

Commercial Horticulture

May 14, 2021

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IPMnet
Integrated Pest
Management for
Commercial Horticulture
extension.umd.edu/ipm

If you work for a commercial horticultural business in the area, you can report insect, disease, weed or cultural plant problems (**include location and insect stage**) found in the landscape or nursery to sgill@umd.edu

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Weird Spring Weather and Ambrosia Beetle Update

By: Stanton Gill

The very weird weather of May 8th with cloudy, cold morning weather with frost reported in northern tier counties, followed by hail hitting Baltimore, Frederick, Carroll counties, and the northern part of Montgomery County followed by wind gust of 28 mph resulted in many things happening. This chilled the soil temperatures and the cold weather of Sunday continued to contribute to the delay of several insect activities including ambrosia beetle flight activity. It basically died down to nothing over the weekend of May 8 – 10th. In Indiana and other parts of the mid-west, they had spring snowfall.

The long-range forecast for the week of May 14 – 21 is slightly warmer, but continued cooler than normal temperatures. This will likely keep flight activity of ambrosia beetles down. Marie Rojas, IPM Scout, found ambrosia beetles were attacking one *Tilia* 'American Sentry' in Montgomery County on May 6.



Freeze damage on red maples on May 12 in Beallsville

Photo: Marie Rojas, IPM Scout

Cicada Emergence

By: Stanton Gill

We continue to monitor soil temperatures in central Maryland on the Eastern Shore and the soil temperatures remained below the magic 64 °F temperature used to predict when nymphs come out of the ground. In city areas like Columbia, Bethesda, Chevy Chase, and College Park, the dense populations and many buildings all create a micro-environment where temperatures reached the 64 °F temperature range. Not so in less densely parts of the state and certainly way too early for the Washington, Alleghany, and Garrett counties in the western part of the state.

Questions you may receive once the adult cicada are out in your area:

- 1.) **What happens if a cicada lands on your customer?** Tell the person to remain calm. They do not bite or sting. Cicadas are lousy flyers (see April IPM Alert where we explain why). They are noisy flyers and all of the flight ruckus may alarm some people. Adult cicadas are looking for deciduous trees to fly up to where the males will sing loudly and females fly in to mate. If one lands on your customer, it is just a temporary situation and will fly off shortly.
- 2.) **Do cicadas damage holly, Leyland cypress, Thuja green giant, and other evergreen plants?** Cicadas evolved to oviposit into hardwoods and the larvae feed on roots of deciduous plant material. In 2004, we did not see or record any real significant damage on most evergreen plant material. We surveyed landscapers later in the season and the damage was just on tip branches of deciduous plant material. That said, on Tuesday (May 11), I was speaking at the Arborist Conference at Turf Valley. Steve Sullivan was attending, and we spoke about plants damaged by female cicadas. Steve said he remembers seeing American holly in College Park and inkberry (another species of holly) that had lots of tip damage from female cicadas. He said he would send me the pictures that he took of the damage. The plants did recoup rather quickly but not until the following year.
- 3.) **Will pets eat cicadas and will it hurt them?** Cicadas (nymphs and adults) are not considered poisonous. Many people got cats and dogs during the covid-19 intensity of 2020 and many are new pet owners who are concerned about their pet eating cicadas. Yes, your dog or cat may sample a few cicadas but most will lose interest after ingesting a few. If they eat too many, it could make them sick but this true of eating anything to excess. Don't worry, if they are healthy and strong, they will survive and life will go on.
- 4.) **Can people eat Cicadas?** Have I eaten one? Yes, but it was not my favorite, by any means. I can guarantee there will be creative people coming up recipes for eating them at the height of the cicada situation. If you are feeling adventurous, or just want to gross out others in your family, eat one, but slowly and make sure you video it on your smart phone because EVERYONE want to see this on YouTube.
- 5.) **When cicadas nymphs exit the ground, why do they often climb up herbaceous plants such as tomatoes and asparagus?** The nymphs are just trying to get enough height off the ground so when the exoskeleton cracks open the adults that emerges can hang onto something while it expands its wings. They are not going to damage the herbaceous plant, and when the wings harden off, the adult will fly up to the deciduous canopy in the landscape.

Cicada Sightings

Bill Miller, The Azalea Works, is reporting that he is seeing cicadas in Bethesda this week. He noted that he netted a plum tree that was at risk, and that it was a two person job, especially if it isn't a short dogwood.

Paula Shrewsbury, UMD, reported that a bunch emerged on May 10 in Columbia. She noted that they are coming up in various areas, but patchy and not in huge numbers at this time.



Chuck Schuster found many pupae and adults emerging on a tree trunk on May 12 in Clarksville
Photo: Chuck Schuster

SOIL TEMPERATURES (From Chuck Schuster and Racel Ross)

	Glenwood	Stevensville	Gaithersburg
May 8	50		51
May 9	51		
May 10	54	61	51
May 11	51	61	
May 12	52	61	51
May 13	49	60	51
May 14	51	60	50

Fifth instar cicadas emerge when the soil temperature is at 64 °F.



Mark Harrison, Blades of Green, found a recently emerged cicada at the base of tree on a residential property in Chevy Chase on May 10
Photo: Mark Harrison



Duff McCully is reporting his first adult cicada early in the morning of May 10 in Springfield, VA
Photo: Duff McCully

Cicada-vacuuming Dogs

By: Stanton Gill

Paul Wolfe, Integrated Plant Care, called this morning to report on cicada activity in the areas of Bethesda, Rockville, and Chevy Chase. The 5th instar nymphs are out and crawling around looking for objects to climb on and cling to. Paul said as he walked his two middle age dogs this morning, and they spent the whole time with their heads down searching for 5th instar cicada nymphs. Paul described them as dog-cicada -vacs. I cautioned him that we had written a section for today's IPM alert that dogs can eat them, but not too many, or they get sick. He said the dogs sucked up about every nymph they could find and then would throw up, wait a couple of minutes and were back to consuming cicadas. They must really taste good to these dogs. Maybe he should rent them out as a biological control method.

Galls

We are getting reports of different galls on trees this week. Control measures are not necessary. Marie Rojas, IPM Scout, found wool sower and another gall on oaks and small galls on black gum this week.



Wool sower gall on *Quercus alba*
Photo: Marie Rojas, IPM Scout



Galls on *Quercus* 'Pacific Brilliance'
Photo: Marie Rojas, IPM Scout



Small galls on black gum
Photo: Marie Rojas, IPM Scout

Maple Petiole Borers

Marie Rojas, IPM Scout, is reporting that maple petiole borers are feeding on the tips of maple this week in Gaithersburg. The damage usually occurs in the spring on new tip growth on 1 to 2 year old maples. Look for flagging tips and prune out damaged branches.

Maple petiole borer larva in stem
Photo: Marie Rojas, IPM Scout



Sycamore Anthracnose

By: Rachel Ross and Karen Rane

The recent weather, cool and wet, has been favorable for fungal infection. Symptoms may include shoot dieback, branch cankers, and necrotic areas on the leaves that appear primarily along leaf veins. The fungus overwinters in twig cankers. Symptoms can appear severe, but this disease rarely affects the overall health of mature trees. Once infections occur, there are no control options. As the growing season progresses, new foliage will replace the growth that has been lost to anthracnose, and trees will regain most of their canopy. Cultural practices to maintain tree health (irrigation during long periods of dry weather, avoiding root disturbances) can be beneficial. Pruning out cankered branches may help the tree's appearance, but it's not clear how this affects disease development in subsequent years. Young trees in nurseries or small, newly planted trees may benefit from fungicides (such as mancozeb, propiconazole or certain copper products) applied just before bud break and repeated according to label directions to protect newly developing foliage. For managing anthracnose in large, high-value sycamore trees, some arborists in our area report good results with a trunk injection of Arbotect (late summer/early fall injection for managing disease the following year). Consult product labels for detailed instructions.



Once a sycamore anthracnose infection occurs, there are no control options

Lecanium Scale

By: Stanton Gill

Marie Rojas, IPM Scout, sent in some great picture of lecanium scales on oak. Gravid females are starting to swell on *Quercus phellos* this week. Females are feeding heavily at this time of year and will be excreting copious amounts of honeydew. Females have started laying eggs under the covers and will continue over the next couple of weeks with crawlers showing up in the end of May to early June.



**Eggs were present under the covers of these female lecanium scale on May 6
Photo: Marie Rojas, IPM Scout**

Aphids

Mark Schlossberg, ProLawn Plus, Inc., found aphids on viburnum in Owings Mills. Mark noted that he did not see beneficials and that soap wasn't working. Luke Gustafson, Davey Tree Experts, has been finding a fair amount of aphids on spirea this week in Baltimore.



Aphids on this viburnum are causing foliar distortions
Photo: Mark Schlossberg, ProLawn Plus, Inc.



There is a high population of spirea aphids on the stem and flowers of this spirea
Photo: Luke Gustafson, Davey Tree Experts

Sapsucker Damage

Todd Armstrong, Davey Tree Experts, found sapsucker damage on a Norway spruce this week in Ruxton (Baltimore County). They create neatly spaced, shallow, horizontal or vertical rows of holes in the tree trunks or on the branches. Sapsuckers use their tongues to lap up sap from these holes. There is not a whole lot that you can do to prevent the damage since you do not know which trees they will attack, and sapsuckers are protected birds.



Sapsucker damage on Norway spruce
Photo: Todd Armstrong, Davey Tree Experts

Honeylocust Plant Bug

By: Stanton Gill

Last week, we put in pictures of honeylocust plant bug nymphs from Heather Zindash. They are out and feeding on honeylocust foliage this week. We have received emails from several landscape managers who are finding them after our Alert last week. These sucking insects damage foliage early in the season. In some years, when populations build up to very heavy levels, whole trees can be defoliated, making the tree look like it went through a nuclear winter.



Honeylocust plant bugs are feeding this week and causing foliage to become distorted

Armored Scale on Black Tupelo

Marie Rojas, IPM Scout, first reported finding the armored scale, *Chionaspis nyssae*, on *Nyssa sylvatica*, commonly called black gum or sweet gum last year. At this time of year, she is noting that it is present on the trunk. Last July, it was on the foliage. Be sure to 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 the foliage, materials such as Dinotefuran or Altus should work well.



The armored scale, *Chionaspis nyssae*, is on the trunk of a black gum this week

Photo: Marie Rojas, IPM Scout

Wheel Bug Egg Hatch

Patty Tracy, J&P Lawn Service, Inc., found wheel bugs hatching on May 11 in Waterford, VA. The predators are generalist feeders and are found throughout the spring and summer.



Look for nymphs of wheel bugs as they hatch this spring
Photo: Patty Tracy, J&P Lawn Service, Inc.

Allium Leafminer Damage Severe in Some Vegetable Gardens This Year

By: Jerry Brust, Vegetable Specialist and Christa Carignan, Coordinator, Digital Horticulture Education

In the past 2-3 weeks, vegetable gardeners from all over the state have reported moderate to severe damage of their leeks and onions because of Allium leafminer (ALM) *Phytomyza gymnostoma*. This pest has been steadily growing as a major problem in *Allium* species over the last 3-4 years.

Landscapers responsible for vegetable garden care should look for the tell-tale signs of the fly's damage which are made by the female's ovipositor and appear as small white dots in a straight line on a leaf (fig. 1). 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 (fig. 2). The feeding damage can open up the foliage and bulb to fungal infections. When we see vegetable gardens that have problems with ALM we also often see similar problems in the landscape Alliums. Both vegetable garden and landscape Alliums should be inspected for this pest. Row covers can be used to exclude this pest when Alliums are first planted. A good insecticide to use for control of the larvae is spinosad (Entrust is OMRI-labelled). Entrust is a translaminar insecticide, which means it will be absorbed into the leaf tissue of the plant and held there in an active state so when larvae feed on the foliage they will contact the insecticide. Two or three applications of an insecticide used 2 weeks apart from each other with the first one coming when oviposition marks (white dots) are first seen should give good control of this pest. The use of a penetrant adjuvant is recommended for better control of ALM.



Fig. 1 White dots made by ALM adult females

Photo: Christa Carignan, UME-HGIC



Fig. 2 ALM pupal cases at base of damaged leek

Photo: Christa Carignan, UME-HGIC

Ticks and Lyme Disease

By: Stanton Gill

At the Arborist meeting held on May 11 at Turf Valley, Dr. Jennifer Mullinax, University of Maryland Wildlife Specialist, spoke on ticks and Lyme disease. For the last four years, Jennifer and her team of undergraduate and graduate students have been capturing deer and mice in Howard County and putting radio collars on them to see where they go in suburban and urban environments. They made some interesting discoveries. They placed radio collars (very small ones) on field mice and released them back out into the landscapes. With the tracking system in place, they found that field mice spend an incredible amount of time in trees. Yes, in trees. They also found 70% of field mice were infected with the Borealis bacteria that cause Lyme disease. *Borrelia burgdorferi* is a bacterial species of the spirochete class of the genus *Borrelia*. When they sampled deer ticks, they found 50% of the ticks had Borealis bacterium present. The mice are the largest reservoir source for Lyme disease bacterium.

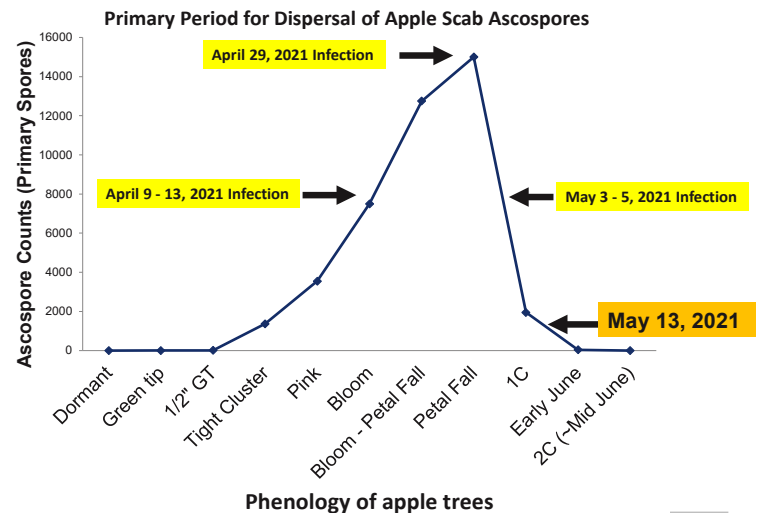
They had to net deer then anesthetize them to put radio collars on for tracking. They found an interesting separation between males and females. Males tend to track about in wooded areas away from homes. The

females are just the opposite staying very close to suburban and urban houses during the night. The females are finding there are fewer predators to attack their young when they hang out near houses. Many of the hunting programs allow bow hunters and sharpshooters to shoot deer, but it turns out most are killing males since they are away from houses where it is safer for the hunting. The result is the females that are birthing out twins are thriving and increasing the herds to overwhelming numbers in suburban counties.

Apple Scab Disease Update

Kari Peter, Penn State Extension, reports that we are well past the peak for the scab spores. The slide shown is updated for this week's count. She suggests that growers should be scouting for apple scab in their orchards, especially in blocks where they have had issues in the past.

Scab infection period presents itself, keep in mind where we are during the ascospore dispersal



Ascospore data: PSU Tree fruit pathology lab

PennState Extension

Oriental Fruit Moth Active Now

By: Stanton Gill

Many of you have mentioned you manage your customers' fruit plantings. Oriental fruit moths have four to five generations per year Maryland, with the first and last two generations being most numerous. They overwinter as larvae in silken cocoons on the tree or on the ground, and they pupated and began to emerge as adults during April, shortly before peach trees bloom. These females lay up to 200 eggs, primarily during May. The adults emerged around 350 degree days. In central Maryland, we just passed the 400 degree day mark. They were slowed down by the cold front for the last 10 days, but now is the time to take action. The succeeding overlapping generations extend into September and October. It is very important to control the second generation, which does major damage. The second generation will occur around 1100 – 1400 degree days.

The first indication of injury is a dying back of the new growth of twigs that usually shows up in late May to early June. A first-generation larva enters at a leaf axil near the tip of a shoot and bores down the central core for several inches, causing the terminal to wilt, or "flag." Later generation larvae may enter the fruit near the stem end and make feeding burrows that can extend to the pit or to the core. In peaches, the mature larva exits the fruit from the side, leaving a large gumming hole with much frass. In apples, Oriental fruit moth larvae may feed around, but not in, the core.

In early May you should be applying Spinosad (Delegate brand name for Spinosad for fruit applications) or Avuant (indoxacarb) 70% Group 22 mixed at 3 oz/50 gallons of water). I usually mix in a spread sticker like Nu-Film-P to help hold this material on the plant through rainfalls. Delegate is a Spinosad bacteria insecticide that works in a pome and stone tree fruit insecticide rotational program, producers can stop harmful insects, such as Oriental fruit moth, leafroller, apple maggot, and plum curculio with minimal impact to beneficials.

Beneficial of the Week

By: Paula Shrewsbury

Hyperaspis Lady Beetles

In last week's newsletter, there were multiple reports of white ovisacs of the cottony camellia / taxus scale, *Pulvinaria floccifera*, on Chinese holly. It was also mentioned that a lady beetle, *Hyperaspis* spp., is commonly associated with cottony camellia scale. *Hyperaspis* lady beetles are adapted to feeding on scale insects that lay their eggs in cottony ovisacs (*Pulvinaria* spp., Coccidae), in addition to other of soft scales (Coccidae, Eriococcidae).

Lady beetles, also known as lady bird beetles or ladybugs, are in the family Coccinellidae. Not all lady beetles are red with black dots. There are many types of lady beetles whose adults and larvae vary greatly in size and color patterns. For example, the adult *Hyperaspis* lady beetle seen here (see image) is black with two red spots and small white patches on each side behind the head (on the pronotum). There are other species of *Hyperaspis* that vary in the number and color of spots, most species are small in size (~2-3 mm long). The larvae of *Hyperaspis* lady beetles are oval shaped and some species covered with white wax (see images). To the inexperienced eye, the *Hyperaspis* larva may be mistaken for a mealybug, a pest insect. To distinguish between the good guy (predatory *Hyperaspis*) and the bad guy (plant feeding mealybug), you should flip the white waxy larva over and determine if it has chewing (lady beetle) and sucking (mealybug) mouthparts. Although many species of lady beetles are generalists and feed on a range of insects, *Hyperaspis* lady beetles (adults and larvae) commonly feed on soft scales (all stages). See the image of the white waxy *Hyperaspis* larva that worked its way under the female soft scale to feed on her eggs. There are reports from Virginia that *Hyperaspis* is consuming and reducing populations of the newly invasive crape myrtle bark scale (Eriococcidae). *Hyperaspis* larvae can help in monitoring for soft scales. Their white color makes them very noticeable. If you see the white waxy ladybeetle larvae on your plants look closer to see if you have soft scale too. If you do, consider not applying pesticides and letting these predators do their thing. If the soft scale population is high and producing honeydew you may want to come in now and treat or in the winter with an oil spray. This will reduce the scales and conserve the predators so they can keep the scale populations down.



Adult *Hyperaspis* lady beetle with tulip tree scale.
Photo: M.J. Raupp, UMD



White, wax covered larvae of a *Hyperaspis* lady beetle foraging on scale nymphs
Photo: P. Shrewsbury



White waxy *Hyperaspis* larva has worked its way under a female soft scale and is snacking on her eggs.
Photo: M.J. Raupp, UMD

Weed of the Week

By: Chuck Schuster

It's been a roller coaster of a spring with temperatures and moisture. In some ways, weeds are going crazy. As one moves around the state and also the surrounding states, you can see a great variety of weeds showing themselves currently. In areas where turf and landscape are near the forested areas and also in areas that are unmanaged our weed of the week is currently in bloom.

One can currently see a multitude of blooms, and one that is getting attention is garlic mustard (Photo's 1 and 2). Garlic mustard, *Alliaria petiolata*, is an invasive weed in the Brassicaceae family. It is found throughout much of the east coast of the United States and has moved beyond this region. It may also be known as hedge-garlic, sauce-alone, Jack-by-the-hedge, poor man's mustard, garlicwort, or mustard root. Garlic mustard is native to Europe and western and central Asia.

This weed is a cool season biennial that produces heart-shaped, coarsely toothed leaves (photo2) which appear on a stalked stem that will grow to 3.5 feet tall. The leaves give off a garlic odor when crushed. The first year of growth the plant will present with a rosette of green leaves very close to the ground. This rosette will remain green all winter and will produce a flowering stalk in early spring as being seen now. During the winter, the plant will have a green rosette that will remain very close to the ground. Flowers are produced with four petals that form a cross (photos 2 & 3). The root system of this plant is a thin taproot, white in color, similar to that of horseradish.

This plant is a prolific seed producer, producing thousands of seeds per plant each season that can be dispersed several feet from the plant. This is an invasive weed that prefers a shaded understory condition, slightly acidic soils, and soils that are moist. This is a self pollinating plant in many cases and will shade out other plants quickly with its dense foliage. Removal by pulling will only be successful when the complete root system is pulled. Removal of the flowering parts is partially successful as it can bolt again later.



Photo 1: Garlic mustard is a prolific seed producer
Photo: Chuck Schuster



Photo 2: Garlic mustard has coarsely toothed leaves
Photo: Chuck Schuster



Photo 3: Close-up of garlic mustard showing 4 petals on flowers
Photo: Chuck Schuster



Photo 4: A similar plant to garlic mustard is goutweed
Photo: Chuck Schuster

Wildlife and livestock do not prefer garlic mustard and will graze around it and eventually trample it in some cases. The West Virginia white butterfly (*Pieris virginiensis*) eggs laid on this plant seem to not hatch, indicating some type of insect poison may be present.

Attempts to control garlic mustard with mowing will be met with less than the success desired. This plant can produce a seed cluster very quickly. Chemical control of garlic mustard in a landscape can be obtained using glyphosate products at the 1% to 2% rate, or triclopyr (Garlon3a) can be used, even during the winter months when temperatures are at 50 °F or higher. Rodeo, Roundup Custom or Aquamaster may be used near water to control garlic mustard. Products including PrizeFighter and Pulverize can be used, but will require several applications to get total control. This weed has seed that remain viable in the soil for up to five years; control is a long term commitment. This weed can be found in many settings, so everyone must be aware of it. Watch for it coming with trees and shrubs in pots or on soil balls to prevent establishment where it is currently not found. While similar in to goutweed (photo 4), the leaf shape is different, and it produces only four petals, where goutweed will produce more. Early detection and control is important with this weed.

Plant of the Week

By: Ginny Rosenkranz

Syringa pubescens subsp *patula* ‘Miss Kim’, also called a Manchurian lilac, is a delightful compact deciduous shrub that can grow 4-7 feet tall and wide. Unlike *the Syringa vulgaris* or common lilac, the foliage of ‘Miss Kim’ has good resistance powdery mildew. Plants prefer to grow in moist, but well drained soils in full sun with good air circulation. May is the perfect month to have *Syringa pubescens* subsp *patula* ‘Miss Kim’ in the landscape for the sweetly fragrant flowers that can cover the plants for weeks. The flowers are small, star-shaped tubular blooms that start out light lavender in color and gradually lighten to pale lavender to white. Fragrant flowers are arranged in very dense cone-shaped clusters up to 3 inches long at the ends of each branch. Both butterflies and humming birds are attracted to ‘Miss Kim’, but deer don’t seem to want to nibble the plants. The foliage is dark glossy green from spring to fall and then a burgundy color with the cold weather. Early in the spring, the young shoots are also a purple color. ‘Miss Kim’ is cold tolerant in USDA zones 3-8, making this plant an excellent choice for the warmer counties in Maryland. Pruning the spent flowers after blooming insures a better the next spring. No serious pests are listed.



***Syringa pubescens* subsp *patula* ‘Miss Kim’ produces fragrant, lavender flowers in mid spring
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 313 DD (Cumberland) to 564 DD (Reagan National Airport). 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.

- Spirea aphid – nymph / adult (326 DD)
- Lilac borer – adult emergence (350 DD)
- Hemlock woolly adelgid – egg hatch 2nd gen (411 DD)
- Basswood lace bug – adult/nymph (415 DD)
- Emerald ash borer – adult emergence (421 DD)
- Fourlined plant bug – egg hatch (435 DD)
- Lesser peachtree borer – adult emergence 1st gen (468 DD)
- Maskell scale – egg hatch / crawlers 1st gen (470 DD)
- Oystershell scale – egg hatch / crawlers 1st gen (486 DD)
- Gypsy moth – egg hatch (492 DD)
- White prunicola scale 1st gen – egg hatch / crawlers (513 DD)
- Euonymus scale – egg hatch / crawlers (522 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.

Degree Days (as of May 12)

Aberdeen (KAPG)	314
Annapolis Naval Academy (KNAK)	437
Baltimore, MD (KBWI)	459
Bowie, MD	501
College Park (KCGS)	389
Dulles Airport (KIAD)	424
Ft. Belvoir, VA (KDA)	440
Frederick (KFDK)	384
Gaithersburg (KGAI)	388
Greater Cumberland Reg (KCBE)	313
Martinsburg, WV (KMRB)	328
Natl Arboretum/Reagan Natl (KDCA)	564
Salisbury/Ocean City (KSBY)	485
St. Mary’s City (Patuxent NRB KNHK)	513
Westminster (KDMW)	456

Important Note: We are using the [Online Phenology and Degree-Day Models](#) site. Use the following information to calculate GDD for your site: Select your location from the map Model Category: All models Select Degree-day calculator Thresholds in: Fahrenheit °F Lower: 50 Upper: 95 Calculation type: simple average/growing dds Start: Jan 1

Conferences (CDC guidelines for Covid-19 may cause changes to the programs below.)

Pest Management Recertification Program (limited in-person program)

June 3, 2021

Location: Carroll Community College, Westminster, MD

June On-line IPM Scout Training (June 2, 9, 16, and 23 from 12 to 1:30 P.M.)

Registration Link: <https://mnlga.memberclicks.net/IPMScoutTraining#/>

[Program agenda](#)

Eastern Shore Procrastinators Pesticide Conference on June 8, 2021

<https://www.eventbrite.com/e/2021-eastern-shore-procrastinators-pesticide-conference-tickets-150763609013>

Once the attendees pay via eventbrite, they will be emailed the link to the zoom conference.

Greenhouse Program (limited in-person program)

July 8, 2021 Location: Catoctin Mountain Growers, Keymar, MD

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

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