

Commercial Horticulture

August 27, 2021

In This Issue...

- [Dog-day cicadas](#)
- [Holly pit scale](#)
- [Weed Survey](#)
- [Beech leaf disease in VA](#)
- [Boxwood breeding](#)
- [Report correction](#)
- [European hornets](#)
- [Bagworms](#)
- [Crapemyrtle bark scale](#)
- [Ambrosia beetles](#)
- [Woolly aphids](#)
- [Late season apple diseases](#)
- [Orange-striped oakworms](#)
- [Armyworms in turf](#)
- [Black knot on cherry](#)
- [Spotted lanternflies](#)
- [Butternut woollyworms](#)

[Beneficial of the Week:](#)

Monarch butterflies - Part 2

[Weed of the Week:](#) Annual bluegrass

[Plant of the Week:](#) Calamint

[Degree Days](#)

[Pest Predictions](#)

[Conferences](#)

[Pest Predictive Calendar](#)

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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Dog-day Cicadas

By: Stanton Gill

You can walk outside in the morning and listen to the dog-day cicadas singing in the trees. We are already getting reports of adult dog-day cicada, *Neotibicen canicularis* active in many landscapes and nurseries. The species part of the binomial name “canicularis” is Latin for “of the dog star”, and the dog star is Sirius. Many adults are being reported flopping around in customers' driveways and on their patios. Many have the white mycelial growth of the entomopathogenic fungus in their gut.



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Dog-day cicada infected with fungus

Fortunately, these cicadas are not nearly as abundant or damaging as the Brood X periodical cicadas we experienced early in the summer. Meanwhile, these dying cicadas will provide hours of entertainment for your pet cat to bat around on the sidewalk.

Holly Pit Scale

By: Stanton Gill

Josh Warner, Antietam Tree Company, brought a holly branch to the IPM Diagnostic Session last week. It had a scale on it that, for years, I only received from areas on the Eastern Shore of Maryland. It is holly pit scale, *Aterolecanium puteanum* Russell, Family Asterolecandidae. The sample that Josh brought into CMREC was on American holly. This scale has been found on American holly, Burford holly, and Japanese holly on plants from the Eastern Shore of Maryland. This is one more scale we need to watch out for on holly. If you find a sample, please send in electronic pictures and/or samples to me at sgill@umd.edu.

Two years ago, Paul Wolfe brought in samples from two customers in Bethesda/Chevy Chase with this same scale present. Josh found this scale on holly in Hagerstown. This is the farthest west in the state that we have received in a sample of this scale species.

The scale makes a swollen pit-like structure on the stem of the plant. The pit is caused by the feeding damage to the plant tissue. Mature 3rd instar females overwinter in a pit. Crawlers emerge over a long period of time during the summer, starting in June, on the Eastern Shore. They are still active in late August. Unlike most scales, this one causes pitting and distortion of woody tissue on branches and the trunk of the tree. Heavy infestations cause dieback of the plant.

Distance and Talus would still work in late August. In November, I would use a 1 - 2% horticulture oil.

Weed Science Society Survey

By: Andrew Ristvey

Weed management in nursery-crop production systems is important and costly. Thousands of dollars are spent annually per acre for herbicides and labor for additional hand-weeding. Oftentimes, these weeds escape efforts to control them. The Weed Science Society of America (WSSA) conducts an annual survey to understand what are the most troublesome weeds in various agricultural production systems and in the natural environment. This year, I was informed by my extension specialist colleague, Dr. Kurt Vollmer, that the WSSA is interested in getting specific information about weed problems in the ornamental plant production industry. This survey is now available to us. By filling out the section under ornamental plant production we can help inform scientists so they can prioritize needs regarding weed management. As Dr. Vollmer explained to me “from an IPM perspective, knowing what these weeds are allows us to put more emphasis on understanding their biology and life cycle and create a more tailored approach to weed control”. By using the link below, you can contribute your knowledge about common and troublesome weeds that you run across annually in your operation. I encourage you to participate!

Here is the link for the survey - <https://www.surveymonkey.com/r/2021WeedSurvey>



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Pit scale on holly: close-up under scope (top) and overall stem (bottom)

First Report of Beech Leaf Disease in Virginia

By: Karen Rane

Beech leaf disease, caused by the invasive foliar nematode *Litylenchus crenatae* subsp. *mccannii*, has been causing decline in mature American and European beeches, and death of young beech saplings, since symptoms were first observed in Ohio in 2012. Since that time, the disease has been found in a number of northern US states as well as Ontario, Canada. Recently, the disease was confirmed in Prince William County, Virginia – the first detection in the state. The characteristic symptoms of this disease are dark “stripes” on the leaves that are bounded by leaf veins – this symptom is best observed by viewing the leaves from below with light passing through the leaf tissue. Leaf distortion and thickening of leaf tissue are also associated with this disease. More information on this disease can be found at the US Forest Service website <http://www.dontmovefirewood.org/wp-content/uploads/2019/02/Beech-Leaf-Disease-Pest-Alert.pdf>.



Jim Chatfield, OSU Extension

Beech leaf disease symptoms

Photo: J. Chatfield, the Ohio State University Extension

Anyone seeing beech leaf disease symptoms should report it to their state department of forestry or university plant diagnostic laboratory. In Virginia, contact the Virginia

Department of Forestry through their website: <https://dof.virginia.gov/beech-leaf-disease-confirmed-in-virginia/>. The Virginia Tech Plant Disease Clinic has a fact sheet linked to their website (<https://spes.vt.edu/affiliated/plant-disease-clinic.html>). The Maryland Invasive Species Council has more information on this disease in their Invader of the Month section (<https://mdinvasives.org/iotm/feb-2020/>). In Maryland, contact MDA Forest Pest Management at 410-841-5922 (https://mda.maryland.gov/plants-pests/pages/forest_pest_management.aspx), or Karen Rane at the UMD Plant Diagnostic Laboratory (rane@umd.edu, 301-405-1611).

Boxwood Breeding Progress

By: Stanton Gill

HRI held a boxwood session via Zoom on Wednesday this week. A Belgian researcher covered information about 4 new boxwood cultivars that look very promising for resistance to boxwood blight. One of the questions on boxwoods was whether anyone is working on resistance to box tree moth and boxwood leafminer. The Belgian researcher mentioned they have been looking at certain cultivars of boxwood that show better tolerance to these two major insect pests.

Correction: August 23, 2021 IPM Report

Gaye Williams, MDA, let us know that the picture in last week's report listed as a potter's wasp nest is a flannel moth cocoon. For more photos, see the bugguide link: <https://bugguide.net/node/view/75969/bgimage>

European Hornets - Crazy Activity

By: Stanton Gill

European hornets are being very aggressive in late August of 2021. We are getting several emails about landscapers reporting their customers' pears, apples, and grapes are being chewed into by European hornets. People that have figs ripening are also seeing European hornets chew into ripe fig fruit.

We usually see European hornets in late August, but in 2021 they appear to very active and somewhat aggressive. We have reports of several people being stung when trying to harvest their ripe fruit.

In a report two weeks ago, I showed pictures of insect netting with a fine mesh that allows 90% of sunlight to penetrate. This provides a good shield against the aggressive activity of European hornets.

As we move into the end of August and early September, you can expect European hornets to continue stripping bark off lilacs and birch trees. The bark stripping girdles the branches of the trees. The hornets will carry off strings of bark to use to build their nests.



Swarming European hornets, maybe a dozen or so, were active on lilacs at a client's property in Monkton on August 27

Photo: Mike McWilliams, Maxalea, Inc.

Bagworms

You might see bagworms moving along in the landscape – most likely they are males looking for a place to pupate. This one eventually found a spot on a bronze fennel plant.



Bagworm moving along a bronze fennel stem looking for a place to pupate - it eventually found a spot

Crapemyrtle Bark Scale

Monitor crape myrtles closely for crapemyrtle bark scale. It has become a significant problem on plants throughout the area in the last few years. Martin Scanlon found an infestation on plants in Washington D.C. this week.



Crapemyrtle bark scale is becoming an increasing problem in the region

Photo: Martin Scanlon

Ambrosia Beetles

Continue to monitor for activity from ambrosia beetles this week. Chris Ward, John B. Ward and Co., found a lot of frass tubes on the trunk of a weeping cherry that was being heavily attacked by ambrosia beetles in Villanova PA. He noted that he has never seen such long frass tubes.



Ambrosia beetles are still active at this time

Photo: Chris Ward, John B. Ward and Co.

Woolly Aphids

At this time of year, we are receiving reports of woolly aphids showing up on hawthorns and crabapples. Natural predators like lacewings, lady beetles, hover flies, parasitic wasps, and birds help keep these populations low.



Look for woolly aphids on a variety of woody plants at this time of year, including on pyracantha like in this photo

Late Season Apple Disease

By: Kari Peters, Penn State Extension

The rain events combined with the warm weather provide an excellent breeding ground for fungi that cause fruit rots during pre-harvest and postharvest. Growers must remain vigilant and keep fruit covered with fungicides during the harvest period. This is especially important for later harvested varieties and varieties intended to be held in long-term storage.

Growers need to be thinking about the durability of their final fungicide sprays. Controlling for preharvest rots is critical. However, fungal spores are stealthy and can hitch a ride on apples without causing symptoms, and it is during storage that those fungi will wreak havoc and cause fruit to decay. Another issue facing growers is the amount of rain over the last week causing shoulder cracking. In some locations, shoulder cracking has occurred in some varieties of apple fruit. Such wounds can be an easy opening for fungal spores to cause fruit rots.

If you have customers with apple tree plantings, see the information from Kari Peter on [southern blight and its impact on apple trees](#), especially young trees.

Orange-striped Oakworms

Orange-striped oakworm caterpillars are still active, but many are now looking for places to pupate as we move through late summer. One of the reports we received is that these caterpillars were falling into a swimming pool.

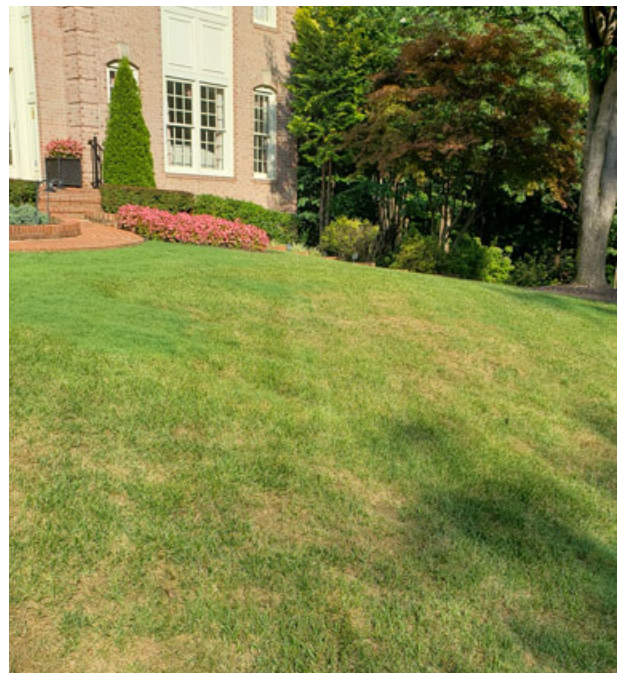


Look for orange-striped oakworm caterpillars on sidewalks and driveways as they start looking for places to pupate

Armyworms in Turf

We are getting multiple reports of armyworms damaging turf this week. One person reported that the damage was in turf that was seeded this summer. It is not recommended to seed turf at this time of year because it increases the chance for Pythium and Rhizoctonia infection and insect problems. Ron Miller, Superlawns, found damage on August 24 in Fairfax Station, VA.

For more information, go to the NC State fact sheet on [armyworms in turf](#).



Newly installed/seeded turf is more susceptible to damage from armyworms
Photo: Ron Miller, Superlawns

Black Knot on Cherry

Elaine Menegon, Good's Tree and Lawn Care, reported black knot disease on purple plum trees in Hershey, PA. The client decided to remove them. If not too extensive of an infection, pruning is the best option for management.



Black knot on cherry is commonly found on cherries
Photo: Elaine Menegon, Good's Tree and Lawn Care

Spotted Lanternflies

Greg Kenel, Creative Landscapes by Gregory, found spotted lanternflies on grape vines in Lancaster, PA.

If you find spotted lanternflies in Maryland, please report your information to MDA at DontBug.MD@maryland.gov.



An adult spotted lanternfly found in Lancaster, PA
Photo: Greg Kenel, Creative Landscapes by Gregory

Butternut Woollyworm

Bill Stocker found butternut woollyworm on black walnut in Howard County on August 27. Bill noted that he found the sawfly larvae on the undersides of the leaflets. Usually, control is not necessary. There is only one generation a year so this sawfly is finishing up its feeding for the season. It will overwinter in the soil as a prepupa.



Butternut woollyworm sawfly larvae produce this stringy waxy material
Photo: Bill Stocker

Beneficial of the Week

By: Paula Shrewsbury

How are Monarch populations doing?

Last week, I discussed aspects of monarch life history and migration. This week, I will focus on the status of eastern and western monarch populations and threats to their survival. Since 1994 when overwintering populations of monarchs started to be tracked, their populations have steadily declined and have now reached devastatingly low numbers. The eastern monarch population accounts for 99% of North American monarchs. Each winter they make their way to the oyamel fir forests on mountaintops in Mexico. Scientists estimate the size of overwintering monarch populations by determining the area of trees that have turned orange by the butterflies clustering (roosting) on the trees. Overall, eastern monarch overwintering populations have declined by 80% and the population has been dangerously low and at risk of extinction since 2008 (see eastern monarch map). The western monarch population overwinter on the central coast of California. A 2021 report from the Center for Biological Diversity reports that western monarch populations have plunged by 99%, and that less than 2,000 butterflies were counted in winter 2020 (see western monarch map). The Xerces Organization reports the western monarch migration is in crisis.



In 2014, a visit to Pacific Grove CA presented thousands of Western monarchs roosting on the branches of Monterey pine. In 2020-21, there are now less than 2,000 butterflies total. Photo: P.M. Shrewsbury, UMD

Scientists studying monarch butterflies implicate several factors that come together to threaten populations of monarchs. Illegal logging of the forests in Mexico has reduced optimal overwintering habitat for monarchs. Weather events associated with climate change may also threaten monarchs. In 2002, unusual weather in the mountains of Mexico killed an estimated 75% of monarchs that were overwintering; in 2015-2016, a winter storm killed more than 7%. These weather events killed tens of millions of overwintering monarchs.

Within the U.S., eastern monarchs have lost an estimated 165 million acres of breeding habitat along their migration route northward. Although monarch butterflies feed on nectar from a diversity of flowering plants, monarch caterpillars only eat milkweed. Scientists believe that critical milkweed resources used by caterpillars have been dramatically reduced due to the use of herbicides and genetically modified crops that tolerate direct spraying of herbicides. Other threats to their populations include habitat fragmentation and destruction, urban development, and pesticides.

Other climate change related phenomena may also contribute to the demise of monarchs. Research suggests that increased levels of atmospheric carbon dioxide may actually change the chemical make up of milkweeds, altering plant chemicals that help monarch caterpillars fight off disease-causing microbes. Studies also suggest that planting non-native tropical milkweed, *Aesclepias curassavica*, in coastal areas of California and parts of the southern U.S., where it can grow year-round, may result in monarchs staying in these areas off-setting their age-old migration patterns. These year-round tropical milkweed patches promote greater transmission of the protozoan *Ophryocystis elektroscirrha* (OE) which is a debilitating disease of monarchs. Another study

suggests that when tropical milkweed grows at high temperatures, its chemistry changes and it becomes toxic to monarch caterpillars. There is also concern that as the earth warms and growing seasons get longer, monarchs may expand their range flying further northward in search of milkweeds at optimal growth stages. This longer journey back to their overwintering sites in Mexico may come with increased the risk of starvation or predation.

The U.S. Fish and Wildlife Service estimates an 80% probability that the eastern monarch population will collapse within 50 years; a 96-100% probability for collapse of the Western monarch population. Even given the dramatic decline in monarch populations, in 2020 an attempt to put monarchs on the Endangered Species Act list failed. The Center for Biological Diversity and the Center for Fish and Wildlife Service have recently petitioned again to have monarchs listed under the Endangered Species Act, which will help efforts to save the monarchs and hopefully prevent their extinction.

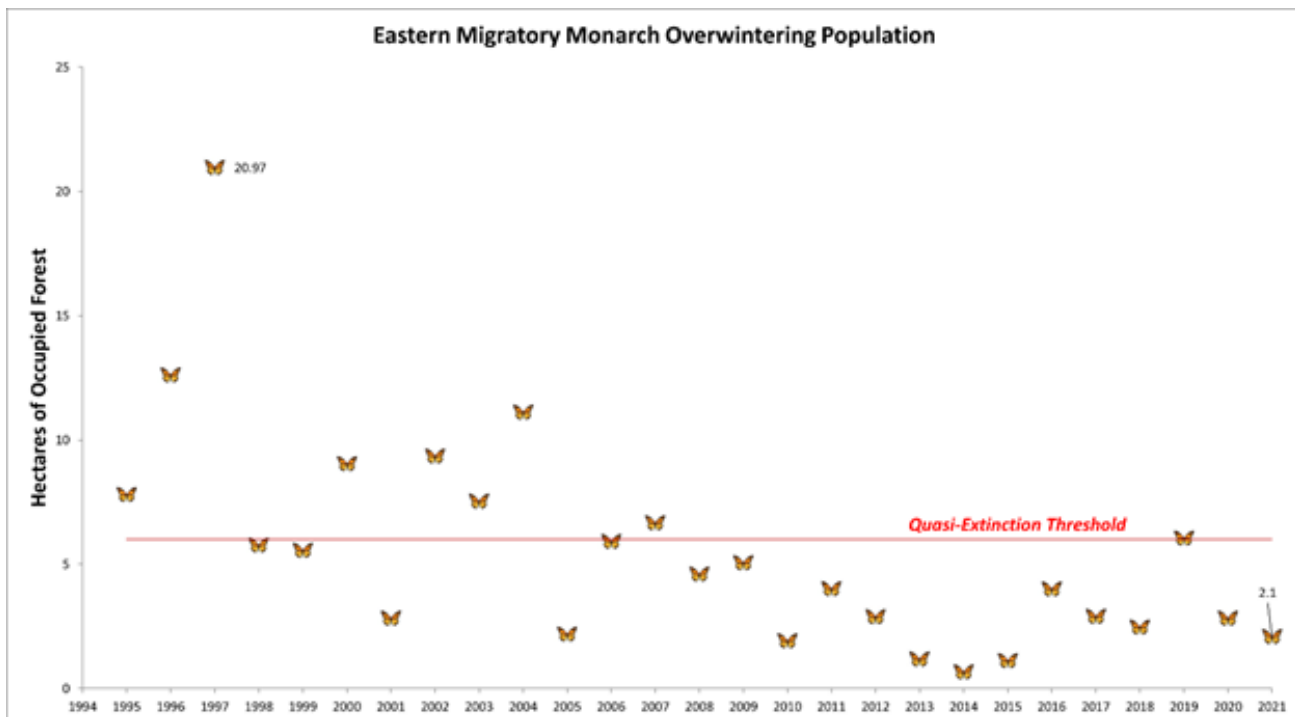
It seems that the eastern and western monarch populations are in grave danger of collapsing. The loss of these iconic and amazing butterflies would be an ecological tragedy. Next week, I will discuss measures underway to conserve and save the monarchs.

Resources used:

<https://biologicaldiversity.org/w/news/press-releases/eastern-monarch-butterfly-population-falls-again-2021-02-25/>

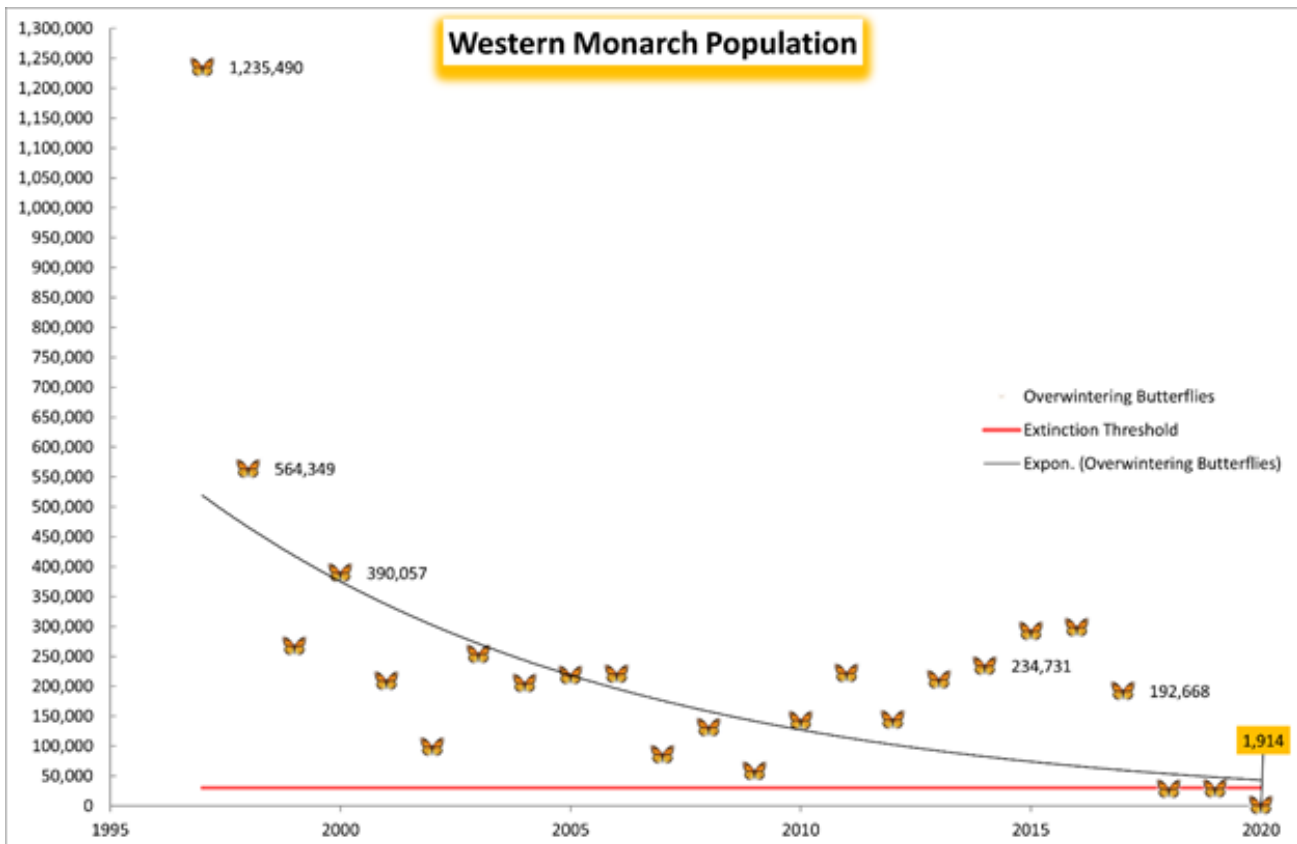
<https://biologicaldiversity.org/w/news/press-releases/congress-introduces-bill-to-save-western-monarch-butterflies-2021-03-17/>

https://monarchjointventure.org/images/uploads/documents/Oe_fact_sheet.pdf



Devastating declines in the overwintering monarch population in Mexico (1994-2021) predict a sad future for Eastern monarchs unless this trend can be reversed.

Graph from Center for Biological Diversity, Feb. 2021



During the winter of 2020-2021, Western monarch populations were the lowest ever recorded, less than 2,000, below the extinction threshold.

Graph from Center for Biological Diversity, March 2021

Weed of the Week

By: Chuck Schuster

Annual bluegrass, *Poa annua*, is a common weed in the Mid-Atlantic States and the United States in general. This weed is mostly noted in the spring and appears as a bluegrass but with a slightly different color. Annual bluegrass is an **annual**, usually classified as a winter annual, though the location of the site can change this in some regions. With our mild winters, this weed in many cases germinates in the early fall. As can be noted in photo 3, it stands out in a lawn. Its different color and texture make it noticeable. Most winter annuals will die soon after seed production in the spring, but on warmer protected sites it may continue to grow much like a perennial. (photo 1) Annual bluegrass is noticed as it grows in an erect or small clump. (Photo 2) It does tolerate close mowing heights, but can reach heights of nearly one foot in landscapes and unmanaged turf. Its ability to adapt to close mowing takes away one method of cultural control. One distinctive characteristic is the “boat-shaped” tip that the leaf blades form. The blades of this grass will present without hairs and are narrow, but long. Blade dimensions can reach four inches in length and one eighth inch in width. Annual bluegrass prefers a moist to wet soil, and while we have not had an overabundance of moisture this spring, we had a mild winter and some dampness last fall.



Photo 1 and Photo 2: Chuck Schuster, UME

No single method of control works on annual bluegrass. Annual bluegrass control starts with moisture control as one of the cultural methods used to prevent this weed. Preventing areas of the turf from being overly wet is the objective, moving downspout splash blocks to prevent puddling is useful, but sometimes difficult. Using irrigation water carefully can help manage this grass, especially in shady areas. Compaction is another condition that creates the ideal site for annual bluegrass. *It is recommended not to aerate during the germination period for annual bluegrass (fall germinating).* While collecting clippings is not usually recommended, if you have an area with a substantial stand of annual bluegrass, consider collecting the clippings during seed production periods to reduce the seed bank for the following fall.



Photo 3: Mark Schlossberg, ProLawn Plus, Inc.

Prevention is always the best method of control. Mulches in landscape settings using a weed barrier beneath, and in turf setting, prevention of seed movement to a site on mowers by cleaning is very useful. Early detection and elimination is the next line of defense. Rogue out when possible. Chemical control in landscape settings includes prodiamine (Factor, Barricade), oxadiazon (Ronstar), benefin/oryzalin (XL), benefin/trifluralin (Team), and Surflan as pre-emergent products.

In turf, monitor soil temperatures and when the daytime high **drops to 75° F** for four consecutive days, consider applying a pre-emergent product. It is early to be considering this method with the current temperatures in the 90's, but planning is important. Pre-emergent herbicides can lead to some resistance issues in the same manner as post emergent products. When considering your product of choice, it should be noted to not use the same type of herbicide each season. There are two different mode of action groups of pre-emergent herbicides for residential lawns; group 1 (these are called dinitroaniline herbicides) and the second group of products will be from the group that is a cellulose biosynthesis inhibitor class and will include products that contain indaziflam. It might be suggested that your 2 application program include products from group 1 in one application and group 2 in the second application.

Non selective post emergent control can be easily obtained using glufosinate (Finale) and glyphosate products. Remember that pre-emergent failures are often the fault of improper application timing (late). This weed being a winter annual should have pre-emergent products applied in the August and September timeframe.

Plant of the Week

By: Ginny Rosenkranz

Calamintha nepeta subsp. *nepeta* or calamint has been honored as the 2021 Perennial Plant of the Year by the Perennial Plant Association. Although it is a small plant with small flowers, it deserves this honor. This lovely little plant grows about 1 – 1 ½ feet tall and spreads about 2 feet wide with wiry upright stems densely covered in tiny, fragrant, gray green oval leaves. From June into October, the plant is covered with tiny white flowers that attract many species of pollinators from butterflies to bees. The flowers are tiny tubes with a top and bottom lip. *Calamintha nepeta* subsp. *nepeta* loves to grow in full sun and well drained soils. Once established, it can tolerate droughts as well. Cold hardy from USDA zone 5-7, the plants prefer to grow in slightly alkaline to slightly acidic soils. The plants can spread by underground rhizomes, root at the nodes as they touch the ground, or self-seed to create a low fragrant groundcover. If the self-seeding is not desired, the plants can be cut back after flowering before the seeds are formed. The foliage has a mint fragrance without the aggressive spreading habits



of mint, and can be planted as a low groundcover, as an edging along paths or allowed to spill over in containers or retaining wall. Pollinators love this plant, but deer leave it alone due to the fragrant oils in the foliage. No serious pests were listed, but it would be smart to keep an eye out for powdery mildew.



Calamintha nepeta subsp. nepeta
blooms from June into October
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 **2670 DD** (Martinsburg WV) to **3427 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.

- Fall webworm – egg hatch / active caterpillar tents (2nd gen) (2793 DD)
- Fern scale – egg hatch / crawlers (2nd gen) (2813 DD)
- White prunicola scale – egg hatch / crawlers (3rd gen) (3270 DD)
- Banded ash clearwing borer – adult emergence (3357 DD)
- Tuliptree scale – egg hatch / crawlers (3519 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 August 25)

Aberdeen (KAPG)	2708
Annapolis Naval Academy (KNAK)	3086
Baltimore, MD (KBWI)	3194
Bowie, MD	3221
College Park (KCGS)	2929
Dulles Airport (KIAD)	3017
Ft. Belvoir, VA (KDA)	3046
Frederick (KFDK)	2913
Gaithersburg (KGAI)	2888
Greater Cumberland Reg (KCBE)	2692
Martinsburg, WV (KMRB)	2670
Natl Arboretum/Reagan Natl (KDCA)	3427
Salisbury/Ocean City (KSBY)	3107
St. Mary’s City (Patuxent NRB KNHK)	3294
Westminster (KDMW)	3249

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

Diagnostic Sessions

We will be holding one more plant diagnostic session for nutrient problems, diseases, and insects on **September 22nd** at the Central Maryland Research and Education Center (11975 Homewood Road, Ellicott City, MD 21042) from 12:30 – 3:30 p.m. We encourage participants to bring samples of nutrient disorders and insect and disease problems for diagnosis by David Clement, Karen Rane, Stanton Gill, and Andrew Ristvey, University of Maryland Extension.

Urban Tree Summit

Dates: September 8, 9, 16, and 23, 2021

Montgomery County Parks and Casey Trees, Washington D.C., present the tenth annual conference — Urban Tree Summit. Presentations will focus on the health and welfare of trees in our increasingly developed landscapes. Learn from some of the country’s leading experts about innovative efforts to plant, protect, and preserve trees in urban and suburban settings.

Registration Link: <https://www.eventbrite.com/e/urban-tree-summit-tickets-155804456323>

Cut Flower Tour

September 14, 2021

Locations: Castlebridge Cut Flower Farm, Ellicott City, and Rolling Ridge Horse and Cut Flower Farm, Laytonsville, MD

[For more information and to register](#)

MNLGA Nursery Field Day

September 16, 2021

Location: Fieldstone Nursery, Parkton, MD

Go to the MNLGA website for [program and registration information](#)

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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.

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