

Commercial Horticulture

July 21, 2023

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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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Mimosa Webworm Adults Active This Week

By: Stanton Gill

If you have honey locust trees in your nursery or in your customers' landscapes, be aware that the second generation of adult mimosa webworms is active this week. Spinosad or Bt will provide control if you can cover the tip growths of the susceptible trees.



Adult mimosa webworms.
Photo: John .A. Davidson, Univ. Md,
College Pk, Bugwood.org

Webbing and damage from mimosa webworm larvae.
Photo: Stanton Gill, UME

Dogwood Sawflies

Rachel Rhodes, UME, found that dogwood sawflies completely defoliated the two red twig dogwoods outside of her building. Luke Gustafson, The Davey Tree Expert Company, found them in Baltimore City on July 18. Luke noted that he hasn't been seeing a lot of them this season, but they are active on a few properties. Feeding as a group, dogwood sawfly larvae can quickly defoliate a plant. They will eat all but the midrib of the leaf. These sawflies overwinter in the last instar stage. After the second molt, the bodies of the larvae become covered with a white powder-like material to mimic bird droppings which helps to protect them from their enemies. At their final molt they have a spotted pattern to camouflage them as they crawl over leaf litter. There is only one generation per year.

Control: Options include Conserve and synthetic pyrethroids.



This stage of dogwood sawfly larvae mimic bird droppings to help avoid predation.

Photo: Luke Gustafson, The Davey Tree Expert Company



The last instar of dogwood sawfly larva has a spotted pattern before it drops to the ground to pupate.

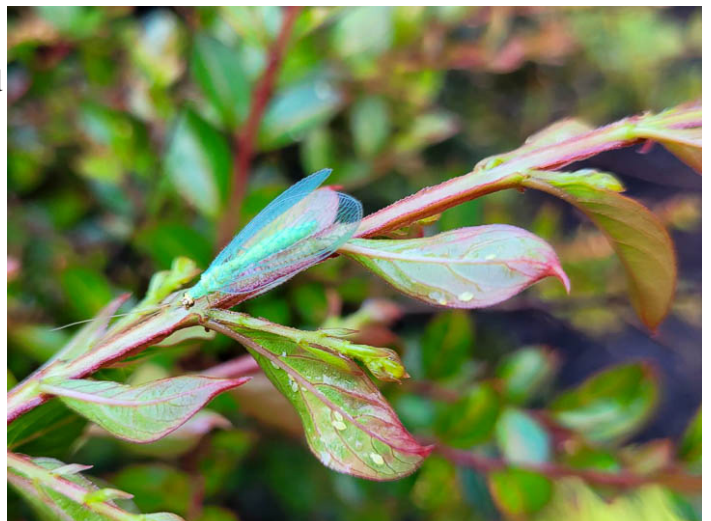
Photo: Rachel Rhodes, UME

Green Lacewings Feeding on Aphids

Luke Gustafson, The Davey Tree Expert Company, found lacewings feeding on aphids on a mini crape myrtle in Baltimore County this week. Usually, we see the larval stage as the predator. Monitor aphid populations for predator activity to determine if control measures are necessary.

This lacewing has plenty to eat with all of the aphids on this crape myrtle.

Photo: Luke Gustafson, The Davey Tree Expert Company



Peachtree Borer

By: Sheena O'Donnell, UME

After our very dry spring, many trees are experiencing stress due to early drought and heat waves. In many parts of the state we are around the Degree Day accumulation where we expect to see the adult stage of peach tree borer (aka clear wing moth borer) activity. Peachtree borer affects peach, cherry (including ornamental), plum, apricot, nectarine, cherry laurel. Adults lay eggs on the trunk and limbs of the tree, usually around previously damaged sites, and the larvae burrow into the inner bark to begin feeding on growing tissue. Dark amber colored sap/gum with sawdust-like frass oozes out of entry holes during larval feeding. The Degree Day accumulation for adult emergence of peachtree/clearwing moth borer is at 1181, while here at Central Maryland Research & Education Center, we are at 1378. Look for adult emergence and treat ornamentals with bifenthrin or permethrin to target adult and egg stages (before the larvae enters the wood). Adult males fly around and mate with females, the eggs develop in her body for about two weeks, and then she lays them. If you are in western or northern Maryland you may still be in the window for targeting adult and egg stages. The Eastern Shore of Maryland is likely already past this window but since larvae are now feeding in the bark you can try a Mainspring systemic application to target the larval feeding stages. Read the label for application methods.

White Prunicola Scale

By: Stanton Gill

Start looking for crawlers of white prunicola scale this week. This scale is found on ornamental cherry, plums, peaches, cherry laurel, and blue and red hollies. When crawlers are found, apply the insect growth regulators of Talus or Distance.



White prunicola scale covers
Photo: Suzanne Klick, UME

Spongy Moth (Formerly Gypsy Moth) Activity

Melanie Fischer, MDA, found many males and egg laying females at Greenbrier State Park in Boonsboro on July 11. If you see egg masses within reach, you can gently scrape them off the trunk of the tree.



Female spongy moths are laying eggs in the area at this time.
Photo: Melanie Fischer, MDA

It's That Scarab Beetle Time of Year

By: Paula Shrewsbury, UMD

There are a number of beetle adults active now that belong to a group known as scarab beetles (family Scarabaeidae). The immature stages of scarab beetles are known as white grubs. The amount of damage caused by adult and immature scarabs varies with species, and other factors such as environmental conditions and management practices. Of the scarab beetle adults, Japanese beetles are usually the most damaging. That's not to say, however, that other scarab adults can't be particularly abundant and damaging some years. Let's review a bit about the adults of the different common scarab beetles. To see pictures of adult scarab beetles go to: <http://ohioline.osu.edu/hyg-fact/2000/pdf/2510.pdf>

Japanese beetle and Oriental beetle adults are relatively similar in their life cycles and management. We have had reports of moderate to high Japanese beetle activity so far this season. Japanese beetle adults skeletonize foliage and can cause significant damage to many species of ornamental plants (over 300), most commonly linden trees and roses. Oriental beetles are usually less conspicuous and damaging than Japanese beetles. I have seen low numbers of Oriental beetles for at least a month already. I often find them feeding on the flower petals of many herbaceous plants. They seem to particularly like Shasta daisies and cone flowers. Oriental beetles usually do not warrant control. Japanese beetles often require control measures.

Control: Research has shown that once Japanese beetles start feeding on plants the plant releases a cue that calls in other Japanese beetles to the plant. A good practice is to stop Japanese beetles as soon as you see them, before they do much feeding damage and attract their friends. If you do not have "lots" of plants you can try hand removing beetles. I suggest a 16 oz Solo type plastic cup half filled with water and a teaspoon or so of dish liquid. Place the cup under the leaf the beetles are on because when you go to grab the beetles they usually "drop" from the plant. Chemical controls are also available. Products with Neem are classified as low risk, short residual products. Studies have found these affective, but they usually have to be applied every 4 or so days. Other options are systemic Acelepryn or Mainspring. Acelepryn has been found to be affective for Japanese beetle adult control 3-4 weeks and is listed as a "reduced risk" pesticide by EPA. It has been shown to not be toxic to honey bees. Mainspring does have a bee warning on the label. There are also other labeled products available. Be sure if you are applying pesticides to flowering plants, or areas where flowering plants are nearby, to read the labels carefully.

Green June beetle adults have been active for about the last 3 weeks. Green June beetles are large metallic green and gold scarab beetles. They are often seen swarming around trees (often those with thin skinned fruits that the beetles feed on) or over turfgrass where they are likely looking for mates or a site to lay their eggs. In Boonsboro MD, I have watched hundreds of green June beetle adults flying about 1' above the turf in a



Oriental beetle settling down for a meal of Shasta daisy flower.

Photo: P. Shrewsbury, UMD



Asiatic garden beetle feeding on butterfly bush at night.

Photo: P. Shrewsbury, UMD

residential lawn for the last 3 weeks. It will be interesting to monitor green June beetle white grub activity in the lawn. As adults, these beetles seldom warrant control measures.

Asiatic garden beetle adults are tricky little guys. About a month ago I started to see significant feeding damage on my Buddleia (butterfly bush) and sunflowers, but saw no insects on the plant. From past experience and monitoring, I knew it was Asiatic garden beetles causing the damage. Asiatic garden beetle adults are nocturnal – only active at night. During the day they hide in turf and grassy areas near their food plants and largely go unnoticed. At night temperatures below 70°F the beetles fly very little. On warmer nights, like we have had recently, you can see hundreds of beetles flying around and feeding on plants, especially in July and August. Most interestingly, they always become active around 9:30 p.m. or so. Their time of activity is that specific. These beetles are also attracted to lights so large numbers can accumulate at outdoor lights. Asiatic garden beetle adults feed on about 100 species of plants but seem to like butterfly bush, boxelder, cherry, sunflower, and more. They do not skeletonize like Japanese beetle. Asiatic garden beetle often defoliates the majority of leaves leaving behind only the mid-vein. Their occurrence in high numbers is patchy and localized so they often do not warrant control (unless you have or are managing plants they like and the beetles are in that area).

Reducing weedy habitat can reduce Asiatic garden beetle densities. Hand collecting the beetles and dropping them into a cup of soapy water should work on these beetles too. Otherwise management is similar to that of Japanese beetles.

Masked chafer beetle adults have been showing up recently. There are two species of masked chafers that occur in this area, the northern and southern masked chafers. They have similar life cycles. Adults are also nocturnal and have similar activity as the Asiatic garden beetle. The adult masked chafers, however, don't feed so no worries about the adults of this one. I often see the white grubs of masked chafer in the soil / root zone of plants in landscape beds and under trees, usually soils with a good organic content. I have also seen very high densities of chafer grubs in soils with no signs of damage to the trees.

Chinch Bugs

Russell Raeke, NaturaLawn of America, found chinch bugs in a zoysia lawn in Linthicum this week. Chinch bugs are often found in unirrigated turf areas and thatch. There are predators that feed on these bugs, so assess the infestation to determine if control is necessary. Watering regularly also keeps populations low.



Japanese beetles and green June beetles feasting on peaches.

Photo: Marie Rojas, IPM Scout

Chinch bug and damage found in zoysia grass.
Photo: Russell Raeke, NaturaLawn of America



Brown Patch on Home Lawns

By: Fereshteh Shahoveisi, Turfgrass Pathologist, University of Maryland

Brown patch disease is a common fungal disease that affects home lawns, particularly during warm and humid weather conditions. The disease primarily affects cool-season grasses like tall fescue, Kentucky bluegrass, and ryegrass. On home lawns, the disease is characterized by the appearance of circular patches of brown or tan grass (Figure 1) ranging in size from a few inches to several feet in diameter, and they can rapidly spread and cause significant damage to the turf. Additionally, in the early morning hours, you might notice a white, cotton-like fungal growth, known as mycelium, at the edges of the affected areas (Figure 2). Leaf lesions are irregular and tan in color with a dark brown border (Figure 3).



Figure 1. Symptoms of brown patch on home lawn-height tall fescue (University of Maryland Turfgrass Farm, July 19, 2023).

Photo: Fereshteh Shahoveisi, UMD

To manage brown patch disease, adopt proper cultural practices such as watering in the morning to allow the grass to dry during the day, mowing at the correct height to avoid scalping, and improving soil drainage. Avoiding excessive nitrogen fertilization, especially during periods of high disease activity, can also be beneficial as lush and actively growing grass is more susceptible to infection. Fungicides may also be used for severe cases; however, it's crucial to choose the right fungicide and apply it according to the manufacturer's instructions. By combining integrated disease management practices, brown patch can be effectively controlled, ensuring a healthier and more vibrant lawn throughout the year.



Figure 2. White cottony mycelium of the fungus causing brown patch disease on tall fescue.

By: Fereshteh Shahoveisi, UMD



Figure 3. Leaf lesions caused by the fungus causing brown patch on tall fescue.

By: Fereshteh Shahoveisi, UMD

Spotted Lanternfly Update

Nymphs, many are fourth instars, are still active, but we are now getting reports of adults as well. Paula Shrewsbury, UME, reported the following: "My undergrad technician, Olivia, spotted the first SLF adult of the season (for us anyways). --We found 1 SLF adult in Galena (Eastern Shore), MD (on maple). We found 4 SLF adults in Baltimore City (on tree-of-heaven and juniper)."

Kenton Sumpter, MDA, reported the following: " Kent and Baltimore are very positive this year. Baltimore City and County are the hottest places in the state right now. We're seeing adults mostly in Baltimore City, Towson, Carney, Laurel, and Pasadena. That makes about 118 adult sighting reports of varying reliability. A lot of people are misidentifying 4th instars as adults."

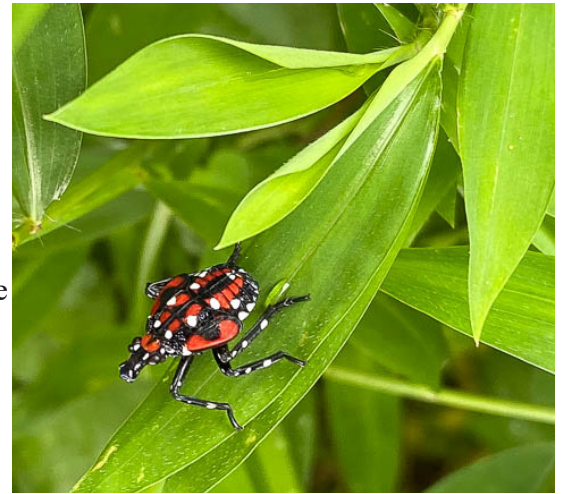
- Ross Fornaro Naturalawn of America, found adults and damage on staghorn sumac in Hanover, PA.

- Eric Hadaway, DMW, is reporting adults Towson.

- Dan Feingold, Maxalea, Inc., saw an adult on July 17 in Essex. Dan also noted that there was a fourth instar nymph nearby as well.

- Caitlin Beckjord, Howard County Recreation and Parks, and a co-worker found dozens of 4th instars, a few 3rd instars, and at least a dozen adults Alpha Ridge Park in Howard County on July 18. The adults were on *Ailanthus* and the nymphs were on *Ailanthus*, Oriental bittersweet, and swamp white oak. She noted that the Maryland Department of Agriculture also has a trap placed on an *Ailanthus* which had several instar stages and a few adults in it.

- Bob Boyer, Scientific Plant Service, reported the first adult he has seen so far in Rosedale. Bob noted that other trees nearby had plenty of earlier instars present.



In the fourth instar, spotted lanternfly nymphs go from black and white to mostly red.

Photo: Suzanne Klick, UME



An adult spotted lanternfly with wings parted to show the bright area on the body.

Photo: Bob Boyer, Scientific Plant Service



An adult spotted lanternfly with the wings covering up the red of the body.

Dan Feingold, Maxalea, Inc.

Bagworms

Mike Baker, The Grounds Guys of Annapolis, found some bagworms late last week on a Leyland Cypress in Davidsonville. Mike noted that they are about 3/4" long. Similar to last year, there has been staggered hatching of bagworms this summer. Now in many areas, we are getting to the end of feeding by bagworms. A lot of the damage has already been done for the season.

Control: If you still need to treat, options include spinosad (Conserve), Acelepryn, Mainspring, Orthene, and Astro. In light infestations, hand picking off bags is an option. It is too late in the season to use Bt which works on early instars.

A bagworm shown coming out of its bag.

Photo: Mike Baker, The Grounds Guys of Annapolis



Lace Bugs

Mike Baker, The Grounds Guys of Annapolis, reported that he found a lot of lace bug activity on some azaleas in Crofton this week. Heather Zindash, The Soulful Gardener, reported that she found a very high population of lace bugs on Aronia in Gaithersburg. Heather noted that these shrubs have heavy stippling damage and bronzing and that all life stages with fecal droppings were found on the underside of the leaves.

There are multiple species of lace bugs found in this area. They have multiple generations throughout the season. In high numbers, they can cause significant damage to plant hosts. If you see yellowing stippling damage, be sure to look on the undersides of the leaves for all stages of lace bugs and their fecal spots.

Control: If populations are high, use insecticidal soap or oil (ensure contact with lace bugs on the underside of the foliage), or systemic insecticides that move into the plant through the soil or foliage [ex.acephate (Lepitech), acetmiprid (Tristar)].



Lace bugs can cause significant stippling damage on plant hosts.

Photo: Mike Baker, The Grounds Guys of Annapolis



An adult lace bug as well as fecal spots on the underside of the aronia leaf.

Photo: Heather Zindash, The Soulful Gardener

Galls on Fragrant Sumac

Todd Armstrong, The Davey Tree Expert Company, found galls on fragrant sumac (*Rhus aromatica*) in Owings Mills. These galls are caused by eriophyid mites. For more information, see an [article by Joe Boggs](#), The Ohio State University. Control is not necessary for these galls.



**These galls on this fragrant sumac look unsightly, but do not impact the overall health of the shrub.
Photo: Todd Armstrong, The Davey Tree Expert Company**

Periodical Cicada Damage

Damage from the emergence of the periodical cicada, Brood X, two years ago is still evident on woody plants this summer. Todd Armstrong, The Davey Tree Expert Company, found old cicada damage on a dogwood in Owings Mills this week.



**Periodical cicada activity from two years ago is still impacting trees this year.
Photo: Todd Armstrong, The Davey Tree Expert Company**

Rust Infections

On July 19, Todd Armstrong, The Davey Tree Expert Company, found hawthorn trees heavily infected with rust. Elaine Menegon, Good's Tree and Lawn Care, found trellis rust on pear trees in Hummelstown, PA. Preventative fungicides needed to be applied earlier in the season during the infection periods.

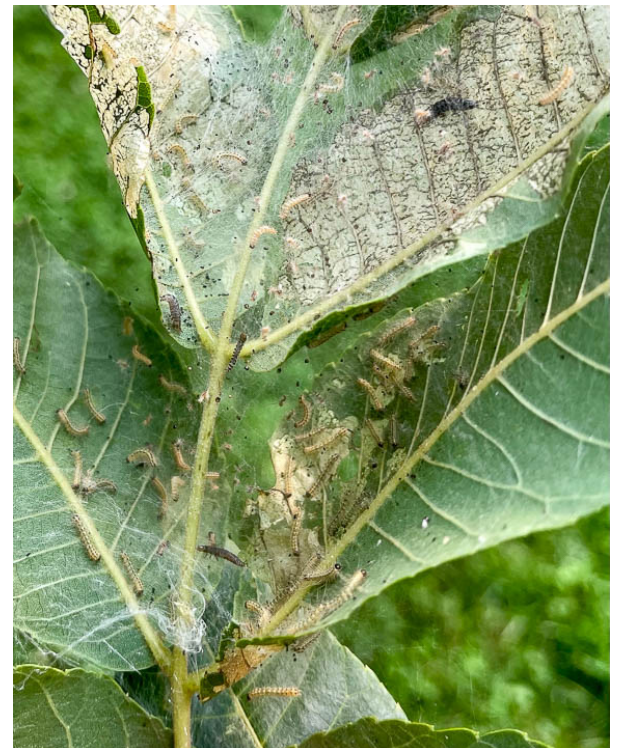


**It is too late in the season to treat for pear trellis rust.
Photo: Elaine Menegon, Good's Tree and Lawn Care**

Fall Webworm

We have not received many reports of fall webworm activity. Here at the research center, there is just a little bit of webbing on a few trees. On July 17, Todd Armstrong, The Davey Tree Expert Company, found activity of the second generation of fall webworm on black walnut in Owings Mills.

Control: Spinosad and Bt can be used for control. Look for predators and parasites that help keep caterpillars below damaging levels.



**Fall webworm larvae feed within the webbing they produce.
Photo: Todd Armstrong, The Davey Tree Expert Company**



Root Pruning Problems

Todd Armstrong, The Davey Tree Expert Company, sent in these photos showing a sugar maple with significant root damage dieback because the roots were significantly pruned in order to repair a sidewalk.

Photos: Todd Armstrong, The Davey Tree Expert Company

Beneficial of the Week

By: Paula Shrewsbury

Natural enemies of scarab beetle grubs: Tiphid wasps

Many species of scarab beetle adults are pests of ornamental plants (ex. Japanese beetles, Asiatic Garden beetles, green June beetles), while others feed and do not commonly cause significant damage (ex. ornamental beetles, masked chafers). White grubs are the immature stage of scarab beetles and many white grubs are pests of turfgrass. Populations of scarab beetle adults and white grubs, and their damage, fluctuate from year to year depending on environmental conditions, geographic area, and natural enemies. This year seems to be a good year for scarab beetle adults in some areas which suggests there will be an abundance of white grubs and significant damage as they feed on the roots of turfgrass. In particular, in the last 3 weeks I have seen remarkable numbers of green June beetles flying over



A Tiphia wasp adult feeding on floral nectar.
(image by T. Murray, Bugguide.net)

turf, and significant feeding damage from Asiatic Garden beetles on sunflowers and buddleia (adults beetles are active at night so you often do not see the beetles, but you see the damage). Turf managers should be monitoring closely for white grubs and their damage now. Be aware that you should also be monitoring for signs of natural enemies.

There are a few common parasitoids that attack and kill white grubs, one of which is the Tiphia or Tiphid wasps (Hymenoptera: Tiphidae). Although there are 80 species of Tiphid wasps in North America, two species are primary parasitoids of white grubs found in MD, and will provide some suppression. Each wasp species is specific to the grub species it attacks and the time of year it is active. *Tiphia pygidialis*, a native parasitoid, attacks masked chafer grubs and is active August through September. Whereas *Tiphia vernalis* was introduced into the U.S. in the 1920's from Japan to control Japanese beetle grubs and is active in the spring from May to early June. The tiphid wasp adults are about the size of a large ant, generally 1/2 - 5/8" long. They are narrow-waisted, and black with clear smoky colored wings. The females search for white grubs by flying over the turf, then burrow into the ground, and locate a grub by cueing in on species specific chemical odors left in the grub burrowing trails or present in grub frass. Both Tiphia species primarily attack 3rd instar grubs. Once a suitable grub is found the wasp stings it causing temporary paralysis. The wasp then lays an egg on the external surface of the grub. The location that the egg is laid on the grub body is very specific and differs between the two species. *Tiphia pygidialis* lays its egg on the dorsal (upper) side of masked chafer grubs between the 2nd and 3rd thoracic segments. Whereas *Tiphia vernalis* attaches its egg to the ventral (lower) side of Japanese beetle grubs between the 3rd thoracic and 1st abdominal segments. It is thought that evolution has selected for these locations

because the grub is less able to "groom" the egg off of its body. The newly hatched larvae will then pierce the grub's exoskeleton with its mouthparts and feed on the grub's insides while the wasp itself develops externally (ectoparasitoid) leaving behind the sclerotized portion of the grub. It is a slow and sure death for the grub. Once larvae are fully developed, they will form cocoons, overwinter in the soil, and emerge as adults the next year. Adult Tiphia are known to feed on the floral nectar of several plants such as wild carrot, peonies, forsythia, tulip poplar, and the honey dew deposited on leaves of plants from phloem sucking insects. Remember, Tiphid wasps are beneficial and they won't sting you. Leave them alone and let them do their biological control work on white grubs. Plant floral resources to provide nectar for Tiphid adult wasps on which to feed.

Weed of the Week

By: Kelly Nichols, UME-Montgomery County

Nimblewill (*Muhlenbergia schreberi*) is wiry-looking warm-season perennial grass (Figure 1). It can grow in a variety of conditions, including sun, shade, wet, dry, low fertility, and high fertility. As a warm season grass, it will go dormant during cooler weather, leaving brown patches that stand out in the midst of our cool season grasses. The leaf blades are short and hairless (except for a few hairs near the stem). Nimblewill forms thick patches, and often has a slightly blue or grey color, which can help distinguish it from our desired turf grasses. Nimblewill has a hairy ligule (a small piece of tissue located at the base of the blade near the stem). Creeping bentgrass, which can be confused with nimblewill, has a membranous, or smooth, ligule.



An early instar *Tiphia vernalis* feeding on a Japanese beetle grub. Tiphia lays its egg near the 3rd pair of legs. Photo: A. Legrand; from: <http://www.hort.uconn.edu>



The remains of a white grub after this 5th instar Tiphia larva finished feeding. Photo: A. Legrand; from: <http://www.hort.uconn.edu>

Nimblewill reproduces by seeds (Figure 2) and stolons (Figure 3). The seed head will form a panicle once mature. The roots are shallow, making it easy to pull out. However, remember that any piece of stolon or root left in the ground can re-sprout, adding to the challenge of controlling it. Therefore, while tillage can bury the plants, it can also serve as a means to spread the plant. Bermudagrass is another grass that can be confused with nimblewill; however, nimblewill has a more upright growth habit. Bermudagrass also has a deeper root system and its seed heads resemble those of crabgrass.

Ensure that proper fertility and irrigation practices are followed to help desired plants compete with the nimblewill. Mowing just prior to seed formation (typically late summer through the fall) can reduce the amount of viable seeds present for the following years. There are a few herbicide options as well. Glyphosate can be used as a spot treatment in areas thick with nimblewill. Mesotrione (e.g. Tenacity®) and topramezone (e.g. Pylex®) are two additional herbicides that are labeled for nimblewill control in turf. Mesotrione and topramezone interfere with chlorophyll production, resulting in a bleaching effect. Both herbicides allow for up to three applications, with a few weeks in between applications. A surfactant is also needed. With any control option, re-seed treated areas to avoid bare spots where weeds can just fill in again.



Figure 1. Nimblewill growth habit.
Photo: Chris Evans, University of Illinois, Bugwood.org.

Ammonium nonanoate (e.g. Axxe®) is on the OMRI approved list of organic pesticides; however, there are some restrictions. Preventative, mechanical, physical, or other weed management practices must also be used. When used as an herbicide, ammonium nonanoate is labeled for farmstead maintenance (roadways, ditches, right of ways, building perimeters) and ornamental crops.



Figure 2. Nimblewill seed heads.
Photo: Joseph M. DiTomaso, University of California - Davis, Bugwood.org.



Figure 3. Nimblewill stolons.
Photo: Joseph M. DiTomaso, University of California - Davis, Bugwood.org.

Plant of the Week

By: Ginny Rosenkranz

Quercus alba is our native white oak and often considered one of the most handsome of the oaks. When young, the white oak is pyramidal, but with age it becomes a strong, upright tree with broadly rounded top and wide spreading branches, growing 50-80 feet tall and wide. The largest was the Wye Oak that lived for 460 years. White oaks thrive in full sun and prefer acidic, organically rich moist well drained soils. The deciduous 4-9 inch long leaves are alternately attached to the stout brown stems with 5-9 lobes that are oblong with narrow sinus, sometimes deeply cut toward the midrib. Leaves are pinkish gray that unfold to deep green from spring to early fall when the foliage turns either a wine red or brown. Oaks are monecious, with both male and female flowers on the same tree. In May, the male catkin flowers are made up of a 4-7 lobed calyx that holds 6 stamens, while the female flowers have a 6 lobed calyx that surrounds a 3 celled ovary. Oaks are wind pollinated and the fruit of the white oak is a nut enclosed in a light brown acorn with a cap that sits like a bowl made up of raised bumpy scales, ripening the first year. The bark is light ash gray and broken into vertical blocs deeply fissured with narrow ridges. White oak is cold hardy in USDA zones 3-9 and are slow growers, but over the years they become extremely large and wide trees, needing space to grow and expand. Pest can include lace bug, leaf miner and oak skeletonizer, anthracnose, oak leaf blister and oak wilt.



When young, the white oak is pyramidal, but with age it becomes a strong, upright tree with broadly rounded top and wide spreading branches.

Photos: Ginny Rosenkranz, UME

Degree Days (as of July 19)

Abingdon (C1620)	1842
Annapolis Naval Academy (KNAK)	2014
Baltimore, MD (KBWI)	2076
College Park (KCGS)	1965
Dulles Airport (KIAD)	1989
Ft. Belvoir, VA (KDA)	1896
Frederick (KFDK)	1873
Gaithersburg (KGAI)	1793
Gambrills (F2488, near Bowie)	1934
Greater Cumberland Reg (KCBE)	1643
Perry Hall (C0608)	1768
Martinsburg, WV (KMRB)	1454
Natl Arboretum/Reagan Natl (KDCA)	2311
Salisbury/Ocean City (KSBY)	2014
St. Mary's City (Patuxent NRB KNHK)	2339
Westminster (KDMW)	2072

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 **1454 DD** (Martinsburg, WV) to **2339 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.

- Green June beetle – adult emergence (**1539 DD**)
- Pine needle scale – egg hatch / crawler (2nd gen) (**1561 DD**)
- White prunicola scale – egg hatch / crawler (2nd gen) (**1637 DD**)
- Obscure scale – egg hatch / crawler (**1774 DD**)
- Spotted lanternfly – egg laying (**1825 DD**)
- Orangestriped oakworm – egg hatch / early instar (**1917 DD**)
- Magnolia scale – crawler (**1938 DD**)
- Fall webworm – egg hatch / early instar 2nd gen (**1962 DD**)
- Maskell scale – egg hatch / crawler 2nd gen (**2035 DD**)
- Euonymus scale – egg hatch / crawler 2nd gen (**2235 DD**)
- Mimosa webworm – larva, early instar 2nd gen (**2260 DD**)
- Japanese maple scale – egg hatch / crawler 2nd gen (**2508 DD**)

See the [Pest Predictive Calendar](#) for more information on DD and plant phenological indicators (PPI) to help you better monitor and manage these pests.

IPM Diagnostic Session

By: Stanton Gill

Next week, we will hold a diagnostic IPM session at CMREC on July 26 from 1:00 - 3:00. Karen Rane, David Clement, Andrew Ristvey, Suzanne Klick, Sheena O'Donnell, and I will conduct this session. We encourage you to bring samples and we will walk you through the diagnostic process and help you develop an IPM approach to dealing with plant problems. Go to our [Conferences web page](#) for more information.

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

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

[IPM Scouts' Diagnostic Session](#)

Location: CMREC, Ellicott City, MD

July 27, August 1-3, 2023

Drone School

Locations: CMREC in Ellicott City, MD and Falcon Ridge Farm, Westminster, MD

September 13, 2023

MAA's Day of Safety and Health

Location: Howard County Fairgrounds, West Friendship, MD

September 13, 2023

MNLGA Nursery Field Day

Location: Abby Farms, Waldorf, MD

October 11, 2023

FALCAN Truck and Trailer Seminar

Location: Urbana Fire Hall, Urbana, MD

2024 Advanced Landscape IPM PHC Short Course

This is a recertification short course for arborists, landscapers, IPM consultants, horticulturalists, professional gardeners, and others responsible for urban plant management. The course lectures will be held over four days at the University of Maryland, College Park, MD. In addition, there will be a hands-on lab following lecture (available to a limited number of course attendees). Coordinators: Drs. Paula Shrewsbury and Mike Raupp, Dept. of Entomology, University of Maryland

Lecture dates: Monday, January 8 - Thursday, January 11, 2024 from 8:00 am – 3:00 pm

Lab dates: Monday, January 8 - Thursday, January 11, 2024 (space limited) from 3:30 pm – 5:30 pm

Course and registration information: <https://landscapeipmphc.weebly.com/>

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

Questions from Your Customers? Send them to the [Home and Garden Information Center](#)

We handle questions from **commercial** horticulturists.

The Home and Garden Information Center (HGIC) is set up to answer **homeowner** questions. If your customers have questions, please direct them to HGIC through their website at <https://go.umd.edu/AskExtension>.

Commercial Ornamental IPM Information
extension.umd.edu/ipm

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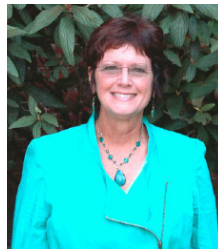
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