

Commercial Horticulture

May 5, 2023

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#### **Beneficial of the Week:**

Crabronid wasps

**Weed of the Week:** Star-of-Bethlehem

**Plant of the Week:** *Spiraea prunifolia* (Bridal wreath spiraea)

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IPMnet  
Integrated Pest  
Management for  
Commercial Horticulture  
[extension.umd.edu/ipm](http://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](mailto:sgill@umd.edu)

### Coordinator Weekly IPM Report:

Stanton Gill, Extension Specialist, IPM and Entomology for Nursery, Greenhouse and Managed Landscapes, [sgill@umd.edu](mailto: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), David Clement (Extension Specialist) and Fereshteh Shahoveisi (Turf Pathologist)

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)

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### Diagnostic IPM Session – May 10, 2023

By: Stanton Gill

The Maryland Arborist Association and the University of Maryland Extension are working together to offer a diagnostic evening session to be held at the Howard Community College, Columbia, Maryland from 5:00 p.m. until dark.

Karen Rane, Andrew Ristvey, and Stanton Gill will walk you through diagnosing plant disease, nutrient, water, and insect and mite problems on plant material. Steve Dubik will cover the ID of some of the plant material on the campus.

A catered dinner will be served for all attendees.

Go to <https://hccpestwalk23.eventbrite.com>  
to register for this pest walk.

May 24, 2023

### **IPM Scouts' Diagnostic Session**

Location: CMREC, Ellicott City, MD  
(limited space available)

## Spotted Lanternfly Update

By: Stanton Gill

The cool weather with low night temperatures is limiting spotted lanternfly nymph activity. Let me know if and where you are seeing any nymphs. You can send reports (and photos if you have them) to [sgill@umd.edu](mailto:sgill@umd.edu).

## Ambrosia Beetles Update

By: Stanton Gill

There were no beetles in our baited alcohol trap at CMREC this week. Ginny Rosenkranz, UME, sent us beetles from her trap in Salisbury. There were 3 *Xylosandrus germanus* beetles.

## Crapemyrtle Bark Scale Update

By: Stanton Gill

We checked the crape myrtles at our CMREC labs this week and they are still in the egg stage. If you are seeing crawlers in your area, send a picture and let me know at [sgill@umd.edu](mailto:sgill@umd.edu) where you are located with the find. Wait for crawlers to apply control measures which include Talus or Distance. Dinotefuran is a systemic that can be applied.

## Cottony Camellia/Taxus Scale

Luke Gustafson, The Davey Tree Expert Company, found egg masses and females in process of laying eggs on camellia and taxus on May 1 in Baltimore City. Continue monitoring these scale infestations for the start of the crawler period. That would be the time to apply either Distance or Talus.



**Female cottony camellia/Taxus scale are producing eggs right now. Look for crawlers as we move through May.**

**Photo: Luke Gustafson, The Davey Tree Expert Company**

## Nipple Galls on Cherry

Todd Armstrong, The Davey Tree Expert Company, found nipple galls on a black cherry in Jarrettsville. These galls are caused by eriophyid mites. They are not a problem on the tree. No control is necessary.



**Nipple galls caused by eriophyid mites on black cherry foliage.**

**Photo: Todd Armstrong, The Davey Tree Expert Company**

## San Jose Scale and White Prunicola Scale

By: Stanton Gill

We are getting close to 500 degree days in many parts of Maryland in the next week or two. Two armored scale (Diaspididae) that you should watch out for crawler activity. One is San Jose scale and the other is white prunicola scale.

You can use black electric tape to monitor on branches for crawlers. Crawler start around 500 degree days and continue up to around 900 degree days. Wrap the black electrical tape around a branch with the sticky side aiming outward and place on small branches with scale populations. You can examine the black sticky surface for crawlers so you can time your applications precisely.

Talus or Distance works well applied to control of the crawler stage.

## Check for Allium Leafminer in Any Allium Species

By: Jerry Brust, UME and Karen Rane, UMD Diagnostic Lab

If you grow any type of *Allium* plant species (onion, leeks, garlic, ornamental onions), now and for the next few weeks is the time to watch for the tell-tale marks left by Allium leafminer. Allium leaf miner *Phytomyza gymnostoma* tell-tale marks consist of many linear small white dots (made by the female's ovipositor) that appear in leaf blades (fig. 1) of any *Allium* species. If you had some infestation last year you will especially want to be looking for the signs of this pest.

Figure two shows an ornamental planting of Alliums in downtown Bethesda. As you can see it is not doing too well, probably because of several different reasons. But upon close inspection you can find active oviposition marks of Allium leafminer on the leaves, which will lead to larvae in the bulb of these plants opening them up to pathogens. In addition to the Bethesda problem, we have seen two cut flower farms on the Eastern Shore in the past couple of years that have had devastated *Allium* plantings that had been in the ground for several years. While there usually were some disease problems too, we found Allium leafminer larvae and pupa as well as damage in the bulbs (fig 3). This feeding damage allows entry points for disease causing organisms into the plant.

To go over recommendations for this pest: new transplants or seedings of Alliums should be watched closely for the tell-tale signs of the fly's damage. When eggs hatch the larvae at first mine leaves and then move down to the bulbs and leaf sheaths where they feed and eventually pupate. You can cover any just-transplanted *Allium* planting with a row cover to keep the flies off or if needed treat with insecticides. Adult flies are active from April through May and September through October. After adult flies are no longer active in June through August plants do not need to be covered. Research out of Cornell University has found using applications of spinosad (Entrust, which is OMRI-labelled) two weeks after oviposition marks are **first** found and then another



**Fig. 1 Onion leaf blade showing linear white dots made by female Allium leaf miner**  
Photo: Todd Armstrong, The Davey Tree Expert Company



application 2 weeks after this will give adequate control of the pest. But the oviposition marks must be watched for carefully and discovered very soon after they are made. A penetrant adjuvant also is recommended to be used when treating for the larvae. If you have constant fly pressure (find new oviposition marks every week) weekly applications of an insecticide (such as pyrethroids or Spinosad) may be necessary to reduce damage.



**Fig. 2 An ornamental Allium planting not doing well**  
Photo: G. Brust, UME



**Fig. 3 Allium leaf miner larvae, pupae and damage in bulb of ornamental Allium.**  
Photo: K. Rane, UMD

## **Nostoc in Home Lawns**

By: Fereshteh Shahoveisi, Turfgrass Pathologist, University of Maryland

Nostoc is a genus of cyanobacteria that can sometimes be found in lawns. It is often mistaken for moss or mold due to its appearance, which can range from slimy to gelatinous. Nostoc is a unique organism that can survive in a variety of environments, including on land, in water, and even in extreme temperatures. It is more likely to spot Nostoc in lawns after prolonged and heavy rain events or overwatering.

Nostoc is able to photosynthesize and fix atmospheric nitrogen, making it an important component of many ecosystems. In lawns, Nostoc can form large colonies that appear as dark green or black patches on the grass. While Nostoc is not harmful to humans or animals, it can be unsightly, slippery to walk on, and may restrict turfgrass growth when it forms a dry crust on the canopy.



**Nostoc (a cyanobacteria) is often spotted after prolonged and heavy rains or overwatering.**  
Photo by Gary Huntsberger

To prevent Nostoc from forming in lawns, it is important to maintain good lawn care practices, including regular mowing, proper fertilization, and appropriate watering. In addition, reducing compaction, eliminating phosphorus fertilizers, and improving drainage discourage growth. If Nostoc has already formed in a lawn, physical removal or the use of potassium salts of fatty acids products (algae and moss killers) helps to control it. It is important to avoid breaking it down into pieces as it promotes the spread.

While Nostoc may not be a desirable addition to a lawn, it is an important organism in many ecosystems and plays a crucial role in nitrogen fixation and photosynthesis.

## **Time to Thin Fruit Trees**

By: Stanton Gill

Many landscape managers have initiated business where they tend their customer home fruit plantings. Well, it is time to take action over the next 3 weeks. Peach, apples, plums and pears had a great fruit set in 2023. The fruits are about pea size at this point and it is time to thin the fruit. Why thin fruit?

The most important reason to thin fruit is to increase fruit size. Most deciduous fruit trees benefit from fruit thinning. Apples, European type pears, Asian pears, apricots, plums, peaches, kiwis, and persimmons all respond positively to fruit thinning. Cherries and nut trees are usually not thinned.

Peaches, nectarines and apricots are thinned so there is a fist distance between fruit. For apples and pears, the fruit forms in a cluster of 5 – 6 fruit. Remove all but 2 fruit per cluster.

## **Rain - Thank Goodness**

By: Stanton Gill

On April 28, the rains finally came and we received 2 – 3” of good rain in central MD on Saturday, followed by another ¾” of misting rain that lasted all day. Up to this point we were in a mini-drought condition. Due to the dry conditions, a fire damaged over 300 acres at the Soldier’s Delight Natural Environment in early April. The wildfire drew around 200 first responders.



## Quince Rust and Cedar Apple Rust

By: David Clement and Stanton Gill

With the rainy weekend and follow-up rain periods on Monday and Tuesday, we are receiving several pictures from across Maryland of native cedar (*Juniperus virginiana*) with the swollen orange colored galls on branches. The gall-like structures continue to shoot out spores that are carried to hawthorns, amelanchier, apple, crabapples, pyracantha, and quince. Be sure to keep applying your protectant fungicides this week to protect susceptible plant species.



On juniper, this gelatinous stage of a gymnosporangium rust releases the spores that will infect roseaceous plants.

Photo: Marie Rojas, IPM Scout



Amelanchier is one of the roseaceous plants infected by gymnosporangium rust.

Photo: Luke Gustafson, The Davey Tree Expert Company

## Flea Beetle Collection for Trials

By: Stanton Gill

Last week asked people to collect redheaded flea beetles at their nurseries. The question came up on how best to capture them.

### This is from Shimat:

We use many methods to collect adult flea beetles.

Aspirators ([image](#) on Forest supplier webpage).

Empty disposable plastic bottles

Plastic bags

It is relatively easy to collect before it gets really warm and less windy. Around 9 AM, these beetles are calm and not very active, we collect from the leaves. During the day, when it is warmer than in the morning, it is challenging to capture. We only need about 10 beetles for this study from each nursery site.

Shimat V. Joseph, Ph.D., Turfgrass and Ornamentals, Department of Entomology, University of Georgia, 1109 Experiment Street, Griffin, GA 30223

**Brian Kunkel, Univ of DE Extension sent along his method:** We have used a similar aspirator but battery powered. We have also used a basic plastic tube (same diameter as the aspirator) driven through a rubber stopper and inserted into a collection vial. We have also used sweep or butterfly (preferable) nets if swung carefully and gently over the top of heavily infested plants (even as it gets warmer) and the adults often jump when they see the movement right into the net. I have also heard of individuals using a modified leaf blower with a collection screen.

## **Crabapple Problems**

By: Stanton Gill

We had a request from a Maryland nursery grower: “Have you heard anybody else having a very bad year for cracks in crabapples? It’s not roundup, we have the same thing in The organic fields. They are all nearly exactly on SW side. But we put trunk guards on all the crabs this winter. Crack rates are 40-60% depending on cultivar. Only effecting trees right around 2” cal.” If you are seeing similar damage, please email me at [Sgill@umd.edu](mailto:Sgill@umd.edu)

## **Boxwood Leafminer Adults**

Luke Gustafson, The Davey Tree Expert Company, was seeing leafminer adults swarming around boxwoods at a property in Baltimore County. Luke noted that these shrubs were "in pretty rough shape from larval feeding damage". After mating, the female eggs need to mature, which usually takes 10 – 14 days. Females then lay eggs into newly expanded leaves of boxwood. The larvae hatch within a week. Materials such as Avid, which is translaminar in action, kill the young larvae.



Heavy damage from boxwood leafminer larvae (left) and an adult leafminer on foliage (right)  
Photo: Luke Gustafson, The Davey Tree Expert Company

## **Peach Leaf Curl Photo Correction**

The wrong photo was included in the section on peach leaf curl last week. Here is the photo that should have been shown.



Peach leaf curl damage.  
Photo: Marie Rojas, IPM Scout



## Aphid Activity

Luke Gustafson, The Davey Tree Expert Company, is finding aphids active on Amelanchier, crape myrtles, and spirea this week. Luke is also finding lady beetle larvae and syrphid fly larvae feeding on the aphids.



A lady beetle larva is on the stem with these spirea aphids.  
Photo: Luke Gustafson, The Davey Tree Expert Company



Syrphid fly larvae are feeding on the aphids on this *Amelanchier* foliage.  
Photo: Luke Gustafson, The Davey Tree Expert Company



Multiple stages of crapemyrtle bark aphids are often present at one time. This aphid can spread rapidly, so monitor plants closely to determine when control measures, such as Endeavor, are necessary.  
Photo: Luke Gustafson, The Davey Tree Expert Company



## Lace Bug on Azalea

Nicolas Tardif, Ruppert Landscape, found an immature lace bug on azalea in Bethesda on May 1. Look on the undersides of the leaves for clusters of nymphs, covered in spines over their body. Just after they hatch, the nymphs cluster together to feed. By the 2nd instar, they start to spread out on the underside of leaf surfaces.

**Control:** Several good systemic insecticides will control this first generation of lace bug. Altus is a systemic insecticide that will work on azalea lace bug. Endeavor is another control option. Two more generations will occur over the summer.

**The first generation of azalea lace bugs is active now.**

**Photo: Nicolas Tardif, Ruppert Landscape**



## Beneficial of the Week

By: Paula Shrewsbury

### Crabronid wasps are predators of a diversity of pest insects

Members of the diverse family Crabronidae (Hymenoptera) are solitary hunting wasps which make up a large group of wasps comprising 8 subfamilies with over 200 genera and 9,000 species worldwide. Common names include sand wasps, square-headed wasps, hunting wasps, or digger wasps, among others. A well-known species of crabronid wasp is the cicada killer wasp, *Sphecius speciosus*. Most species of crabronids are unique in regards to what they eat (prey items), their nesting locations, and behaviors. They are a very fascinating group of wasps, most of which are predators, and many provide biological control services to many pest insects relevant to the green industries and other ecosystems.

With so many species of crabronids, the life cycles vary somewhat. But in general, the solitary wasp adults get their nutrition from floral resources

(nectar and pollen; making them pollinators) provided by a diversity of flowering plants. Many species of crabronids will make their nests in the ground where they excavate holes, while others may make nests in hollow plant stems or in a rotten log. The female searches out prey items which she stings and paralyzes. She provisions her nest with paralyzed prey items and lays her eggs within the nest. The immature crabronid larvae, which resemble grubs, feed on prey captured and brought to the nest by adult wasps. The type of prey



**The four-banded stink bug hunter wasp, *Bicyrtes quadricinctus*, feeding on floral resources. You can see where it gets its name from the dominate 4 white bands on its abdomen.**

**Photo by Ansel Oommen, Bugwood.org**

provided by the female wasp varies according to species of wasp, but include aphids, bees, beetles, bugs, butterflies and moths, cicadas, cockroaches, crickets, flies, grasshoppers, hoppers, mantids, and spiders.

Today I want to focus on a particular species of crabronid wasp, *Bicyrtes quadrifasciatus* (Family Crabronidae: subfamily Bembicinae). Crabronid wasps in the subfamily Bembicinae are often referred to as sand wasps. Sand wasps are solitary predators that are common where sandy soils and their prey are present. You may see numerous sand wasps nesting in the same area (aggregating) but like all crabronids, they are solitary. They are outstanding diggers and can dig galleries in sandy soils quite efficiently. Each female builds and maintains her own nest and provides care for her own young. Like many solitary wasps, sand wasps are not aggressive and it is safe to be near them without fear of being stung.



**A four-banded stink bug hunter wasp, *Bicyrtes quadrifasciatus*, digging at the entrance to its ground nest.**  
Photo by Whitney Cranshaw, Colorado State University, Bug-wood.org

*Bicyrtes quadrifasciatus*, known as the four-banded stink bug hunter wasp, is native to the U.S. and tends to specialize on stink bug nymphs (Pentatomidae). Interestingly, *B. quadrifasciatus* has been found to feed on the non-native brown marmorated stink bug (BMSB), *Halyomorpha halys*, an invasive pest of many economically important crops. Research done by Dr. David Biddinger and colleagues (Penn State Univ.) surveyed the contents of the ground nests of *B. quadrifasciatus* and found that 96% of the nest provisions of *B. quadrifasciata* were *H. halys* nymphs indicating the potential of *B. quadrifasciatus* in providing biological control of this pest. [See a video of \*B. quadrifasciatus\* as she burrows her ground hole and provisions it with a BMSB nymph \(by S. Ivanov\).](#)

Since crabronid wasp adults depend on floral resources for food, be sure to provide good habitat with a diversity of flowering plants that provide bloom throughout the season. Also, if you see nests by crabronid wasps or other ground nesting Hymenoptera, leave them undisturbed. Remember solitary bees and wasps are beneficial, and are not aggressive so there is little to fear.

## **Weed of the Week**

By: Chuck Schuster

It has rained, with most areas seeing more than three inches during the past week. Soil temperatures have cooled and are damp to wet at this time. While we are still behind in total moisture for the year, it is a great improvement over one week ago.

The weed of the week this week is Star-of-Bethlehem (summer snow-flake), *Ornithogalum umbellatum*. A native of North Africa, Eurasia, it is a weed found in landscape, turf and nursery settings that has escaped cultivation. It can be found in many locations throughout the region. This plant emerged in many areas as early as mid-April this year and is still blooming in many landscapes and turf settings (mine), and will continue to bloom through early June.



This perennial grows as tufts or clumps in lawns and landscapes which are typically considered to be undesirable. With its waxy cuticle it is often misidentified as either wild garlic (*Allium vineale* L.) or wild onion (*Allium canadense* L.). It is a perennial, presenting with fleshy grass blade like leaves. These leaves can grow up to one foot in length, and will have a whitish grooved midrib, will be hollow, be one quarter of an inch wide and up to one foot in length. The root system is a bulbous, and the plant can reproduce by way of seed to a minimal extent, and by way of bulb division (photo 2) or remaining vegetative structures after attempting mechanical removal. The flower structure is bright, somewhat waxy and white yet occasionally bluish, star shaped, with six petals, each having a distinctive green stripe on the underside. The center of the flower will be yellow green. The flower-stalks are leafless. The flowers of this plant will be on a six to nine-inch tall single flower stalk arising from the center. The cluster will produce five to twenty flowers measuring one inch across. The seed will be found in a three lobed capsule which will contain several oval black seeds. Once it has been mowed it is difficult to distinguish in turf settings. This plant reproduces primarily by way of bulblets that develop surrounding the parent bulb.



**Star-of-Bethlehem will continue blooming into June**  
**Photo: Connie Bowers**

Controlling Star-of-Bethlehem is challenging. Glyphosate products supply a very poor control, less than 30% of plants sprayed will be eliminated. 2,4-D products alone can cause an increase in the number of bulbs. Carfentrazone (Quicksilver) has shown good control when applied at the highest label rates, applied at the two ounce /acre rate and repeated three weeks later was found to provide greater than 90% control at thirty days post application. Sulfentrazone (Dismiss) is also labeled for this weed. Diquat (Reward) at three-week intervals will supply control but damages surrounding plants. In turf, avoiding mowing after herbicide application, will improve efficacy of the products used.



**Bulb division is one way that star-of-Bethlehem reproduces.**  
**Photo: Chuck Schuster**



**Star-of-Bethlehem grows in clumps in turf and landscapes.**  
**Photo: Connie Bowers**



## Plant of the Week

By: Ginny Rosenkranz

*Spiraea prunifolia* or bridal wreath spirea is a lovely spring blooming deciduous shrub that loves full sun and a wide range of soils. Bridal wreath grows 4-8 feet tall and wide with upright arching branches. Plants should be pruned after the flowers are done to shape and to remove old branches at the ground, encouraging new branches for better flowering the next year. The small, finely toothed leaves are dark shiny green with fine hairs on the underside, and the fall color is a soft yellow orange. In the spring, the double white 5-petal bouquets of 3-6 flower clusters bloom along the bare branches just before the foliage emerges. Plants are cold tolerant in USDA zones 4-8, and the flowers attract butterflies and other pollinators. Deer usually leave bridal wreath spirea alone depending on the size of the herds. *Spiraea prunifolia* is native to China, Taiwan, and Korea. *Spiraea alba* is a native spiraea with the common name of meadowsweet. It is cold tolerant in USDA zones 3-7 and grows only 3-4 feet tall and wide. It too loves to live in full sun, but it needs to be planted in moist, well-drained soils that do not dry out. The flowers of meadowsweet grow at the end of branches in a cone-shaped cluster. The seed pods are divided in 5's and when they dry they split open to release the seeds that look similar to milkweed.

Plants are susceptible to leaf spot, fire blight, and powdery mildew, and insect pests can include aphids, leaf rollers, root rot and scale.



**Bridal wreath spirea has flowers on upright arching branches in the spring.  
Photos: Ginny Rosenkranz, UME**





## Degree Days (as of May 3)

|                                     |     |                                |     |
|-------------------------------------|-----|--------------------------------|-----|
| Abingdon (C1620)                    | 318 | Annapolis Naval Academy (KNAK) | 390 |
| Baltimore, MD (KBWI)                | 431 | College Park (KCGS)            | 451 |
| Dulles Airport (KIAD)               | 414 | Ft. Belvoir, VA (KDA)          | 392 |
| Frederick (KFDK)                    | 345 | Gaithersburg (KGAI)            | 362 |
| Gambrills (F2488, near Bowie)       | 396 | Greater Cumberland Reg (KCBE)  | 278 |
| Perry Hall (C0608)                  | 296 | Martinsburg, WV (KMRB)         | 240 |
| Natl Arboretum/Reagan Natl (KDCA)   | 531 | Salisbury/Ocean City (KSBY)    | 450 |
| St. Mary's City (Patuxent NRB KNHK) | 569 | Westminster (KDMW)             | 405 |

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 **240 DD** (Martinsburg, WV) to **569 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.

Boxwood leafminer – adult emergence (**249 DD**)  
Hawthorn lace bug – first adult activity (**265 DD**)  
Spotted lanternfly – egg hatch (**270 DD**)  
Bristly roseslug sawfly – larva, early instar (**284 DD**)  
Imported willow leaf beetle – adult emergence (**290 DD**)  
Hawthorn leafminer – adult emergence (**292 DD**)  
Andromeda lace bug – egg hatch (**305 DD**)  
Pine needle scale – egg hatch / crawler (**307 DD**)  
Cooley spruce gall adelgid – egg hatch (**308 DD**)  
Eastern spruce gall adelgid – egg hatch (**308 DD**)  
Spirea aphid – adult/nymph (**326 DD**)  
Lilac borer – adult emergence (**350 DD**)  
Spongy moth (formerly gypsy moth) – egg hatch (**373 DD**)  
Holly leafminer – adult emergence (**375 DD**)  
Hemlock woolly adelgid – egg hatch (2<sup>nd</sup> gen) (**411 DD**)  
Basswood lace bug – 1<sup>st</sup> adult activity (**415 DD**)  
Emerald ash borer – adult emergence (**421 DD**)  
Locust leafminer – adult emergence (**429 DD**)  
Honeylocust plant bug – egg hatch, early instar (**433 DD**)  
Fourlined plant bug – egg hatch, early instar (**435 DD**)  
Lesser peachtree borer – adult emergence (1<sup>st</sup> gen) (**468 DD**)  
Oak ericoccin scale – egg hatch / crawler (**469 DD**)  
Maskell scale – egg hatch / crawler (1<sup>st</sup> gen) (**470 DD**)  
Oystershell scale – egg hatch / crawler (1<sup>st</sup> gen) (**486 DD**)  
Minute cypress scale – egg hatch / crawler (**511 DD**)  
White prunicola scale – egg hatch / crawler (1<sup>st</sup> gen) (**513 DD**)  
Euonymus scale – egg hatch / crawler (1<sup>st</sup> gen) (**522 DD**)  
Bronze birch borer – adult emergence (**547 DD**)  
Black vine weevil – adult emergence (**560 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.

**Conferences: Go to the [IPMnet Conference Page](#) for links and details on these programs.**

**May 10, 2023**

[MAA Arborist Walk](#)

Contact: [Danielle Bauer Farace](#)

**May 24, 2023**

[IPM Scouts' Diagnostic Session](#)

Location: CMREC, Ellicott City, MD

**June 16, 2023**

[Montgomery County Procrastinator's Conference](#)

Location: Montgomery County Extension Office

**June 20, 2023**

Cut Flower Program

Location: Castlebridge Farm, Ellicott City, MD

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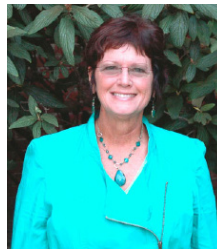
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