infection usually occurs after new growth has been completed. Fungicide applications to mature landscape trees are often impractical.

However, registered fungicide applications can help with nursery stock. Spring fungicide applications should target new buds to protect newly developing leaves from primary infections. It will be necessary to repeat fungicide applications to control secondary infection cycles during wet weather.

Guignardia leaf blotch is common on several Aesculus species.
Photo: Marie Rojas, IPM Scout

Fairy rings in turf are caused by numerous fungal species that live in the soil and decompose organic matter. Frequently, as these fungi release nutrients from organic matter, they create circular patterns, or mushrooms on the surface.

There are three types of fairy rings: Type I fungi create a hydrophobic layer that causes a ring of dead turf. Type II fungi release nutrients causing an arc of green growth. Type III fungi grow mushrooms in circles, or arcs.

Management
In general, improving soil drainage, and aeration is helpful for type I fairy ring management. Adding organic matter such as compost can provide additional nutrients to the soil. Moderate levels of fertilization can be helpful with type II to even out the color differences of the rings compared to the rest of the surrounding turf. Removal of mushrooms and soil replacement can also help to manage fairy rings. Chemical applications are not normally required for the management of fairy rings in residential lawns. In higher maintenance turf fungicide products with flutolanil and azoxystrobin could be used in severe cases.

Fairy rings in turf are caused by numerous fungal species.
Photo: Sheena O'Donnell, UME

Summer Insects Working Hard

By: Laura Nixon

Leafcutter bees have been hard at work on this pawpaw leaf (*Asimina triloba*). These bees are an important pollinator and don't significantly damage plants, so it is best to just sit back and admire their industriousness.

Photo: Marie Rojas, IPM Scout

Hoverflies (Syrphids) have figured out that the water and salt in our sweat can keep them going in the summer; if you have them landing on you, fear not, they're just here for refreshment. Hoverflies do not bite or sting, despite wasp-like coloring.

Photo: Marie Rojas, IPM Scout

A Colorful Antlion

By: Suzanne Klick

Eric Buehls, UME, found this antlion on the trunk of a tree this week. Look for pleasing picture-winged antlions (*Glenurus glatus*) in wooded areas. Their larvae live in holes in trees (different than the species that dig pitfalls on the ground and wait for prey to fall in). This species feeds on ants and other insects.

The black and pink wing tips are a distinct identifying characteristic for this pleasing picture-winged antlion.
Photo: Eric Buehl, UME

Several Large Ground Beetles are Active

By: Suzanne Klick

Emily Clark-Waterson, UME-HGIC, found a stag beetle and a hercules beetle last week. These two large beetles (the hercules beetle is the largest beetle in the U.S.) are sometimes found crossing parking lots in search of feeding areas or mates. Adult hercules beetles eat fresh and rotting fruit and tree sap. The larvae feed on rotting wood and other organic material. Stag beetle adults feed on sap or the juice of decaying fruit. Stag beetle larvae also feeding on rotting wood as well as the fungi associated with the breakdown of this woody material.

Hercules beetles are one of the many decomposers.
Photo: Emily Clark-Waterson

The male stag beetle is larger than the female and has antler-like jaws.
Photo: Emily Clark-Waterson

Beneficial of the Week

By: Paula Shrewsbury

Introduced parasitoids of the invasive Emerald ash borer

Last week I wrote about parasitoids and their diverse biologies that have led to their success as natural enemies. This week I will discuss specific parasitoids and their host insect. As you know, emerald ash borer (EAB) (*Agrilus planipennis*, Buprestidae) in an invasive wood boring beetle native to Asia. EAB was first detected in the U.S. in Michigan in 2002 and in Maryland in 2003, and it is responsible for the death of tens of millions of ash trees (*Fraxinus* spp., Oleaceae), its major host. As with many invasive species, several avenues of research towards management of EAB have been pursued. One of which was biological control, a potential long-term sustainable approach to suppressing EAB and its damage to ash trees. Specifically, a classical (a.k.a. importation) biological control approach was implemented. The premise behind this approach is that in the invaders' native range, it is often not an outbreaking pest because natural enemies and plant defenses keep it from reaching damaging levels. In this approach, scientists (ex. USDA) go to the country of origin of

the invasive pest (EAB) and determine what natural enemies are providing control in its native range. The natural enemies that show promise are returned to the U.S. and placed in quarantine to assess the likelihood of the natural enemy attacking and suppressing the invasive pest and not negatively impacting insects native to the U.S., especially those taxonomically like the invasive pest. After several years of research in quarantine, USDA determines if these non-native natural enemies can be released (introduced) into the U.S. or not. If yes, releases are done by scientists (ex. USDA and university) and further studies are conducted to determine if the introduced natural enemies establish and reproduce, disperse, and suppress the pest and its damage. If this all happens, the biological control program is considered a success.

***Oobius agrili* wasp parasitizes an egg of emerald ash borer.**
Photo: Houping Liu; Bugwood.org

An adult female wasp drilling through ash bark to oviposit on an EAB larva.
Photo: Jian Duan, USDA ARS

What been going on with the classical biological control program for EAB in the U.S.? To date, four parasitoids (very small, stingless wasps; Hymenoptera) have been introduced into multiple locations in multiple states (starting in 2007). Below are a description of the four parasitoids and their life histories: 1) ***Tetrastichus planipennisi*** (Hymenoptera: Eulophidae) is a gregarious larval endoparasitoid that lays an average of 35 (range 5-122) eggs inside a single EAB larva (host). *Tetrastichus planipennisi* only attack third- and fourth-instar EAB larvae. The EAB larva continues feeding and developing after the parasitoid oviposits into it (koinobiont). Eventually external signs of the wasp larvae appear (ex. you can see them through the skin of the EAB larvae), and the EAB larvae dies; 2) ***Spathius agrili*** (Hymenoptera: Braconidae) is a gregarious larval ectoparasitoid of EAB larvae. Female *S. agrili* adults search the trunks of EAB infested trees and oviposits through the bark of the tree onto exoskeleton of the larva, laying an average of 5 (range 2 – 18) eggs per larva. At oviposition, the wasp stings and paralyzes the larva, stopping its development (idiobiont); 3) ***Oobius agrili*** (Hymenoptera: Encyrtidae) is an egg parasitoid of EAB. EAB lays its eggs between bark layers and crevices on ash trees. Adult wasps locate EAB eggs and insert an egg inside the EAB egg. The wasp egg hatches, and as the larva develops it consumes and kills the EAB egg; and 4) ***Spathius galinae*** (Hymenoptera: Braconidae) is like *S. agrili* in that it is also an idiobiont, gregarious, ectoparasitoid. *Spathius galinae* females search the trunk of ash trees infested with EAB, ovipositing on 2nd – 4th instar larvae through the bark. The EAB is paralyzed and the parasitoid eggs are deposited on the outside of the larva. From

6−15 larvae feed externally on the EAB larva and spin cocoons inside the EAB gallery, eventually chewing through the bark and emerging as adults.

An emerald ash borer larva is shown with several *Spathius agrili* parasitoid larvae feeding on and eventually killing the EAB larva. This introduced parasitoid is a gregarious (multiple wasp larvae per host) ectoparasitoid (develops outside the host's body). Photo: USDA APHIS PPS

How have the introduced parasitoids been doing? As of 2023, the introduced parasitoids have been released in over 360 counties in 31 EAB infested states, Washington D.C., and three Canadian provinces. Three of the parasitoids, *T. planipennisi*, *S. galinae*, and *O. agrili*, have successfully established in many release areas (including MD) in the northeastern and Midwestern USA. Some regions, especially where releases were made earlier, have shown suppression of EAB to low densities. Unfortunately, this is not the case in many of the release areas, where high mortality of ash trees continues. In addition to the introduced parasitoids, there is a complex of natural enemies that attack EAB such as woodpeckers and native parasitoids that have been shown to reduce EAB populations. The effectiveness and rate of biological from these natural enemies vary with location and time, but overall, these biological control agents are not effective enough to prevent enough ash trees from being killed by EAB.

However, do not lose hope in the fight to save our ashes. Research in Michigan shows that ash trees continue to regenerate in stands post-invasion by EAB, and we have seen this in Maryland. In these areas, survival of the regenerating ash has been shown to be, in part, from introduced parasitoids attacking EAB on these ashes. Releases of introduced parasitoids continue today, in addition to research that examines environmental and other factors towards improving the effectiveness of natural enemies that attack EAB.

For more information on EAB biological control, go to:
-https://www.aphis.usda.gov/plant-pests-diseases/eab
-https://entomologytoday.org/2024/08/01/emerald-ash-borer-drivers-effective-biological-control-ash-trees-parasitoids/

**Parasitoid larvae of *Tetrastichus planipennisi* in an emerald ash borer larva. The parasitoid larvae are late in their development and have consumed the inside of the host larva.
Photo from: Dang et al. 2023. Scientific Reports; Creative Commons Attribution 4.0**

Weed of the Week

By: Kelly Nichols

Broadleaf & Buckhorn Plantains

Two common perennial weeds that thrive in turf and landscape settings, especially in compacted or high-traffic areas, are broadleaf plantain (*Plantago major*) and buckhorn or narrowleaf plantain (*Plantago lanceolata*). These resilient weeds grow low to the ground and are often overlooked until they become well-established.

The name "plantain" comes from the Latin word *planta*, meaning the sole of the foot, an apt description for the flat, ground-hugging growth habit of these weeds.

Broadleaf plantain (left) and buckhorn/narrowleaf plantain (right).
Photo: Broadleaf plantain - Chris Evans, University of Illinois, Bugwood.org; Buckhorn plantain - Ohio State Weed Lab, The Ohio State University, Bugwood.org

Identification Tips:

- **Growth habit**: Basal rosette (low-growing leaves in a circular pattern at ground level)
- **Leaf shape**:
  - *Broadleaf plantain*: Wide, oval leaves that may appear slightly wavy
  - *Buckhorn plantain*: Long, narrow leaves resembling blades of grass
- **Leaf features**: Prominent parallel veins and smooth (entire) leaf margins
- **Flowering stalks**:
  - *Broadleaf plantain*: Seed heads form along the entire stem
  - *Buckhorn plantain*: Seed heads form only at the top of the stem
- **Reproduction**: Each plant can produce thousands of seeds

Cultural Control:

- **Soil compaction**: Aerate compacted areas regularly
- **Hand removal**: Difficult due to deep taproots
- **Mowing**: May reduce seed spread but won't control the basal rosette
- **Turf competition**: Maintain proper mowing height, fertility, and irrigation to encourage dense turf that can outcompete plantain

Chemical Control:
Spot treat weeds with a postemergent broadleaf herbicide when weeds are actively growing. Look for a product with one or more of the following active ingredients: 2, 4-D, MCPP (mecoprop), dicamba*, or triclopyr.

*Do not spray herbicides containing dicamba over the root zone of trees and shrubs. Roots can absorb the product, possibly causing plant damage. Refer to the product label for precautions.

Always read and follow the herbicide label for specific application instructions, site restrictions, and mix rates.

Broadleaf plantain (left) and buckhorn plantain (right) seed-heads.
Photo: Joseph M. DiTomaso, University of California - Davis, Bugwood.org

Plant of the Week

By: Ginny Rosenkranz

Head Over Heels® Passion™ Hibiscus is a beautiful herbaceous perennial that thrives in full sun and prefers to grow in moist, organically rich soils. They produce beautiful flowers that last a day, but with so many buds, they cover the plants with their flowers. Passion™ has very large, bright pink flowers that open with 5 flat showy overlapping petals to 6-10inches across. Each petal has prominent veins that provide texture and interest and surround a showy central staminal column. These lovely plants will bloom with up to 250 flowers from July to September, providing for many butterflies and other pollinators through the summer heat.

Dead heading is suggested to improve the appearance of the plants. Passion™ is compact with nice branching habit and has burgundy colored lobed foliage that showcases the flowers beautifully. The hardy hibiscus is vigorous and sturdy and cold hardy in USDA zones 4-10. They are deer tolerant depending on the size of the head and will thrive in rain gardens as well as flower gardens. They die

Head Over Heels® Passion™ Hibiscus produces overlapping petals up to 6-10 inches across.
Photos: Ginny Rosenkranz, UME

back each autumn and emerge in the spring in late spring. Some diseases can include leaf spots, cankers, blights and rust. Insect pests include aphids, Japanese beetles, sawflies and whiteflies.

Head Over Heels® Passion™ Hibiscus attract various pollinators throughout the summer.
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 **1833 DD** (Clarksville) to **2575 DD** (Nat'l Arboretum/Reagan Nat'l). 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.

Obscure scale – egg hatch / crawler **(1774 DD)**
Orangestriped oakworm – egg hatch / early instar **(1917 DD)**
Magnolia scale – crawler **(1938 DD)**
Fall webworm – egg hatch / early instar (2nd gen) **(1962 DD)**
Maskell scale – egg hatch / crawler (2nd gen) **(2035 DD)**
Euonymus scale – egg hatch / crawler (2nd gen) **(2235 DD)**
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)**
Spotted lanternfly – egg laying **(Sept.)**

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 22, 2026)

Annapolis Naval Academy (KNAK)	2257
Baltimore, MD (KBWI)	2263
Belcamp (FS836)	2156
Clarksville (001MD)	1833
College Park (KCGS)	2336
Dulles Airport (KIAD)	2279
Ft. Belvoir, VA (KDA)	2375
Frederick (KFDK)	2061
Gaithersburg (KGAI)	2183
Greater Cumberland Reg (KCBE)	2019
Martinsburg, WV (KMRB)	2101
Millersville (MD026)	2257
Natl Arboretum/Reagan Natl (KDCA)	2575
Perry Hall (C0608)	2101
Salisbury/Ocean City (KSBY)	2258
St. Mary's City (Patuxent NRB KNHK)	2410
Westminster (KDMW)	2424

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: 95 Calculation type: simple average/growing dds Start: Jan 1

Conferences

The Stanton A. Gill Symposium: A focus on biological control
August 4 and 5, 2026
Location: CMREC, Ellicott City, MD

IPM Diagnostic Session (1 - 3 p.m.)
August 26, 2026
Location: CMREC, Ellicott City, MD

FALCAN Truck & Trailer Safety Seminar
October 14, 2026
Location: Urbana Fire Hall, Urbana, MD
Registration opens in July.

2027 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 held over four days at the University of Maryland, College Park, MD. In addition, there will be a hands-on lab following lecture (available to a limited number of course attendees). Coordinators: Drs. Paula Shrewsbury and Mike Raupp, Dept. of Entomology, University of Maryland
Lecture dates: Monday, January 4 - Thursday, January 7, 2027 from 8:00 am – 3:00 pm
Lab dates: Monday, January 4 - Thursday, January 7, 2027 from 3:30 pm – 5:30 pm (space limited)
Course information: https://landscapeipmphc.weebly.com/
Registration: https://www.eventbrite.com/e/2027-advanced-landscape-ipm-phc-short-course-tickets-1992372702386?aff=oddtdtcreator

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

Commercial Ornamental IPM Information
http://extension.umd.edu/ipm

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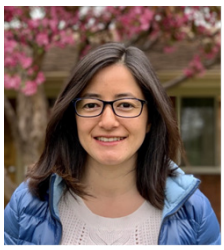

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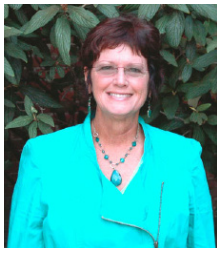

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