

Commercial Horticulture

May 26, 2023

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#### Beneficial of the Week:

Predacious silver fly

Weed of the Week: Indian

mock strawberry

Plant of the Week: *Magnolia virginiana* (sweetbay magnolia)

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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:

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### Spotted Lanternfly Sites Needed for Research

Research sites needed with high numbers of spotted lanternflies (SLF) – any life stage (email Paula Shrewsbury at [pshrewsbury@umd.edu](mailto:pshrewsbury@umd.edu)).

We are conducting research to examine the effect of treating various life stages of SLF with mycoinsecticides (fungus that kill insects) to determine if this is a viable reduced risk tool for suppressing SLF. These could be urban sites or wooded edges, but the site needs to have several trees with high numbers of SLF that are accessible (i.e. not too high up the tree), and we need to be able to get on the property to treat with commercially available mycoinsecticides. *Email me if you think you might have sites that could work ([pshrewsbury@umd.edu](mailto:pshrewsbury@umd.edu)). THANKS!*

Stanton Gill is also looking for nymphs to collect for research.

Contact Stanton at [sgill@umd.edu](mailto:sgill@umd.edu).



Spotted lanternfly nymphs on cherry.  
Photo: P.M. Shrewsbury, UMD

## Spotted Lanternfly (SLF) Updates

By: Paula Shrewsbury, UMD

We are getting more reports of SLF nymphs in Baltimore, Carroll, Frederick, and Washington Counties. At this time, we are seeing lots of 1<sup>st</sup> and 2<sup>nd</sup> instar nymphs of SLF.

**WHAT PLANTS ARE THE SLF NYMPHS ON NOW?** I am interested in knowing what plants you are seeing the nymphs on. Are you still seeing them on trees or have they moved onto herbaceous or other plants? **EMAIL and let me know what plants at: [pshrewsbury@umd.edu](mailto:pshrewsbury@umd.edu)**

If you have high numbers of nymphs, you can target them with horticultural oil or another contact insecticide. Remember, they will move a lot as they mature so treating now does not guarantee you won't have high numbers of SLF later in the season.



Early instar nymphs of spotted lanternfly.  
Photo by M.J. Raupp, UMD

## Crapemyrtle Bark Scale

By: Stanton Gill

We continue to monitor crapemyrtle bark scale and while Sheena O'Donnell, technician at CMREC, was examining the eggs under female covers she found a syrphid fly larva feeding on the eggs. Paul Wolfe, Integrated Plant Care, reported the larval stage of a lady beetle on a plant with scale in Bethesda on May 23. So, the good guy parasitoids and predators are active on this invasive scale insect. We are still at the egg stage this week at CMREC, but the eggs are looking plump and close to hatch time. Send me email to me at [sgill@umd.edu](mailto:sgill@umd.edu) if you are seeing crawlers in your area of Maryland.

Brian Kunkel, University of Delaware Extension, sent a report from Delaware this week: "We have a of couple landscape professionals keeping watch for crawler emergence on plants they manage also. They have not seen any egg hatch yet. Our trees in Sussex County are still in the egg stage. We have not seen any predator activity yet and the only arthropods being caught on our double-sided tape is a mite of some sort (looks to be a detritivore)."



Crapemyrtle bark scale in the egg stage, with a syrphid fly larva under the cover feeding on the eggs.  
Photo: Sheena O'Donnell, UME

## Out of Sync Periodical Cicada

By: Stanton Gill

We received a report of emergence of a few periodical cicadas in northern VA last week. Chuck Wood, Wheat's Lawn and Landscape, found this little wrinkled periodical cicada on May 16 at their lot on Park St in Vienna VA. Eric Day, Virginia Tech, confirmed the identification as a Brood X cicada. Adria Bordas, Virginia Cooperative Extension, also found some nymphs of Brood X in Fairfax City over the the weekend.



**An out of sync periodical cicada in Virginia.  
Photo: Chuck Wood, Wheat's Lawn and Landscape**

## Lecanium Scale on Oak

Dave Keane, Howard County Recreation and Parks, found a heavy infestation of lecanium scale on some willow oaks in Frederick. The trees have severe chlorosis as well. The lecanium scale will produce crawlers very soon, probably within a week. Talus or Distance should be applied.



**This willow oak is covered with lecanium scale.  
Photo: Dave Keane, Howard County Recreation and Parks**

## Mulberry Whitefly

You might see mulberry whitefly pupae on holly and other plants. It's not a problem, so no control is necessary. It looks like it could be a scale insect, but it is not.

**Mullberry whitefly pupae on the underside of a Foster holly leaf.  
Photo: Suzanne Klick, UME**



## White Prunicola Scale and San Jose Scale

By: Stanton Gill

We are monitoring a population of **white prunicola scale** on weeping cherry as part of our drone field trials. Crawlers are definitely out this week. Now is a good time to apply either Talus or Distance

**San Jose scale** is another armored scale that is out in crawler stage this week. Check crabapple, apple, peach, and plum trees for active crawlers. They are out and migrating in central Maryland now. When you see crawlers, apply Distance or Talus.



Check San Jose scale populations for crawlers.  
Photo: Suzanne Klick, UME

## Codling Moth and Leafrollers Update

By: Grzegorz (Greg) Krawczyk. Research Professor, Extension Tree Fruit Entomologist

The 2023 biofix for the first generation codling moth (CM) at the [Fruit Research and Extension Center](#) in Biglerville orchards was established on May 6, tufted apple bud moth (TABM) on May 7, while as of May 19, the biofix for the obliquebanded leafroller (OBLR) is still not established.

In the Biglerville area, the codling moth egg hatch model [provided by NEWA](#) accumulated about 160 DD (base 50–88F) on May 19. With the first insecticide treatment recommended at about 250 DD, the optimal timing for the first spray against CM will occur late next month, around June 25–26 (based on the forecast). The timings for the consecutive second and third CM treatments will likely also coincide with the expected timings for the control of TABM (the second and third CM applications) and OBLR (the third CM application). However, the actual exact dates for each treatment will vary by location of the orchard. If diamide insecticides (IRAC Group 28) such as Altacor®, Besiege®, Exirel®, Verdepryn®, and Voliam Flexi® or spinosyn insecticide (IRAC Group 5) such as Delegate® are to be used for codling moth control, 1–2 complete, precisely timed applications of any one of those products per generation are recommended.

Application(s) of the same products in mid-June and later should not only provide excellent control of CM but also of TABM and OBLR. Application of products with *Bacillus thuringiensis* (IRAC Group 11) or Intrepid (IRAC Group 18) are only effective against leafrollers but will not control codling moth. In organically managed orchards, if needed, applications of codling moth granulosis virus, *CpGv* (IRAC Group 31) such as Cyd-X® or Madex HP® applied every 7–8 days should provide good control of codling moth while applications of *BT* based products or Entrust® (IRAC Group 5) should effectively manage leafrollers.

If insecticide applications for controlling codling moth are not necessary, as it can happen in some orchards with codling moth mating disruption, and sprays are planned to exclusively target TABM, the first application should be applied at about 10–30 percent egg hatch at 500–600 DD (base 45–91F) followed by a second application (if necessary) at about 60–70 percent egg hatch at 800–850 DD. If applying only one complete application of the above-mentioned compounds against TABM, this spray should be done at 30–40 percent egg hatch (640–695 DD). As of May 22, 2023, the degree day accumulation for TABM is at about 160 DD.

Insecticides effective against TABM should also provide good control of OBLR larvae, especially around mid-June timing as historically, larvae of both species can be spotted on the trees at that time. Since young OBLR larvae prefer to feed inside growing terminals, the insecticide coverage of fresh growth plays a critical role in control of OBLR larvae. If needed, only complete sprays are recommended against this pest. The better the coverage, the better control will be achieved. The insecticides recommended for OBLR control during this time of the season include Altacor, Besiege, *Bacillus thuringiensis* (BT) products, Delegate, Intrepid, Verdepryn, Voliam Flexi, or Exirel.

## Fire Blight Activity on Ornamentals

By: David L. Clement and Karen K. Rane, Extension Specialist and Plant Clinic Director

Although some landscapes were spared by our drier cooler spring weather other plantings that flowered during wet weather are showing various levels of fire blight infection. Fire blight is serious bacterial disease of plants in the rose family. The most commonly damaged plants in the landscape are usually apple, pear, quince, cotoneaster, firethorn, hawthorn, and mountain ash. However, the list of susceptible plants includes over 130 plant species. Unfortunately, insect pollinators, such as bees and flies, are very efficient at spreading the bacterium from flower to flower during wet weather. Also, during wet weather droplets of bacterial ooze form on the surface of cankers and can be spread by wind driven rain, birds, and humans performing maintenance tasks. The first symptoms usually start on the blossoms as they quickly droop, shrivel or turn brown. The disease can rapidly progress from the blossoms into the twigs and branches. The very tips of the branches often droop, or characteristically curl over to give a hooked appearance. The affected leaves turn a dark brown to black and remain attached to the branch. This gives the appearance of scorching as if by fire.

With few exceptions, after blossom infection the disease moves more slowly in branch and trunk tissue, and often moves down to the base of a branch where it forms a lesion or canker. The color of the infected wood beneath the bark is often a reddish brown. The most damaging cankers are those formed on the main stem or base of the plant since they often girdle and kill the plant. The disease-causing bacteria overwinter at the margins of cankers and become active again in the spring.



**Fire blight infection on May 17 in Montgomery County.**

**Photo: Marie Rojas, IPM Scout**

**Management:** Disease management often involves selecting resistant plant varieties. Avoid cultural practices, such as over fertilizing, that induce excessive succulent growth, which is more susceptible to infection. Infected branches should be pruned 8-12 inches below any visible symptoms. Cut out cankers and blighted branches when tree is dry, making cuts at least 1 ft. below the visible limits of infection. Don't prune infected shoots back to a healthy branch during the growing season. Leave a 4-5-inch stub (ugly stub pruning method) that can be pruned off over the winter when the disease is dormant. Disinfect tools between cuts. Remove all pruned wood from the landscape area.

## Up and Down Temperatures This Spring Impacting Some Plants

By: Stanton Gill

We had a mini drought last month, but it ended after a 5-week dry period with 3 – 4” of rain. Now, we are slipping back into a low rain output time period where the soils are getting very dry again. It has been sunny for many days, but the nights are very cool, which is impacting plant material. We are getting several reports from landscapers reporting that their customers’ fig trees leafed out, but slowed the growth of new leaves over the last 3 weeks. Oriental persimmon trees, which leaf late normally, are very slow to leaf out with these cool night temperatures. Redbuds have been rather slow to leaf out completely during the last month. We are seeing the weeping forms such as Ruby Falls impacted the most.

## Spirea Aphids Also Hit Apple and Crabapple Trees

By: Stanton Gill

In late May, you may see apple aphid/spirea aphids on spirea, apple trees, and crabapple trees. The aphid colonies are observed mostly on new terminals with fresh foliage. The aphids, in most cases, should and will be controlled very effectively by natural enemies such as syrphid larvae, lacewing larvae, aphid midges, lady beetle adults and larvae, and some Braconids wasps. Although this aphid population explosion in May looks bad, the natural predators often take care of the problem.

## Crapemyrtle Aphids

Mike Baker, The Grounds Guy, found crapemyrtle aphids on May 19 in Edgewater. You can find multiple stages of this aphid present at one time which helps it spready easily in the landscape. Parasitoids and predators can help control this aphid, but monitor closely to determine if an insecticide treatment, such as Endeavor which has low impact on beneficials, needs to be applied.

**Winged adults of crapemyrtle aphids are also present on this crape myrtle foliage.**  
Photo: Mike Baker, The Grounds Guy



## Aphids on Roses

Todd Armstrong, The Davey Tree Expert Company found aphids infesting a Knock out rose in Towson on May 23. Like other aphids, monitor plants closely to determine if beneficials are present and whether control is necessary.

**Monitor roses closely for build-up of aphid populations.**  
Photo: Todd Armstrong, The Davey Tree Expert Company



## Aphids on River Birch

Luke Gustafson, The Davey Tree Expert Company, found aphids active on river birch this week in Baltimore City. The aphids were exuding a lot of honeydew. A lady beetle larva and a lady beetle pupa were found.



Look for lady beetle activity on plants, such as river birch, that have aphid populations.  
Photo: Luke Gustafson, The Davey Tree Expert Company

## Tree Galls

Luke Gustafson, The Davey Tree Expert Company, found galls on elms and lindens this week. The galls may look unsightly, but no control is necessary. The cause of the galls varies, but they are often due to the feeding of eriophyid mites, aphids, small wasps, and psyllids.



Unsightly galls on elm (left) and linden (right) do not cause significant damage to trees.  
Photo: Luke Gustafson, The Davey Tree Expert Company

## Tuliptree Scale

Marie Rojas, IPM Scout, is finding immatures of tuliptree scale swelling up and exuding honeydew on *Magnolia* 'Royal Star'. This scale does not mature and produce crawlers until late August and September. Since they will be feeding throughout the summer, Distance, Talus, or a systemic can be applied now.

Immature tuliptree scale will produce honeydew throughout the season.  
Photo: Marie Rojas, IPM Scout



## Armored Scale on Black Gum

Marie Rojas, IPM Scout, found the armored scale, *Chionaspis nyssae*, on the branches of *Nyssa sylvatica*, commonly called black gum or sweet gum this week in Beallsville. A black felt fungus that can also be found in association with this scale was present as well. Examine your trees closely for this armored scale and try to prevent it from spreading around into the landscape. When it is found feeding on the foliage, materials such as Dinotefuran or Altus should work well.



The armored scale, *Chionaspis nyssae*, can be difficult to detect on tree trunks (left). A felt fungus (right) is also found associated with this scale.  
Photos: Marie Rojas, IPM Scout

## Mites Active in Landscapes

By: Stanton Gill

We are receiving emails of large, bright red mites on buildings, patios, fence posts, and on mulch in the landscape. These are mites in the family Trombididae, also known as red velvet mites. First off, they are harmless to people. The larvae of true velvet mites, however, are parasitic on insects, spiders, and other small arthropods; true velvet mites do not harm people.



**Velvet mite.**

**Photo: William M. Ciesla, Forest Health Management International, Bugwood.org**

## Spider Mites

Marie Rojas, IPM Scout, found high spider mite populations on *Cryptomeria japonica* 'Yoshino' and 'Radicans' and Arborvitae 'Emerald Green' this week in Montgomery County. Monitor these plants with a white paper on a clipboard. Tap the branches over the paper to see the mites that are dislodged.

## Minute Cypress Scale

Marie Rojas, IPM Scout, found minute cypress scale (egg stage) on Leyland cypress in Laytonsville on May 25. Also look for this scale on juniper. Now is the time to look for crawlers. Distance or Talus mixed with 0.5% horticultural oil are a couple of good materials for control.



**Look for crawlers of minute cypress scale.  
Photo: Marie Rojas, IPM Scouts**

## Beneficial of the Week

By: Paula Shrewsbury

### Flies in the family Chamaemyiidae are predators of many sucking pest insects

Flies (Diptera) in the family Chamaemyiidae, also known by the common names silver fly or aphid fly, are known as biological control agents of many pest insects in the Hemiptera: Sternorrhyncha group. These include species of adelgids, aphids, scales, and mealybugs. There are an estimated 300 species of silver flies described worldwide. Species of silver flies are well known in California as biological control agents of the western hemlock wooly adelgid, but there are also silver fly species in Maryland, Virginia, West Virginia, New York, Connecticut and other states.

Adult silver flies are small (1-5 mm), stocky and usually silvery gray to brown in color with a waxy, powder-like covering. Adults have aristate (thin bristle) antennae. There are often stripes on the thorax and dark spots or bands on the abdomen. Life stages include an egg, 3 larval instars, pupal and adults. Eggs are whitish and less than 0.5 mm in size. Silver fly larvae, which are the predacious stage, are small (less than 5mm), legless maggots that are orange to yellow in color but color may vary depending on what prey the larvae are eating, and larvae have 2 widely spaced breathing tubes known as anal spiracles. The pupae are brownish-orange in color, about 4 mm in length, the anal spiracles can be seen on the pupa, and pupa are attached to plants near where the larva was feeding.



**Predacious silver fly, *Leucopis* sp., adult found in Montgomery County MD.**

**Photo: Steve Scholnick, MD Biodiversity Project**

Adult silver flies consume honeydew from the leaf surface or directly from the prey that their larvae feed on. Larvae move slow and are often ignored by ants that may be tending aphids or other honeydew sucking insects that are prey of silver flies. Different species of silver fly tend to specialize on certain groups of insects (ex. adelgids or aphids).

Of the adelgids we have in MD and the east coast region, the invasive hemlock woolly adelgid (HWA) is the most damaging. Therefore, much effort has gone into identifying potential biological control agents to suppress the eastern HWA. Species of silver flies that feed on western hemlock woolly adelgids are being studied as potential biological controls of HWA. Research continues to learn more of the biology and ecology of these silver flies, and to identify measures to use them as biological control agents of the eastern population of HWA. Several states are collecting silver flies from the northwest and releasing them in HWA adelgid forests in the east. Let's hope these predacious silver flies find our eastern HWA tasty.



**Close up image of a predacious silver fly, *Leucopis* sp., larvae in the woolly wax ovisac of hemlock woolly adelgid. Photo from: nrs.fs.fed.us**

### **Photo Identification in May 19th Weed of the Week**

Leigh Pickering noted that "The picture on the left of "photo 2" on page ten is a native *Carex* species. The right side of the photo is *Cyperus*."

Patrick O'Brien, Fairfax County Urban Forest Management Division noted that "I wanted to point out one possible correction regarding yellow nutsedge. The image of the plant seed head in the article appears to be the seed head of a *Carex* sp., such as *Carex lurida* (also a wetland indicator species). Nutsedge seed heads are more branch-like."

## Weed of the Week

By: Kelly Nichols, UME

This week's weed is showing its yellow flowers and red fruit in earnest here in Montgomery County. Indian mock strawberry (*Duchesnea indica*) is a shade-loving perennial found in landscapes and turf (Figure 1) throughout much of the United States. Each leaf is trifoliate, or made up of three leaflets (Figure 2). The leaflets are toothed along the edges and attached to the main petiole by a smaller petiole. Indian mock strawberry spreads by stolons (Figure 3). Both the petioles and stolons are hairy. Yellow flowers have five petals with large sepals underneath. The fruit is a red, fleshy berry and looks like our commercial strawberries (Figure 4.) The berries are not toxic.

Wild strawberry looks similar; however, it has white flowers and the serrations on the leaves are more sharply pointed. There are also a few cinquefoil species in our area; these often have more than three leaflets and most do not have stolons.

Control in turf can be obtained using 2,4-D and triclopyr. The best time for application is in the fall. In landscape settings, non-selective products (e.g. glyphosate) can be used.



**Figure 1. Indian mock strawberry in a lawn. Photo Credit: Kelly Nichols, UME Montgomery County**



**Figure 2. Leaves are trifoliate and toothed on the edges. Photo: Kelly Nichols, UME Montgomery County**



**Figure 3. Stolons are a primary way of reproduction. Photo: Kelly Nichols, UME Montgomery County**



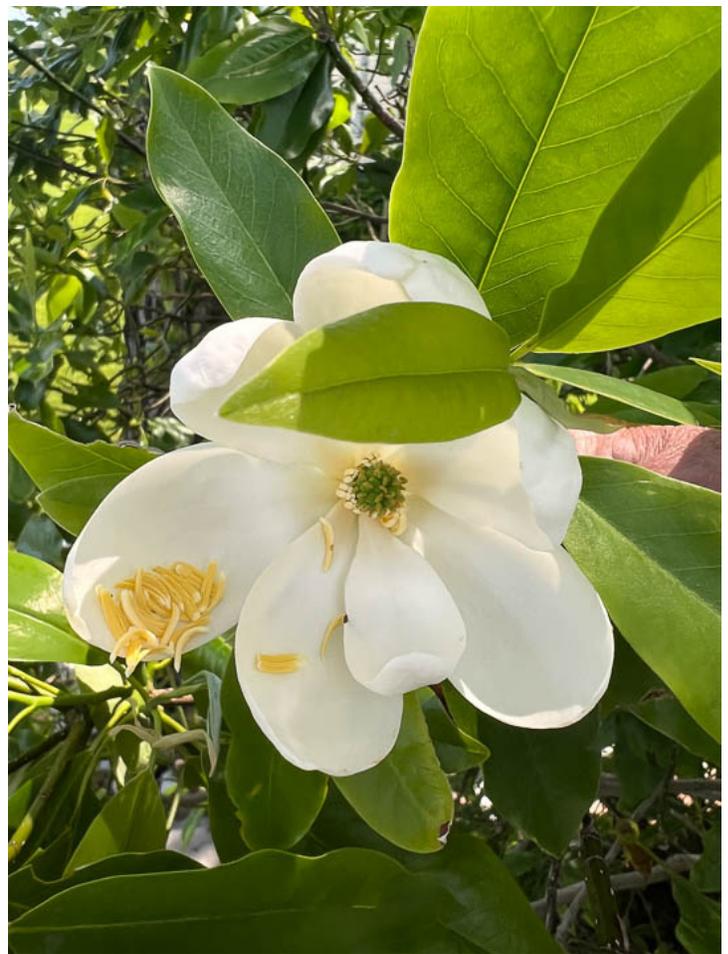
**Figure 4. Yellow flowers and red fruit. Photo Credit: Kelly Nichols, UME Montgomery County**



## Plant of the Week

By: Ginny Rosenkranz

*Magnolia virginiana* is a beautiful native semi-evergreen tree also known as sweetbay magnolia. It prefers to grow in full sun to part shade, and rich, moist, acidic, organic soils. It is also very tolerant of wet and boggy soils. *Magnolia virginiana* grows 15-20 feet tall in USDA zones 5-6 as a short suckering multi branched shrub. In USDA zones 7-10, it grows 10-60 feet tall forming a tall pyramidal tree. The oblong, 3-5 inch dark green leaves are lustrous on top and silvery on the bottom. The foliage provides a 2-tone look in breezy weather as the leaves show both their dark green tops and the silver green undersides. The leaves are evergreen in the south, becoming semi-evergreen to fully deciduous in the colder areas. The very fragrant, waxy cup shaped flowers are creamy white, 2-3 inches in diameter and have 9-12 petals. Sweetbay magnolias bloom from May through September with a lemony fragrance. The flowers mature into 2" long, dark red cone-like fruit that has bright red seeds in the fall. Plants can be used as a specimen, in a shrub border, in Rain Gardens, beside ponds or streams, being very tolerant of wet soils. Sweetbay magnolias have no serious pests in acidic soils, the foliage can become susceptible to chlorosis in alkaline soils.



Sweet bay magnolia is tolerant of wet and boggy soils.  
Photos: Ginny Rosenkranz, UME

## Degree Days (as of May 24)

Abingdon (C1620)	574
Annapolis Naval Academy (KNAK)	677
Baltimore, MD (KBWI)	722
College Park (KCGS)	681
Dulles Airport (KIAD)	688
Ft. Belvoir, VA (KDA)	633
Frederick (KFDK)	597
Gaithersburg (KGAI)	601
Gambrills (F2488, near Bowie)	664
Greater Cumberland Reg (KCBE)	518
Perry Hall (C0608)	543
Martinsburg, WV (KMRB)	430
Natl Arboretum/Reagan Natl (KDCA)	864
Salisbury/Ocean City (KSBY)	713
St. Mary's City (Patuxent NRB KNHK)	901
Westminster (KDMW)	705

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 **430 DD** (Martinsburg, WV) to **901 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.

- 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 erricoccin 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**)
- Bagworm – egg hatch (**602 DD**)
- Potato leafhopper – adult arrival (**603 DD**)
- Black vine weevil – adult emergence (**607 DD**)
- Twospotted spider mite – egg hatch (**627 DD**)
- Cottony camellia/Taxus scale – egg hatch (**649 DD**)
- Mimosa webworm – larva, early instar (1<sup>st</sup> gen) (**674 DD**)
- Juniper scale – egg hatch / crawler (**694 DD**)
- Calico scale – egg hatch / crawler (**765 DD**)
- Oak lecanium scale – egg hatch / crawler (**789 DD**)
- Rhododendron borer – adult emergence (**815 DD**)
- Japanese maple scale – egg hatch / crawler (1<sup>st</sup> gen) (**829 DD**)

Dogwood borer – adult emergence (**830 DD**)  
European elm scale – egg hatch / crawler (**831 DD**)  
Cottony maple scale – egg hatch / crawler (**872 DD**)  
Winged euonymus scale – egg hatch / crawler (**892 DD**)  
European fruit lecanium scale – egg hatch / crawler (**904 DD**)  
Cryptomeria scale – egg hatch / crawler (**937 DD**)  
Azalea bark scale – egg hatch / crawler (**957 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.**

**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

**June 28, 2023 (1-3 p.m.)**

[IPM Scouts' Diagnostic Session](#)

Location: CMREC, Ellicott City, MD

**July 26, 2023 (1 - 3 p.m.)**

[IPM Scouts' Diagnostic Session](#)

Location: CMREC, Ellicott City, MD

**Commercial Ornamental IPM Information**  
[extension.umd.edu/ipm](http://extension.umd.edu/ipm)

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