

Commercial Horticulture

June 10, 2022

**In This Issue...**

- [Biological control conference](#)
- [Emerald ash borer](#)
- [Urea shortage](#)
- [Black cherry aphid](#)
- [Cottony camellia/Taxus scale](#)
- [Spruce spider mites](#)
- [Dog vomit fungus](#)
- [Hibiscus sawfly](#)
- [Red thread in turf](#)
- [Pink coloring on Cornus kousa bracts](#)
- [Lilac borers](#)
- [Fruit and vegetable insect art](#)
- [Tulip tree silk moth](#)
- [Lady beetle larvae](#)

[Beneficial of the Week:](#)

Beneficials on cup plant

[Plant of the Week:](#) *Kniphofia*

'Amazing Fun' Red Hot Poker

**Degree Days**

**Pest Predictions**

**Conferences**

[Pest Predictive Calendar](#)

**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) and David Clement (Extension Specialist)

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

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

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

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

**Biological Control for Nurseries and Greenhouses Conference**

By: Stanton Gill

On June 30, 2022, The University of Maryland Extension and MNLGA have organized a Biological Control Conference that will help you move forward with biological control in your operation. On July 1, we will have a morning session with a live demonstration of using a commercial steam device to control weeds in nurseries. This session on the second day will be hosted at Emory Knoll Farms, Street, Maryland.

We are bringing in speakers from Maryland, across the country, and from Canada to share information on practical biological control options.

**Registration is \$90 for members and \$140 for non-members.**

The [agenda and registration link](#) are available on-line.

**Drone Training**

**July 28, August 4, and August 11, 2022**

**Registration information will be sent out on**  
**Monday, June 13, 2022**

## **Emerald Ash Borer**

By: Stanton Gill

In earlier IPM alerts, we announced that adult emerald ash borer had started flight activity. They start flight activity around 450 - 500 degree days and will be peaking sometime in mid to late June. This pest was the major headliner 10 years ago, and they have been eclipsed by the barrage of other new insects moving into the area like spotted lanternfly and crapemyrtle bark scale.

The emerald ash borer has taken out many of the urban plantings of green and white ash in Maryland, but there are still some survivors out there. These valuable ash trees can be protected with trunk injection of emamectin benzoate (Tree-age, for the longest control period) which can be applied in June. Trees that have thinned up to 30% can usually recover with a program that uses trunk injections of emamectin benzoate. There are four active ingredients used to control emerald ash borer: imidacloprid, dinotefuran, emamectin benzoate, and azadirachtin.

### **What is happening now?**

Eggs hatch in 7 to 10 days. So, this should be starting very soon. The slightly flattened, white to cream-colored larvae have 10 abdominal segments with the last 3 or four segments resembling bells that are nested one upon the other. This is a good characteristic to use when comparing EAB to other insect larvae that may be found under the bark of ash trees. EAB larvae go through five life stages (instars) with mature larvae reaching an average length of 1 1/2 inches (38 mm). After hatching, the first instar larvae chew through the outer bark and feed in the phloem (the inner bark, the pipeline through which food is passed from the leaves to the rest of the tree) and the cambium (the growing part of the trunk, located between the phloem and the sapwood). As they feed the larvae wind back and forth, either up or down the stem, creating serpentine (S-shaped) “galleries”.



**Emerald ash borer egg**

Photo: Houping Liu, Michigan State University, Bugwood.org



**Emerald ash borer larva**

Photo: David Cappaert, Bugwood.org

## **Urea Shortage – and DEP**

By: Stanton Gill

Since China and Russia produce most of the urea used in agriculture, the price has shot up tremendously over the last 4 months. An interesting side effect that impacts the horticulture industry is tied into trucking. The large trucks are using a DEP as pollution reduction system. DEP, which is water and urea, is placed in a separate cylinder in the truck. After the combustion in the cylinder, the fumes are mixed with the urea. The resulting combination is stored in a tank in the truck which is periodically rinsed out. With the shortage of urea and increase in prices, there is a shortage of DEP, and of course, the price has gone up.



## Black Cherry Aphid Active Now

By: Stanton Gill

For those landscapers managing fruit plantings for your customers, examine sweet cherry trees this week. The black cherry aphid, *Myzus cerasi*, is active now. The black cherry aphid feeds mainly on tip growth of sweet cherry foliage, causing curling and twisting of leaves. The damage will really show up in the next week or so as the cherries ripen. The aphid produces copious amounts of honeydew that covers the cherry fruit. Sooty mold will then grow on the cherries. The impacted flavor is not “good” by any means.

Insecticidal soap will kill the aphids if you can direct an application onto the tip growth before twisting over and bunching of the foliage begins. Endeavor is labeled for use on ornamental and non-fruit bearing cherry trees. The material acts as “a stylet blocker” and causes the aphid to block their stylets when piercing the foliage. This material is safe on more aphid predators since it only impacts insects tapped into the phloem. The unique active ingredient and targeted protection offered by Endeavor make it a valuable tool for integrated pest management programs, especially those involving biological control agents. Endeavor is highly compatible with predators, parasites, and other beneficial mites and insects.



**Black cherry aphids**

Photo: Whitney Cranshaw, Colorado State University, Bugwood.org

## Cottony Camellia/Taxus Scale

Katie Grant, Green Thumb Garden Services, found a lot of active crawlers of cottony camellia/Taxus scale on camellias and hollies in West Ocean City on June 6 and 7. Katie noted, "The crawlers were out in numbers that I've never seen before, including all over window sills, hose hangers and the house siding, not to mention the shrubs themselves."



**A high number of cottony camellia/Taxus scale crawlers were on hose hangers and siding as well as on the infested hollies and camellias**

Photo: Katie Grant, Green Thum Garden Services



## Spruce Spider Mites

Marie Rojas, IPM Scout, reports that spruce spider mites are beginning to build on arborvitae and cryptomeria. Spruce spider mites are common on spruce, but also feed on Leyland cypress, junipers, hemlocks, firs, arborvitae, and cryptomeria. Spider mites have sucking mouthparts, so when they feed on foliage, they cause yellow stippling damage.

You can use a horticultural oil on all but blue spruce and firs. It takes out the waxy layer that gives the color on blues spruce and sometimes damages fir foliage. The other options are miticides such as Avid and Sanmite. The mite growth regulator, Hexagon, has provided excellent control of the immature stage of spruce spider mites in our field trials and is very soft on beneficial organisms. It can be difficult to get control on large trees. You need to use a fine mist sprayer to get good coverage on the upper branches. Drift can be a problem.



**The yellow stippling damage on this arborvitae foliage is caused by spruce spider mite feeding**

## Dog Vomit Fungus

Gary Huntsberger, Advantage Landscape, sent in a photo of dog vomit fungus and noted his customer thought that the dog was sick. Dog vomit fungus is actually a slime mold. It shows up in mulched areas in spring and summer usually after soaking rains. This slime mold is bright yellow and slimy when it is starting its fruiting stage. It becomes duller and crustier as it continues its development. Although unsightly, it is harmless so no control is necessary.



**Dog vomit fungus often shows up in mulch after periods of heavy rain**

**Photo: Gary Huntsberger, Advantage Landscape**



## Hibiscus Sawfly

Ginny Rosenkranz, UME, found hibiscus sawfly damaging her plants. The larvae feed on hibiscus, rose of Sharon, hollyhock, and mallow. As they get larger, all leaf tissue except the veins is consumed, which gives the leaf a lacy appearance. The adults are small (3/16 inch), black fly-like insects. The pale green worms have black heads and tiny black spines on each body segment. They are slightly gregarious with up to three larvae feeding on one leaf.

**Control:** Control options include Conserve, horticultural oil, Mainspring, and Acelepryn.



Larger hibiscus sawfly will skeletonize the leaves with only the veins left behind

Photo: Ginny Rosenkranz, UME

## Red Thread

Ginny Rosenkranz, UME, found red thread infecting turf on the Eastern Shore this week. This disease is known to thrive in low N-fertility areas. Supplying N-fertility during infection periods may help to alleviate some of the symptoms, but keep in mind that red thread is very persistent in the spring months. Disease management also includes avoiding overwatering and keeping thatch from accumulating.



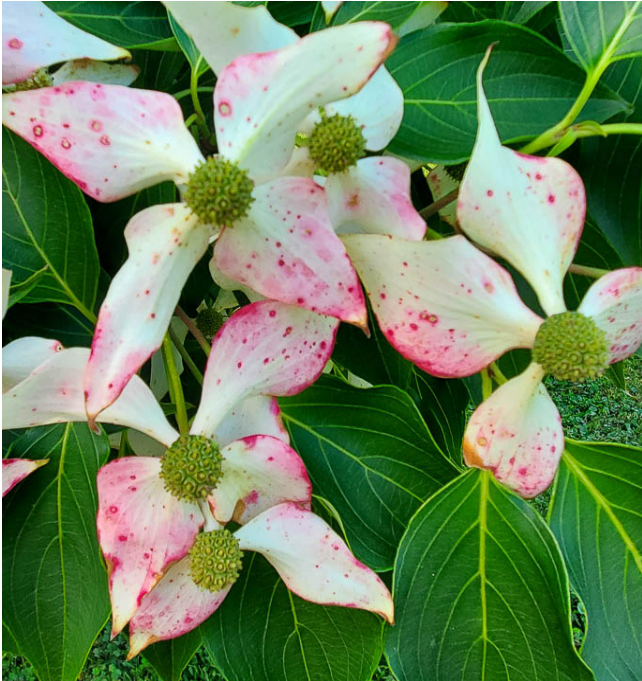
Red thread infection often occurs in spring and fall  
Photo: Ginny Rosenkranz, UME



## Pink-Red Colors Showing Through on Bracts of *Cornus kousa*

By: Stanton Gill

We are getting reports of *Cornus kousa*, Chinese dogwoods, after the bracts have peaked this last week that the white colors are breaking down exposing the red color of the anthocyanin. There is nothing to worry about, since it is probably a breakdown process with the cool nights of the last couple of days.



Dark pink coloring on *Cornus kousa* bracts  
Photo: Chris McComas, UME-HGIC



Pink coloring showing up on some of the *Cornus kousa* bracts  
Photo: Stanton Gill, UME

## Lilac Borer Activity

By: Stanton Gill

Lilac borer, *Podosesia syringae*, a type of clearwing moth borer in the family Sesiidae, has been in flight activity for the last 3 weeks in central Maryland. The females started laying eggs on lilac stems in June. The larvae that hatch will bore into the cambial tissue of the lilacs, causing dieback to show up as we move into July and August.

One approach is to apply bifenthrin or permethrin to the main stems of lilac to kill the larva before they enter the cambium of the plant. Another approach is to apply either Mainspring or Acelepyrn as basal trunk applications. These systemics move into the cambial tissue and kill the young larvae.

If you are seeking a cultural method of control, consider renewal pruning of the lilac. The lilac borer tends to attack old stems of the plant. Removing the older stems and allowing the young, vigorous shoots to grow up can renew the plant and reduce the damage from this borer. Of course, many nursery owners and landscapers want tall lilac stems which does not work well with the renewal pruning method. I have been using the renewal pruning method on over 40 lilacs (three different cultivars) that I grow at the farm for the last 16 years and have never had to treat for lilac borers.



Lilac borer adult caught in pheromone trap



## Insect Fruit and Vegetable Art

By: Stanton Gill

Bill Stocker, vegetable and fruit artist, sent in these pictures of his creative use of local fruit and vegetables to create edible insect art.

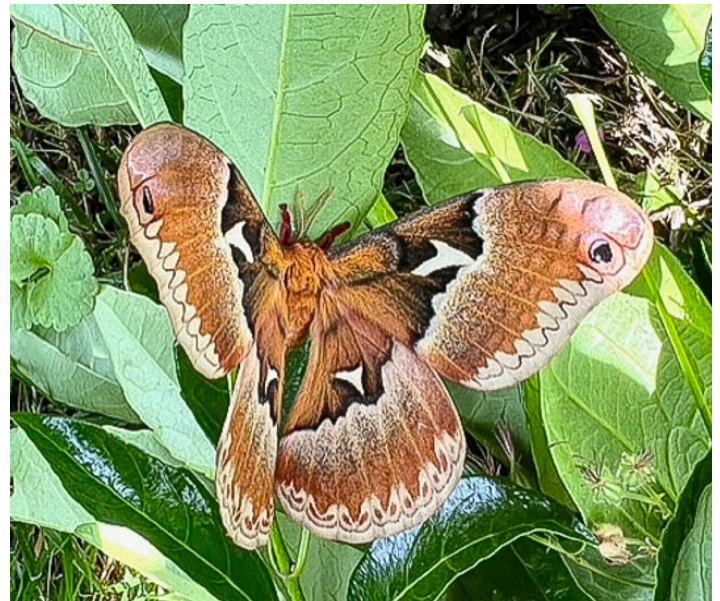
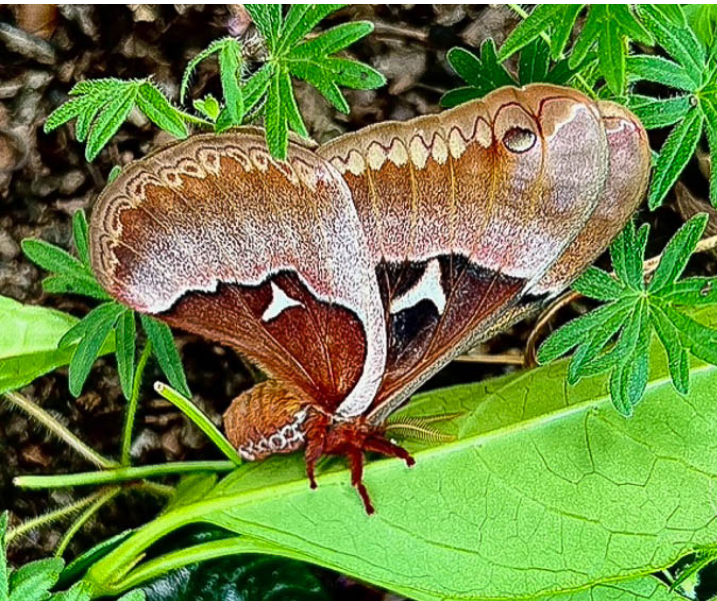


Fun insect-themed vegetable and fruit art for a potluck  
Photos: Bill Stocker

## Interesting Moth Find

By: Stanton Gill

Gretchen Stark sent in these pictures of an interesting moth. It is called a tulip tree silk moth. Look at the wing pattern and you will see both on the dorsal (top) and ventral side (bottom) of the wings there is a pattern that shows the shape and form of a caterpillar with eye spots. Amazing that this moth worked out this pattern – probably for defense.



Tulip tree silk moth with a pattern on its wings mimicking a caterpillar  
Photos: Gretchen Stark



## Lady Beetle Larvae

Marie Rojas, IPM Scout, found a lot of lady beetle larvae feeding on tuliptree scale on magnolias in Laytonsville on June 10.



A lady bird beetle and larvae are feeding on tuliptree scale. The lady bird beetle larvae strongly resemble mealybugs.

Photo: Marie Rojas, IPM Scout

## Beneficial of the Week

By: Paula Shrewsbury

**Cup plant (*Silphium perfoliatum*), brown ambrosia aphids (*Uroleucon ambrosiae*), and natural enemies – *Cycloneda* lady beetle (*Cycloneda* spp.)**

In last week's *Beneficial of the Week*, I began a discussion of beneficial insectary plants, specifically the cup plant, *Silphium perfoliatum*, which supports the brown ambrosia aphid, *Uroleucon ambrosiae*, that serves as prey that attracts a diversity of natural enemies. Last week, I talked about predatory long-legged flies. Every time I go out and look at the *Silphium* plant, I see more natural enemies. I predict in the next few weeks the aphids will disappear as a result of biological control. This is a usual pattern for many aphid outbreaks (ex. rose aphid, spirea aphid, etc.).

This week I found several lady beetle adults, *Cycloneda* sp. (Coccinellidae), feeding on brown ambrosia aphids, *Uroleucon ambrosiae*, (see image) on *Silphium*. Interestingly, I have not seen a *Cycloneda* lady beetle around here before. There are two possible *Cycloneda* lady beetle species this could be, the spotless lady beetle (*Cycloneda sanguinea*) and the polished lady beetle (*Cycloneda mundo*). These species look similar in many characteristics and are difficult to tell apart with confidence. According to an article from [The Lost Ladybug Project website](#), *C. mundo* occurs in this area and *C. sanguinea* occurs farther south. A third species, *C. polita*, occurs west of the Rockies. They are all native to the U.S. In looking at the [iNaturalist map of reported observations of \*C. sanguinea\*](#) in the U.S., there are clusters of observations in Florida, Texas, and California with occasional observations in several other states, including Maryland, Virginia, New Jersey, and New York. I will have to collect a few and send them to a lady beetle expert for identification.



The *Cycloneda* spp. lady beetles are a medium sized lady beetle, slightly smaller than *Harmonia* lady beetles. The elytra (front hard wings) range in color from dark red to orange, never have spots and are quite shiny. The head (section where eyes are located) and pronotum (section just behind the head) are black with distinctive white markings that are species specific. *Cycloneda mundo* has a white “C” marking on each side of the pronotum, whereas *C. sanguinea* has a white “eyespot” on each side of the pronotum. The white markings of *C. sanguinea* are even gender-specific, meaning the pattern is different on males and females. *Cycloneda* sp. lady beetles are frequently found feeding on aphids found on milkweed, but also feed on aphids on a number of other plants, such as brown ambrosia aphids on *Silphium*.



**What cup plant, *Silphium perfoliatum*, looks like at this time of year. The cup plant is about 5+ feet tall this week. Photo: P.M. Shrewsbury, UMD**

Like most beetles, the *Cycloneda* lady beetle has egg, larval, and pupal stages. The egg and pupal stages are stationary, making them the most susceptible stages to predation. A fascinating and somewhat unusual defensive mechanism has evolved in the pupal stage of the spotless lady beetle, *C. sanguinea*. This defense, called a “gin trap”, is described as the ability of the pupa to “bite” potential predators. The “gin trap” defense has evolved independently in a number of species of beetle and moth pupae. This defense is called a gin trap because the mechanism is similar to gin traps once used to snare game (think of the snap bear traps that you see on TV). The gin trap defense does not involve using the mouth of the insect to bite, it is actually more of a pinch that the pupa inflicts on its assaulter. The lady beetle pupa gin trap involves four deep clefts or gaps formed between the segments on the upper side of the abdomen (see image). The upper edge of each cleft is lined with tiny teeth, while the lower edge is smooth and sharp. When the pupa is resting, the abdomen is somewhat curved leaving the clefts “open” or spread apart, and poised to respond. When a predator approaches and touches the pupa, the pupa responds by rapidly straightening its body, causing the clefts to snap close. If the predator happened to have its leg or antennae in one of the clefts, it would be pinched between the sharp edges of the segments. If not, the sudden, sometimes repeated, motion of the pupa has been shown to startle predators away. Studies have shown the gin trap defense successfully deters predators of *C. sanguinea* pupa. See the images from a research



**Brown ambrosia aphids, *Uroleucon ambrosiae*, on the underside of a *Silphium* leaf. Photo: P.M. Shrewsbury, UMD**



study Schroeder et al. 1998. I will be testing this defense mechanism if the *Cycloneda* lady beetles pupate on my plants.

Be sure to grow *Silphium* if you can, hope you get brown ambrosia aphids, and your beneficial insectary plant will attract a diversity of natural enemies. In addition, *Silphium* is an optimal source of nectar and pollen for a diversity of pollinators and omnivorous natural enemies.



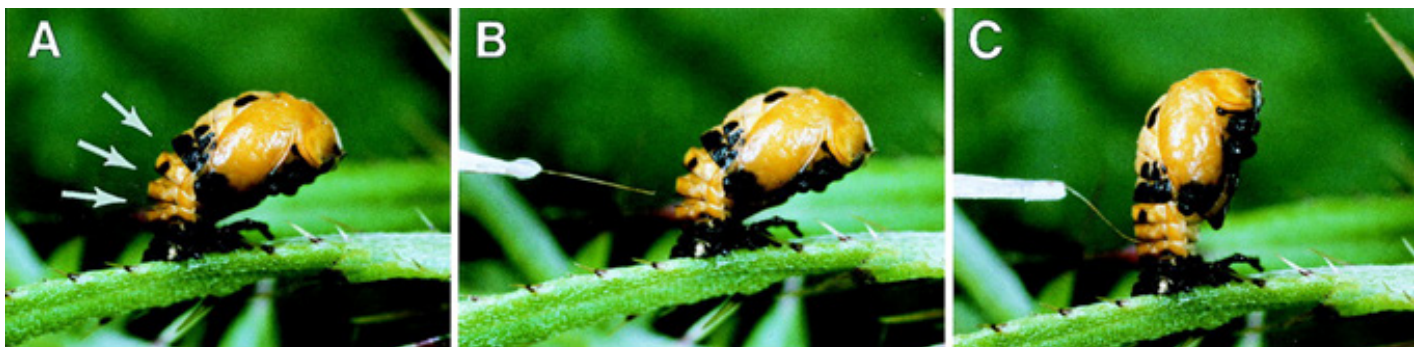
*Cycloneda* sp. lady beetle adult feeding on a brown ambrosia aphid, *Uroleucon ambrasae*, on the underside of a *Silphium* leaf.  
Photo: P.M. Shrewsbury, UMD



Note the "C" shaped white markings on each side of the pronotum, which is characteristic of the polished lady beetle, *Cycloneda munda*.  
Photo: M. Quinn, BugGuide



Note the white marking that looks like white eyespots on each side of the pronotum, which is characteristic of the spotless lady beetle, *Cycloneda sanguinea*.  
Photo: M. Quinn, BugGuide



From Schroeder et al. 1998. PNAS: Figure from (A–C) Pupa of *Cycloneda sanguinea* responding to stimulation with the bristle of a fine paint brush. The jaw-like "gin traps" on the back of the pupa are ordinarily held agape (arrows in A). Insertion of the bristle into a trap causes the pupa to flip upward, with the result that the bristle is "bitten."



## Plant of the Week

By: Ginny Rosenkranz

*Kniphofia* 'Amazing Fun' Red Hot Poker is a non-native, clump-forming perennial with dark, narrow, evergreen arching leaves growing 20-24 inches tall. Plants need to grow in full sun and prefer rich, moist, but very well drained soils. 'Amazing Fun' has spikes of tubular flowers with short stalks that rise out of the center of the foliage and are dark red orange from the top down to the very last few florets, which are pale yellow to white. They bloom from the bottom up toward the top, allowing the oldest flowers to fade from the bright red orange color to a soft yellow to creamy white. The flowers will start blooming in June, and if when finished are trimmed off; the plants will re-flower into late summer. *Kniphofia* 'Amazing Fun' is cold tolerant from USDA zones 5-9 and is resistant to drought and rabbit and deer browsing. Plants spread slowly by rhizomes, and if they get too large, the offshoots on the edges of the plants can be trimmed off and replanted. Pests include the occasional thrips in hot weather, and root rot if planted in soil that is too wet.



*Kniphofia* 'Amazing Fun' Red Hot Poker is clump-forming perennial  
Photo: Ginny Rosenkranz, UME

## Degree Days (as of June 8)

Aberdeen (KAPG)	787
Annapolis Naval Academy (KNAK)	946
Baltimore, MD (KBWI)	1002
College Park (KCGS)	868
Dulles Airport (KIAD)	949
Ft. Belvoir, VA (KDA)	980
Frederick (KFDK)	832
Gaithersburg (KGAI)	866
Gambrils (F2488, near Bowie)	940
Greater Cumberland Reg (KCBE)	809
Martinsburg, WV (KMRB)	775
Natl Arboretum/Reagan Natl (KDCA)	1154
Salisbury/Ocean City (KSBY)	1048
St. Mary's City (Patuxent NRB KNHK)	1176
Westminster (KDMW)	1046

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 **775 DD** (Martinsburg, WV) to **1176 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.

- Calico scale – egg hatch / crawlers (**765 DD**)
- Oak lecanium scale – egg hatch / crawlers (**789 DD**)
- Rhododendron borer – adult emergence (**815 DD**)
- Japanese maple scale – egg hatch / crawlers (**829 DD**)
- Dogwood borer – adult emergence (**830 DD**)
- European elm scale – egg hatch / crawlers (**831 DD**)
- Cottony maple scale – egg hatch / crawlers (**872 DD**)
- European fruit lecanium scale – egg hatch / crawlers (**904 DD**)
- Cryptomeria scale – egg hatch / crawlers (**937 DD**)
- Azalea bark scale – egg hatch / crawlers (**957 DD**)
- Japanese beetle – adult emergence (**1056 DD**)
- Fletcher scale – egg hatch / crawler (**1105 DD**)
- Fall webworm – egg hatch (1<sup>st</sup> gen) (**1142 DD**)
- Indian wax scale – egg hatch / crawler (**1145 DD**)
- Oriental beetle – adult emergence (**1147 DD**)
- Peachtree borer – adult emergence (**1181 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.



## **July 7, 2022 Greenhouse Growers Field Day – Tidal Creek Growers**

**By: Stanton Gill**

MNLGA is working closely with Tidal Creek Growers in developing an on-site Greenhouse Tour and Education Day for greenhouse growers at the Tidal Creek Greenhouse in Earleville, MD. The sessions will start with educational stations in the greenhouse. A tour of the greenhouse herbaceous annual and production facility will be conducted in the afternoon. For schedule and registration information, go to the [MNLGA site](#).

### **Conferences**

**June 17, 2022** (Virtual)

Contact: Ginny Rosenkranz, [rosenkranz@umd.edu](mailto:rosenkranz@umd.edu)

[Schedule and Registration](#)

**June 24, 2022** (Virtual)

Turf Program

Contact: [Mark Carroll](#), University of Maryland

**June 30, 2022**

Greenhouse Biological Control Conference

Location: Maritime Institute, Linthicum Heights, MD

[Registration](#) is now open.

Contact MNLGA at 410-823-8684 with any questions.

**July 28, August 4, and August 11, 2022**

Drone Training Program

Registration information will be sent out on Monday, June 13, 2022

### **UMD ADVANCED LANDSCAPE IPM LAB-FIELD COURSE (in-person)**

Dates: July 28 and 29, 2022 (8:00 a.m. – 4:00 p.m.)

Location: Plant Science Bld, University of Maryland, College Park, MD

Description: This 2-day course will consist of both field walks around campus and activities in the lab. Sessions will focus on diagnostics of plant disease and insect problems, and pest and natural enemy identification using live and other specimens, and interactive activities. Labs will be run by instructors (*Drs. Paula Shrewsbury, Mike Raupp, Karen Rane*).

**For registration and course details: Email Amy Yaich at [umdentomology@umd.edu](mailto:umdentomology@umd.edu)**

### **Fall Horticulture Classes at CCBC**

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

**Commercial Ornamental IPM Information**  
**extension.umd.edu/ipm**

---

**CONTRIBUTORS:**



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



Paula Shrewsbury  
Extension Specialist  
pshrewsb@umd.edu



Karen Rane  
Plant Pathologist  
rane@umd.edu



Chuck Schuster  
Retired, Extension Educator  
cfs@umd.edu



David Clement  
Plant Pathologist  
clement@umd.edu



Andrew Ristvey  
Extension Specialist  
aristvey@umd.edu



Ginny Rosenkranz  
Extension Educator  
rosnkrnz@umd.edu



Nancy Harding  
Faculty Research  
Assistant

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

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

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

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