

Commercial Horticulture

August 7, 2020

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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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Stanton Gill, Extension Specialist, IPM and Entomology for Nursery, Greenhouse and Managed Landscapes, sgill@umd.edu. 410-868-9400 (cell)

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Disease Information: Karen Rane (Plant Pathologist) and David Clement (Extension Specialist)

Weed of the Week: Chuck Schuster (Retired Extension Educator)

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

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

Ambrosia Beetle Activity

By: Stanton Gill

Todd Armstrong, The Davey Tree Experts Company, sent in this picture of frass tubes coming out of a chestnut oak this week. It looks like we do have second-generation activity going on. Elaine Menegon, Good's Tree and Lawn Care, found active ambrosia beetles on a Japanese maple in Harrisburg on August 7. If others see frass tubes, please send pictures with the location in the state. Send to Sgill@umd.edu.



Second generation activity of ambrosia beetles - frass tubes are coming out of a dead chestnut oak
Photo: Todd Armstrong, The Davey Tree Experts Company

It's Complicated – *Septobasidium* and Scale Insects

By: Karen Rane

I've received a few inquiries recently about circular patches of brown fungal growth appearing on tree branches. These fungi are in the genus *Septobasidium*, a group of fungi that are related to the rust disease pathogens. Unlike the rusts, however, *Septobasidium* species do not directly infect plants – they are associated with armored scales. Some species are typical scale parasites, infecting individual scale insects, and eventually killing the scale without forming large fungal colonies. Although there are few research reports on the mat-forming *Septobasidium* species, it appears that the relationship between scale and fungus could be more intricate. Juvenile scales (crawlers) can become infected by fungal spores as they move through the mat. The infected scales are not immediately killed, but they become sterile. The fungus then “taps” the infected scale for nutrients that the insect is obtaining from the tree. Not all of the scales under the fungal mat are parasitized, however – some adults remain alive and healthy within small “chambers” of mycelium. It's thought that the chambers may serve as protection for the scale insect, allowing these scales to reproduce. Some of the resulting crawlers do not become infected – these “escapees” keep the insect population going, which is very important for the survival of the fungus.

For arborists, *Septobasidium* fungal mats signal a scale infestation on the affected tree – similar to the presence of sooty mold. Management should target the scale population, which is the primary problem for the tree.



Circular patches of fungal growth of a *Septobasidium* species associated with Japanese maple scales on branches of a maple tree.

Photos: Pete Benz, Plant Health Solutions

Crape Myrtles Being Hit Hard

By: Stanton Gill

Mark Schlossberg, Prolawn Plus, sent in some great pictures of a crape myrtle on which the foliage was a very fashionable basic black. In a phone conversation, he said the black foliage just about completely covered the plant. We get a lot of pictures of damage, but the foliage was covered with a thick sooty mold growing on the honeydew being excreted by crape myrtle aphids, *Tinocallis kahawaluokalani* (Kirkaldy). Mark thought the white bodies were scale, but they are the cast skins of this aphid. They cast off their old exoskeleton as they grow and molt repeatedly. With the hot humid weather and light rains, it is making conditions perfect for both

the crapemyrtle aphid and the sooty mold that grows on this sugar rich covering on the foliage. At this point, there is not much to do for the sooty mold. The aphid is native to southeast Asia. The good news is that in the U.S. crapemyrtle aphids are monophagous, feeding exclusively on crape myrtle and do not attack or damage other plant species.

What comes in the fall? Females give birth to a generation of aphids that produce both male and female aphids (sexuparae). Female offspring of sexuparae (oviparae) mate with males and produce eggs. Oviparae produce four to six eggs and place the eggs in crevices located on the bark of crape myrtle stems. Overwintering eggs will hatch the following spring in response to temperature and photoperiod stimuli. Late in the fall, it would not be a bad idea to apply a 2% horticultural oil to trunk and branches. At this point in the summer, we have had multiple generations, but if your plant is still clean, then watch for crapemyrtle aphid. At the first sign of them, I would suggest applying either Altus or Endeavor to deal with this pest.



I would be interested in feedback from the field if others are seeing a lot of damage on crape myrtle and signs of aphids this season at Sgill@umd.edu. Let me know the location and amount of honeydew you are seeing.



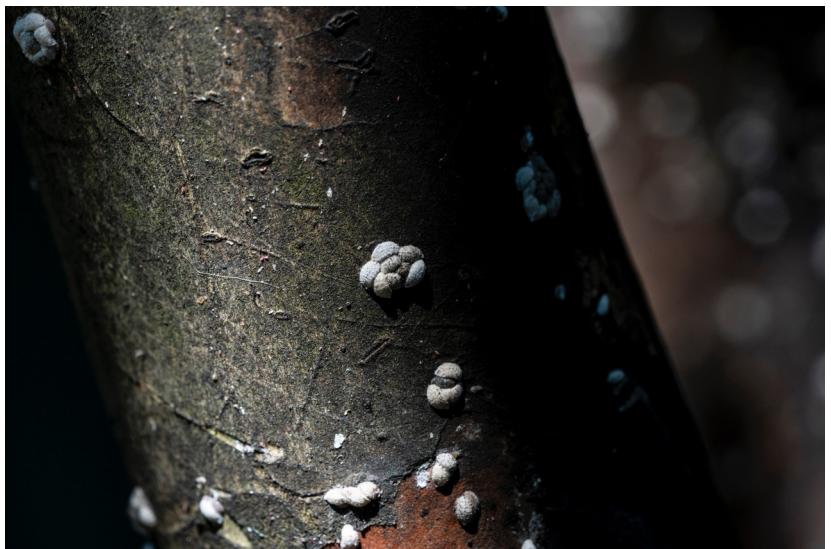
Photosynthesis is reduced when high amounts of sooty mold coat the foliage
Photos: Mark Schlossberg, ProLawn Plus, Inc.

Strike Two for the Crape Myrtles

By: Stanton Gill

Paul Wolfe, Integrated Plant Care, forwarded along photos of crapemyrtle bark scale on crape myrtles from Northwest Washington, D.C.. The eriococcid scale (felt scale) produces copious amounts of honeydew on which sooty mold grows. Paul said the trunks were coated with the felted scale and the foliage was completely black with sooty mold growing on the honeydew. Paul forwarded photos of the infested plant. It's a toss-up with Mark Schlossberg on who wins this week for the most sooty mold coated crape myrtle plants.

We first reported this scale on the Eastern Shore in the early part of 2020. Karen Rane and I then found a population in Howard County. Paul is now finding it in Northwestern Washington D.C. Bartlett Tree of the Gaithersburg branch also found a crape myrtle with the felted scale in Washington, D.C. last week. Check your customers' crape myrtles and let me know at sgill@umd.edu if you find it in other parts of the region.



Crape myrtle heavily infested with crapemyrtle bark scale; bottom left photo shows a wasp feeding on the honeydew produced by the scale
Photos: Bruce Bunting

Heavy Rains and Flooding in Vegetables

By: Jerry Brust, UME

With the heavy rains we have had over the last few days some vegetable gardens may have standing water in them, which can lead to several different problems. If possible, try to drain any excess water from the garden by digging ditches or furrows. Try not to walk closely to plants, as this can cause soil compaction around plant roots, which will limit root growth and become more of a problem in the months to come. A light fertilization would be good to replace nutrients that have been leached from the soil and to encourage regrowth. But don't overdo it as it is better to fertilize lightly several times than to push plants that are recovering from saturated soil. Foliar feeding may be a good solution to add just enough nutrients back to the plant. Weeds may become an issue in the next week or so as they often pop up after heavy rains, especially grasses.

Foliar and soil diseases will be important to watch for and manage. Because the ground is saturated with water right now the already humid conditions we normally have at this time of year will be even worse in the coming week or so especially if we get some more showers. Humid and hot wet conditions are a perfect breeding ground for fungal and bacterial pathogens. Fungicide applications may be needed for fungal diseases such as *Alternaria* (early blight) *Septoria* blight, *Anthracnose*, Powdery mildew and add copper fungicides for bacterial spot and speck of tomato and pepper. There may also be soil diseases that begin to take their toll, such as *Phytophthora*, *Pythium*, *Rhizoctonia* and *Fusarium*. Some vegetable cultivars have built in resistance to *Fusarium* wilt, but not to most of the other soil diseases and I am afraid not much can be done about possible infection except to try and drain the soil as best you can.

And lastly, just in case flooding was severe, if the area where vegetables were grown had a heavy flood from other yards or the street or from unknown areas any garden produce that was touched by these flood waters (above or below ground) should be discarded. It's recommended to wait 90-120 days before replanting anything in an area with flood waters that had possible sewage contamination.



Fig. 1 Flooded tomato plot
Photo: Jerry Brust, UME

Powdery Mildew

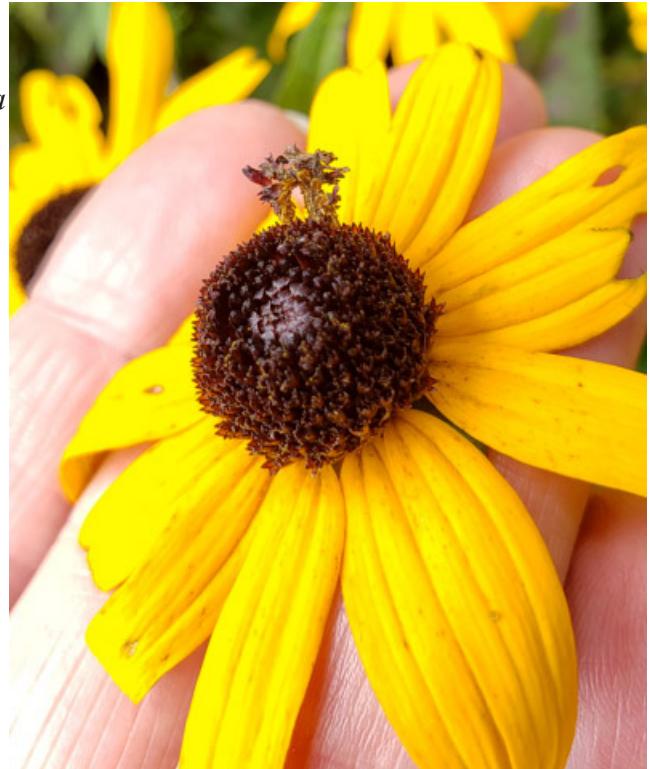
Marie Rojas, IPM Scout, is reporting that she is seeing powdery mildew infection on flowering dogwoods and fullmoon apples.



Powdery mildew infections are occurring on landscape plants, such as on this dogwood
Photo: Marie Rojas, IPM Scout

Camouflaged Looper

Marie Rojas, IPM Scout, noted that the coolest insect that she observed this week was in her own garden on black-eyed susans. She found a camouflaged looper inchworm, *Synchlora aerata*. These loopers coat themselves in plant material as they feed so they won't be easily noticed by predators.



Camouflaged loopers cover themselves with bits of the plant so they can blend in
Photo: Marie Rojas, IPM Scout

Saddleback Caterpillars

Todd Armstrong, The Davey Tree Experts Company, found a cluster of saddleback caterpillars on a beech tree leaf in Owings Mills. This caterpillar is a generalist feeder. It has hairs that release a toxin that causes a painful sting. Usually, they are not found in high enough numbers to warrant control measures. Be sure to scout plants closely to avoid coming into contact with them. Even the cocoon can be covered with these stinging hairs. Saddleback caterpillars will be active now through the fall.



Saddleback caterpillars are one of the species in this area that have 'stinging' hairs
Photo: Todd Armstrong, The Davey Tree Experts Company

Cecropia Moth Caterpillar

Liz Harden, Empire Landscape, LLC, found this cecropia moth caterpillar feeding on *Sambucus* this week. It is a generalist feeder and one of the largest caterpillars we see in the area. There is one generation per year.



This cecropia moth caterpillar was found feeding on *Sambucus*

Photo: Liz Harden, Empire Landscape, LLC

Elm Leaf Beetles

Heather Zindash, IPM Scout, found elm leaf beetles feeding on elms in D.C. this week. Heather noted that along with the feeding damage there were empty egg cases and larvae present. Look for this beetle on most elm species and zelkova. This native beetle has two generations per year in Maryland. Adults produce shot hole damage on leaves. The larvae etch leaf surfaces between the fine veins.



Elm leaf beetles were active on elms in D.C. this week

Photos: Heather Zindash, IPM Scout

Gloomy Scale

Heather Zindash, IPM Scout, found gloomy scale covering the trunk of a few red maples this week. She noted that several trees in the scouted area were infested.

NC State has a [fact sheet on gloomy scale](#) with more information.



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Crawlers of gloomy scale were active in early July

Bagworms – Cool Silk Activity

By: Stanton Gill

David Leonard, a professional arborist, sent in interesting pictures of a bagworm extending itself out of its bag. The bagworm larva has a spinneret in its lower lip from which it produces silk. When a bagworm moves about on a plant, they put out silk threads on the plant to prevent it from falling off. It is kind of like a climber with safety ropes played out. The caterpillar larva uses crotchets in its prolegs (attached to the abdomen) to hold onto the plant while in its leaf-enhanced bag. David noted that this bagworm had a ball of silk grasped in its true legs. It appeared to be playing out the ball of silk threads as it lowered, then reversed the winding to raise its body up. David – it is an interesting catch and thanks for sharing these photos.



A bagworm larva produces silk to move around
Photos: David Leonard

Sedums – Bugs Hitting in August

By: Stanton Gill

Bryan Lilly, Natural Elements LLC, sent in this photo of sedum with a lot of foliar damage. The plant was loaded with twobanded Japanese weevils. The twobanded Japanese weevil, *Pseudocneorhinus bifasciatus* (Roelofs), was first collected in the United States in 1914 near Philadelphia. It was most likely introduced with infested nursery stock from Japan. The weevil is native to China, Japan, Korea, Mongolia, and eastern Siberia.

Since then, we have found it popping up in nurseries and cut flower operations. Once it is established, it tends to stay put in the operation since the weevil has non-functioning elytra (hardened wings). The elytra are fused and due to lack of flight wings, the adult weevils cannot fly. The weevils feed during the day but are less apparent because of their subdued brown coloration and markings. It has a host range of over 100 plant species, but we tend to find it damaging sedums and astible the most frequently. Bryan happened to catch them as they clustered on the sedum plant.



A group of twobanded Japanese weevils is causing significant damage to this sedum plant

Photo: Bryan Lilly, Natural Elements LLC

A variable number of small, cream-colored eggs are laid within egg pods formed on leaf margins on most plants, but it is tougher to do on sedum. Adult females form egg pods by folding the leaf margin and pressing the edges with their legs. Fully-grown larvae are white, legless, and 7.5 to 8.5 mm. Look for the larvae in the root zone of container grown plants in September through the fall and winter. Twobanded Japanese weevils reproduce parthenogenetically (just females and they reproduce without males), and males are generally not encountered in the United States although they are known to occur in China.

The weevil overwinters as adult, egg or larva, and has one generation per year. With the approach of the warm weather in spring, the overwintering population of adult weevils becomes active and resumes feeding. The adult female weevil lays eggs from the middle of May through October. Scout for the eggs on the foliage as we move into the end of summer.

Both adults and larvae cause plant damage. Adults cause defoliation, whereas the larvae live in the soil and destroy the roots. Adults chew leaf tissue at the margins and create notches. Initial damage by the overwintering population of adults is quickly masked by rapidly growing spring flushes, but severe defoliation can occur when new adults emerge.

Examine container-grown plants brought into your nursery, cut flower operation, or into the landscape. Do not introduce this pest or it will be with you for a long time. If infestations are not extensive, you can collect and destroy twobanded Japanese weevils. They feed during the day, and when disturbed, quickly drop to the ground and remain still or feign death. This behavior makes it convenient to collect them by tapping or shaking the plant. One option is to lay out a white sheet of cloth or paper under the shrub to catch them as they drop. Chemical control options include Acephate or Dinotefuran

Beneficial of the Week

By: Paula Shrewsbury

Stink bug hunters are a welcome sight.

Last week, Stanton mentioned an interesting wasp that Christa Carignan (HGIC UME) noted feeding on the flowers of her mountain mint (*Pycnanthemum* spp.). There are eight species of mountain mint in Maryland. Mountain mint is a native plant that attracts a diversity of beneficial insects such as butterflies, skippers, beetles, bees, wasps, and more. The wasp feeding on the nectar from Christa's mountain mint was *Bicyrtes quadrifasciatus* (see image). Christa noted that the wasp appeared similar to a cicada killer wasp, but smaller (only about 1"), and had different coloring. *Bicyrtes quadrifasciatus* belongs to the wasp family Crabronidae, which as a group are referred to as **sand wasps**. It has been found throughout North America east of the Rockies. It turns out this particular native species of sand wasp specializes in attacking nymphs of stink bugs, including the introduced brown marmorated stink bug with which most of you are familiar, and leaf-footed bugs. Therefore, *B. quadrifasciatus* is commonly called the **stink bug hunter**. The stink bug hunter has a pretty interesting life history. They are solitary wasps (no communal care or nest). However, it is common to see males flying around female nests to "defend" their territory. A female builds her nest by excavating underground tunnels that lead to additional chambers made for her young and the prey she brings them. The females only prey on nymphs (immatures) of mainly stink bugs and leaf-footed bugs. She will grab a nymph, paralyze it with her stinger, then clasps it with her raptorial legs and flies back to her nest where she drags it down the tunnel and deposits it in one of the chambers ([click here](#) to see a great YouTube of this behavior with a stink bug). She deposits an egg on the first bug nymph she brings into the chamber. Then the female goes out to capture more prey that she uses to stock the chamber so her young are well fed. The wasp larvae feed on the prey, whereas wasp adults feed on the nectar of flowers. Be sure to plant flowers that provide the nectar and pollen resources that are needed by wasps, such as the stink bug hunter, and a diversity of other natural enemies. Many local perennial nurseries and greenhouses carry a selection of mountain mint species due to their popularity in addition to a diversity of other plants that attract and support pollinators and natural enemies.



Note the long raptorial legs of the stink bug hunter wasp, *Bicyrtes quadrifasciatus*, used for clasping onto its paralyzed prey when flying it back to her underground nest.

Photo: Christa Carignan, HGIC, UMD



A stink bug hunter wasp, *Bicyrtes quadrifasciatus*, dragging its paralyzed stink bug prey down a hole to its nest.

Photo: Lynn Strauss, Maryland Biodiversity Project

Some of you may have noted that the life cycle of the stink bug hunter is similar to the cicada killer wasp which preys on the annual / or dog day cicadas. This is not surprising since they both belong to the same family - Crabronidae (sand wasps).

Weed of the Week

By: Chuck Schuster

Welcome to another week of what else can 2020 bring. Warm (hot and humid) temperatures, and this week brought some much needed moisture thanks to a storm. Rainfall amounts varied greatly across the region, with some amounts exceeding 7 inches. The warmer soil temperatures and overall very dry soil conditions have promoted a great deal of weed growth.

Even with the overall dry conditions, many landscapes and turf settings are seeing a surge in the growth of Japanese stiltgrass. This very invasive, annual weed, thrives in moist, shaded sites, but seems to be limited by very little. It is a very early germinating spring annual, germinating before annual crabgrass. It was a very mild winter this year, so it most likely got its start very early, which explains why some pre-emergent products seem not to have been effective. This weed will even survive mild frosts, explaining why it most likely made it through the late May frosts some areas received.



Japanese stiltgrass
thrives in moist, shaded sites

Photo: Chuck Schuster

When dealing with this weed, do not compost any of the pulled plant material or grass clippings. The seeds will survive the composting process. Consider the source of your compost if you plan to use it later in the fall. Attempt to reduce irrigation as Japanese stiltgrass prefers damp soils. The cultural control suggestions are somewhat limited. Promote a dense turf with proper fertilization, reduce excess moisture, and use core aeration and overseeding. Close mowing can help reduce seed production, but this defeats the management suggestions for desired species of turf. In landscape, this small seeded weed will germinate on the surface of many double and triple ground mulches. Flame weeding small areas can be effective, but needs to be done carefully as fire can get out of control quickly, and using this method near mulch is not recommended. The use of a pre-emergent product, where allowed, and applied with at least 2 applications, has been shown to be effective. It is too late in the season to even consider it at this time of the year, so recommendations will not be provided. It should be noted that some local governments do not allow these products. At this time of year, post emergent products can be used. They include Acclaim Extra, Segment, Plateau, and Solitaire. These are selective products. Some of these products surpass at lower label rates but do provide good control at higher rates. Please check label instructions for appropriate mixing rates. Envoy can be used in turf and selected ornamental beds. Use caution when using Envoy as it has label restrictions because of sensitivity of some ornamentals. Prizefighter (Ammonium Nonanoate) has been tested and is effective in spot spraying of landscape beds, but requires 2 applications. Glyphosate (many brands), glufosinate Finale, or quizalofop Assure 11 have been used successfully in landscape settings to eradicate stiltgrass. The herbicide, quizalofop, only injures grasses; remember to use caution as some of these products will damage ornamentals that come in contact with this product.

Plant of the Week

By: Ginny Rosenkranz

Panicum virgatum 'Shenandoah' is a native herbaceous perennial switch grass that grows 2-4 feet tall and wide. It tolerates a lot - air pollution, wind, salt spray, full sun to partial shade, dry to wet or sandy to clay soils and once established becomes very drought tolerant. It thrives if planted in full sun because shade can cause the plants to grow looser, more open, and fall over. When grown in full sun, it becomes a striking vertical accent to the garden or even a summertime hedge. Because it is able to grow in wet soils, 'Shenandoah' can even be planted in a rain garden. The plants grow in clumps that slowly expand by rhizomes and sometimes they can spread by seed, but please keep in mind that the cultivar 'Shenandoah' seeds will not breed true to the original. The foliage of 'Shenandoah' is a bluish green in the spring and summer with the tips of the leaves turning a purple red color. By fall the foliage changes to a burgundy red. The flowers are pinkish red held in a bouquet

called panicles that mature into soft beige-colored seeds on light and airy stems. When the grasses are in full flower and seed, they create a light and airy cloud almost 2 feet above the long thin blades of grass. The seeds are devoured by native birds in the late fall and through the winter. Plants are winter hardy from USDA zones 2-9, and the foliage should be trimmed to the ground in early spring to make way for the new growth. Problems include some susceptibility to rust especially in hot and humid weather. Insect pests include Japanese beetles, spider mites, and thrips.

Panicum virgatum 'Shenandoah' is a good plant for rain gardens
Photo: Ginny Rosenkranz



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 2027 DD (Cumberland) to 2787 DD (Reagan National). 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.

- Maskell scale – egg hatch / crawlers 2nd gen (2035 DD)
- Euonymus scale – egg hatch / crawlers 2nd gen (2235 DD)
- Japanese maple scale – egg hatch / crawlers 2nd gen (2508 DD)
- Fall webworm - egg hatch/active caterpillar tents 2nd gen (2793 DD)
- White prunicola scale – egg hatch 3rd gen (3270 DD)

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

Degree Days (as of August 5)

Aberdeen (KAPG)	2159
Annapolis Naval Academy (KNAK)	2432
Baltimore, MD (KBWI)	2542
Bowie, MD	2604
College Park (KCGS)	2379
Dulles Airport (KIAD)	2429
Frederick (KFDK)	2390
Ft. Belvoir, VA (KDA)	2526
Gaithersburg (KGAI)	2303
Greater Cumberland Reg (KCBE)	2027
Martinsburg, WV (KMRB)	171
Natl Arboretum/Reagan Natl (KDCA)	2787
Salisbury/Ocean City (KSBY)	2521
St. Mary's City (Patuxent NRB KNHK)	2693
Westminster (KDMW)	2496

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 calculatorThresholds in: Fahrenheit °F Lower: 50 Upper: 95 Calculation type: simple average/growing dds Start: Jan 1

Hone Your Diagnostic Skills With These Upcoming LCA Webinars

Tree Problems—Diagnostic and Solutions

Thursday, August 20 | 10:00 am–11:30 am ET

Karen Rane, David Clement, and Stanton Gill of the University of Maryland Extension will cover diagnostic skill building for dealing with major tree problems caused by physiological conditions, disease, and insects. Participants will learn the steps in diagnosing tree problems. The team will cover major current tree problems in 2020 in the landscape and what you do to control these diseases and pests using IPM methods based on our and other university research efforts. An audience interactive question and answer session will be held at the end of the presentation.

Go to <https://www.lcamddcva.org/> to register

MANTS 2021 Update

From Vanessa A. Finney, Executive Director, MNLGA:

Facing extended health and safety concerns brought on by the pandemic, and the new certainty that the Baltimore Convention Center will remain a field hospital at least through the end of December, the MANTS board of directors announced the development of alternate plans for MANTS 2021. Details of this plan are underway and expected to be released in several weeks.

Please see full press release [here](#).

Climate and Sustainability Webinars, 2020

Dr. Sara Via, Professor & Climate Extension Specialist, University of Maryland, College Park

Upcoming Programs:

Aug. 12, 2020 The power of individual choice: what can individuals do to combat climate change and how much difference will it make?

Aug. 26, 2020 Climate change is bad for your health

[See the brochure](#) for more information and a link to register.

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

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