

Commercial Horticulture

April 10, 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 sklick@umd.edu

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Ambrosia Beetle Update

By: Stanton Gill and Andrew Ristvey

Even with the warm weather on Wednesday, I did not find any ambrosia beetles in the baited alcohol Lindgren funnel traps or alcohol baited bolts on Wednesday or on Thursday. Marie Rojas, IPM Scout, reported one tree hit this Wednesday in Frederick County. It was a *Magnolia* 'Butterflies' which was in a group of plants that have had previous issues (trunk splits/cankers). Andrew

Ristvey had a large number of ambrosia beetles in his trap on the Eastern Shore, but I have not received them yet to identify which species were trapped. On Thursday, there were gusty winds and rapidly decreasing temperatures.

I checked the baited alcohol traps Friday morning, and no new ambrosia beetles were present. The alcohol bolts still did not have any activity. Of course, we did have snow flurries this morning and the temperature dropped dramatically. At this point, I can safely say for the next couple of days we will not likely see much ambrosia beetle flight activity with the cold temperatures and winds. It does warm up a little on Monday, but this change looks like a temporary thing with temperatures dropping again which will reduce flight activity which is all good news, and we can use good news right now.



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Look for frass coming out of trunks and branches that form toothpick-like structures

More on Crape Myrtle Bark Scale

By: Stanton Gill, Paula Shrewsbury, and Karen Rane

Back in March we reported that Bartlett Tree Experts had confirmed crape myrtle bark scale (CMBS) at a site in Delaware. This week, Gaye Williams, MDA, confirmed this species on a sample submitted by Bartlett from a Baltimore County, Maryland landscape.

Crape myrtle bark scale, *Eriococcus lagerstroemiae*, belongs to a special group of scale insects known as felt scales. We only have a few species of important felt scales (azalea bark scale and elm bark scale) in Maryland, but now we have a really important invasive species of bark scale. Not only are the scales unsightly on the bark, but high populations can result in stunting, branch dieback and reduced flowering. Honeydew production by this pest means that sooty mold is an issue as well. There are 2-4 generations per year in southern states and we will have to wait and see what happens in MD.

What to scout for:

Scouting for this pest: The white waxy scales are very obvious and can be found on branches and trunks. They also produce copious amounts of honeydew, but so do crape myrtle aphids so look for the waxy white covers. Adult females produce a white, felt-like ovisac around their bodies and lay approximately 100 to 300 pink eggs inside this sac.

Keep it out of your customers' landscapes.

The simplest and most effective defense against CMBS is to avoid buying and planting infested crape myrtles. Work closely with the nursery or re-wholesale yard where plants are purchased to be sure plants are free of crape myrtle bark scale. Spend a little time to inspect plants carefully before purchase.

Chemical control:

Soil-applied systemic insecticides containing the active ingredients dinotefuran, or Altus. Foliar sprays containing the insect growth regulator products pyriproxyfen or buprofezin (Talus and Distance brand names) are also available for application as crawler sprays. We have used Talus and Distance with good success on other scale insects.

Biological control: Dr. Pete Shultz from Virginia Tech reports that in some cases lady beetles have reduced CMBS populations.

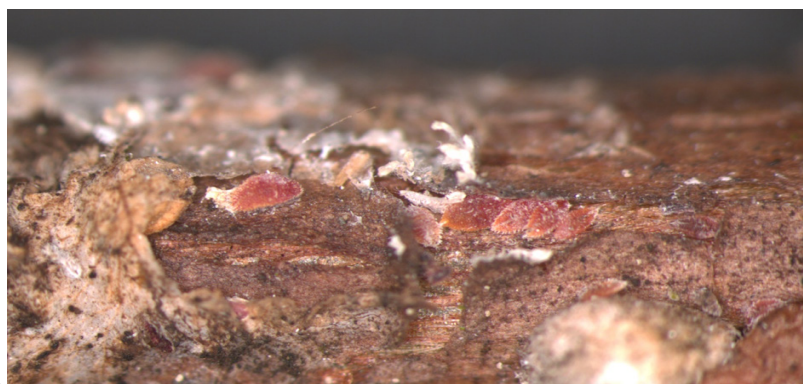
Mechanical control: Wash by gently scrubbing infested plants to remove scales and sooty mold.

If you see this pest, please let us know – we'd like to know more about its distribution in Maryland. You can contact Stanton at Sgill@umd.edu.



Crape myrtle bark scales on a crape myrtle branch in Maryland.

Photo: Mahsa Khorasani, Bartlett Tree Experts



Immature crape myrtle bark scales. Crawlers are pink in color and later stages can be pink, gray or brown.

Photo: Meg McConnell, Bartlett Tree Experts

Mulch Madness

By: Stanton Gill

Mulching in the landscape is the big pastime for many people, especially since many have so much time at home now. Individuals at garden centers have told me that the volume of mulch sales rivals plant sales sometimes in the spring. Homeowners can get pretty generous with how much mulch they put down. We thought you might find enjoyment in seeing how one person paid a landscaper to mulch their property, including the telephone poles next to the road. Of course, we all know that telephones need to have the moisture held in with mulch and you would not want the soil temperatures to heat too much. So, why not? Enjoy the good laugh.



Spiny Witchhazel Gall Aphids

Marie Rojas, IPM Scout, found spiny witchhazel gall aphids active on newly-expanding leaves of Birch 'Heritage', 'Renaissance Reflection', and 'City Slicker'. Marie found that lady bird beetles were already feeding on the aphids. Witchhazel is the alternate host for this aphid on which it causes a spindle gall on the top side of foliage. This aphid causes red puckering damage to the foliage of birch and the woolly aphids can be found on the undersides of the leaves.

Control: Most often, control is not necessary. Many natural enemies such as lady bird beetles, syrphid flies, soldier beetles, and parasitic wasps are active at this time of year and usually move into the area to reduce the aphid populations. If populations are high, use a low impact material like horticultural oil to minimize the impact on the beneficial insects that are present.



An infestation of spiny witchhazel gall aphids is developing on birch (left) and a lady bird beetle is feeding on the aphids which helps keeps populations under control (right).

Photo: Marie Rojas, IPM Scout

Eastern Tent Caterpillars

Marie Rojas, IPM Scout, found eastern tent caterpillars (ETC), just hatching out on *Malus* 'Adirondack' in Frederick County on April 8. The newly hatched caterpillars have already constructed a fine silken tent in a branch crotch of a crabapple. The layered silken tent will aid in protecting the larvae from predators and from extreme temperatures. The caterpillars emerge from their protective tent to feed on the leaves of their host plant. Caterpillars are active for about six to eight weeks.

Management: High populations of ETC should be treated when early instars are present. Products that contains *Bacillus thuringiensis* (biorational insecticide that targets young caterpillars) or Confirm (and IGR also targets early instar caterpillars). As caterpillars build tents that become visible, ETC populations and their damage can be reduced by physically destroying the tents.

Physically destroy tents to reduce damage by eastern tent caterpillars

Photo: Marie Rojas, IPM Scout



White Pine Weevils

Marie Rojas, IPM Scout, found white pine weevils active on terminals of *Picea pungens* 'Fastigiata' and *P. omorika* 'Pendula Bruns' on April 8 in Frederick County. The white pine weevil is considered primarily a pest of eastern white pine, Colorado blue, Norway, and Serbian spruces. Scots, red, pitch, jack, and Austrian pines, and occasionally Douglas-fir are also attacked. The adult white pine weevil overwinters in litter on the ground or in old pine tree stumps in the nursery. The adults begin feeding on terminal growth of conifers. They tend to feed on twigs 7-10" below dormant terminal buds. Females deposit eggs in the bark of the terminal growth, which hatch in 7-10 days. The developing larvae feed in the leader until they reach maturity in mid-summer. The white pine weevil often kills 2-3 years of terminal growth. For control, apply products that contain bifenthrin or permethrin.

Adult weevils are causing damage on the terminal growth of this spruce
Photo: Marie Rojas, IPM Scout



Caterpillars Active on Euonymus

By: Rachel Ross and Stanton Gill

The euonymus leaf-notcher caterpillar (*Pryeria sinica*) has been spotted causing damage on euonymus. They feed along the margins of host foliage which lends the characteristic notching that has given them their name. You may also notice small black droppings on the leaves which are the fecal matter of this pest. This caterpillar only has one generation and their feeding is limited to a couple of weeks in early spring, but they can cause a fair amount of defoliation. Luckily, the euonymus hosts rapidly push out new growth, replacing the damaged foliage.

Be on the lookout for another caterpillar pest of euonymus, the euonymus caterpillar (*Yponomeuta cagnagella*). This pest typically becomes active in early May through June and can cause similar damage to that of the leaf-notcher caterpillar. The euonymus caterpillar can be identified by its black spots as opposed to the leaf-notchers black stripes. The euonymus caterpillar also produces webbing over the ends of branches.

Control: Management is similar for both of these pests. Due to the host's ability to produce new growth rapidly, no control is absolutely necessary. If you decide to treat, spinosad (Conserve) and Bt (Dipel) products can be effective.



Euonymus leaf-notcher caterpillar: Fecal droppings & notching on damaged leaves
Photo: R. Ross, UMD



Euonymus leaf-notcher caterpillar (notice the black stripes) feeding on euonymus
Photo: R. Ross, UMD

Native Holly Leafminer

Marie Rojas, IPM Scout, found native holly leafminers on hollies on March 31. Marie noted she only saw fairly moderate mining activity on the specific cultivar of *Ilex opaca* 'Satyr Hill'. Holly leafminers overwinter in the larval stage and adults emerge when the new tender growth appear on hollies. If the leafminers are causing significant damage, a soil drench of systemic can be used. Generally, control measures are not necessary.

Look for adult holly leafminers to be active when new growth appears on the plants
Photo: Marie Rojas, IPM Scout



Seed Maggots Very Active in Our Area on Early Planted Vegetables

By: Jerry Brust, UME

The unusually warm winter and early spring we have had up to now has allowed large populations of seed and root maggots to invade our vegetable fields. Some areas have been hit particularly hard in their onion, bean, pea, or radish crops this season by maggots. These maggots include seedcorn maggot *Delia platura* (SCM), onion maggot *Delia antiqua* (OM), and cabbage maggot *Delia radicum* (CM), the latter being a specialist of the cabbage family. All three species overwinter in the soil as a maggot inside a brown pupal case (fig. 1). In March and April, small grayish-brown flies (fig. 2) emerge, which are usually SCM or CM. OM flies usually peak 2-3 weeks later. Adult flies are most active from 10 a.m. – 2 p.m. and are inactive at night, in strong winds, or when temperatures are below 50 °F or above 80 °F. Adults live 2-4 weeks, and females lay hundreds of eggs.

Seedcorn maggot eggs are oviposited in soils with decaying plant material or manure. Onion maggot females lay eggs in soil near onion plants. Female cabbage maggot flies seek out and lay eggs on the lower portions of stems of young host seedlings or in nearby cracks in the soil. Some wild crucifers, such as yellow rocket, are important hosts for cabbage maggot and are especially important for their overwintering success; when these weeds are abundant they can lead to heavy infestations of spring crucifers. Add this weed component to the very mild winter we had, and infestations are almost assured in many fields. The adults are also attracted to the organic media around the roots of transplants and germinating seeds. Within a few days the eggs hatch and the tiny maggots burrow down to the roots and into stems and begin feeding.

Larvae of seedcorn maggots attack seedlings, feeding on the developing roots and stem. Their damage is usually restricted to the early seedling stage. SCM larvae will move into small stems and move up the plant causing a swelling of the stem just above ground level, while also causing root collapse and decay. If these stems are split, you usually can find the white cylindrical larvae (fig. 3). Onion or cabbage maggots inflict similar damage but usually continue to feed on the expanding bulb during later stages of growth (fig. 4). A single maggot can destroy up to 20 small seedlings. Either SCM or OM can attack onion bulbs, while SCM also can attack vegetable seeds and transplants. Complete larval development requires 2-4 weeks. Maggots then enter a pupal stage that lasts another 2-4 weeks. There are 3-4 generations per season in our area, with the most destructive being the spring and fall generations.

Cultural Controls: Avoid planting in soils that have a great deal of non-decomposed organic matter, such as a heavy cover crop or are very weedy or have large amounts of compost or manure. Rotate early season crops away from any areas that had onions or crucifers last fall. Early spring-planted crops are more likely to be damaged when the soil is too cool for rapid germination and emergence. If serious infestations are expected, wait until the soil warms up in the spring. Recently seeded or transplanted crops should be covered with floating row covers, which act as barriers against any of the root maggot flies. Do not use row covers where onions or brassicas were grown the previous year. When soil temperatures increase and maggot first-flights end, the row covers can be removed.



Fig.1 Seed maggot larvae and pupae
Photo: G. Brust



Fig. 2 Seed maggot adult
Photo: D. Paulk

Chemical Management: The use of treated seed (Trigard ST or chlorpyrifos - commercially treated onion seed only) or soil application of an insecticide gives good to moderate control of SCM, CM and OM. There are several ways to apply an insecticide to the soil at or right after planting: 1. Through low pressure drip or trickle irrigation, 2. An in furrow spray directed on or below the seed, 3. A narrow (< 2 inches) surface band spray over the seed line during planting that is incorporated to a depth of 1 - 1½ inches with sufficient irrigation within 24 hours of application, 4. A post seeding drench, transplant water drench, or hill drench. Unfortunately, there are very few chemicals available to use for control. However, some of the chemicals that can be used for seed maggot control include: 1. Chlorpyrifos (Lorsban) onion dry bulb only, 2. Cyantraniliprole (Verimark) (for pea and beans it will suppress seedcorn maggots) 3. Imidacloprid has been found by many growers to work well for maggot control when soil applied for other pests. 4. Post planting sprays of malathion or pyrethroids are meant to control or reduce the adult fly population and will do little to control maggots already present in the soil. The use of these products can vary depending on the particular crop so be sure to check the label before using.



Fig. 3 Seed maggots in stem
Photo: G. Brust



Fig. 4 Seed maggot damage to turnip bulb
Photo: G. Brust

Monitor for Scale Insects

Marie Rojas, IPM Scout, found Japanese maple scale in high numbers on *Liriodendron tulipifera*, *Prunus* 'Kwanzan', and *Cladrastis* 'Perkins Pink' on March 31 in Montgomery County. She also found white prunicola scale in high numbers on various *Prunus*, including 'Autumnalis', 'Kwanzan', 'Okame', 'Yoshino', and 'Snow Fountains'. Look for crawlers of these scale insects to be active in late May into June. At that time, use Talus or Distance.



Look closely on trunks and branches of trees for Japanese maple scale (left) and white prunicola scale (right); they can be very difficult to detect

Photos: Marie Rojas, IPM Scout

Honey Bee Swarms

Stanton Gill

Bill Stocker called in to report a buzzing swarm of bees in Columbia. Mark Schlossberg, ProLawn Plus, Inc., photographed this spring event of honey bees breaking off from the main hive and creating a searching honey bee colony. A member of the Maryland Honey Bee Society retrieved the swarm and used it to start a new colony. Your customers may see honey bees in large football shapes hanging on their landscape trees. Not to worry, they will move on, but can stay in a landscape for several hours to sometimes a whole day.



We have received multiple reports that honey bees are swarming this week

Photo: Mark Schlossberg, ProLawn Plus, Inc.

Sapsucker Damage on Arborvitae

By: Stanton Gill and Karen Rane

More sapsuckers – Kurt Petersen from Stadler Nurseries sent in these photos of arborvitae 'Green Giant' with damage from sapsuckers. Stanton has not seen damage to this host before – it's a concern since this variety is so popular and widely planted.



We have not received reports of sapsucker damage on Arborvitae 'Green Giant' before so monitor plants closely
Photo: Kurt Petersen, Stadler Nursery

Volutella Blight of Pachysandra

By: D.L. Clement, K.K. Rane, and C.K. Carignan

We've been receiving many questions this spring on declining and dieback of pachysandra beds. We have speculated that because of our rather mild winter the fungus, *Pseudonectria pachysandricola*, or in the older literature *Volutella pachysandrae*, could have been active during the winter months which would cause increased damage to stems and leaves this spring. It's also possible that recent "weather extremes" (very wet 2018 and spring 2019 followed by drought in 2019) could have also played a role. The damage is worse in beds where debris such as leaves and branches have fallen and compacted in moisture retaining layers over the pachysandra plants. Therefore, to prevent moisture retention within the plant canopy, do not mulch pachysandra with shredded bark products. New infections will continue through this season if rainfall is adequate. Stressed pachysandra is also more likely to be severely affected. Stresses include plants in a sunny, dry locations, or a planting that was originally in a shady location, but removal of a tree has now exposed the bed to more sun.



Stressed pachysandra (in sunny or dry locations) are more likely to be severely affected by Volutella blight
Photo: David Clement, UME

Management with fungicide applications without changing cultural conditions is rarely effective since it's hard to get thorough coverage with the dense foliage and debris layers. Our recommendations are to do extensive thinning and rejuvenation of the beds by string trimming the plants down followed by use of leaf blowers to dislodge the accumulated debris to increase air circulation around the remaining healthy plants. These beds will take time to grow back in and may require fertilization and weeding to return to their former density. Fungicide applications can be used to protect new growth as beds grow back in and may include chlorothalonil, copper products, mancozeb, maneb, myclobutanil, propiconazole, and thiophanate methyl. Be cautious during bloom since some products such as chlorothalonil may adversely affect pollinators.

Hemlock Elongate Scale

Heather Zindash, IPM Scout, found first instar settled crawlers of elongate hemlock scale in D.C. on April 3. This scale is native to Japan and is a pest of eastern hemlock, *Tsuga canadensis*, and Carolina hemlock, *T. caroliniana*, in the Eastern United States. This scale also infests cedars, pines, yews and spruces. Feeding causes foliar chlorosis, needle drop, and plant dieback. Elongate hemlock scale completes two generations each year in Maryland. Its life stages are broadly overlapping, so yellow crawlers can be found throughout the spring and summer. Crawlers are the only stage capable of dispersing and establishing new infestations. Dispersal is primarily by wind and birds.

Control: Distance can be applied to the crawlers. Horticultural oil can be used to control overwintering females. A soil drench of dinotefuran applied as a basal trunk application is another control option.



There are first instar settled crawlers on this hemlock needle, along with adult females
Photo: Heather Zindash, IPM Scout

Update on Fruit Trees

By: Stanton Gill

Keep the fungicide sprays on the peaches, plums, apricots, pears, and apples this week. If your customers have apple trees, there is a cluster of green leaves just before the flower clusters. Codling moth and several of the leafrollers that attack apples lay their eggs on this new foliage. I would suggest applying either Bt or Spinosad with a spreader sticker to help it adhere with the frequent light rains. Sweet cherry is in full bloom this week. Tart cherry should bloom next week. Fungicides need to go on now to reduce brown rot that shows up in June and July.



Sweet cherries are in full bloom this week in central Maryland

Red Thread in Turf

Brian Haga, Scientific Plant Service, found red thread active in Finksburg this week. This disease is known to thrive in low N-fertility areas. Supplying N-fertility during infection periods may help to alleviate some of the symptoms, but keep in mind that red thread is very persistent in the spring months.

For more information on red thread, see the [article by Joseph Roberts in the May 10, 2019 IPM Report](#).

Six-spotted Metallic Green Tiger Beetles

Nancy Woods, McCrillis Gardens, found a metallic green tiger beetle in Bethesda on April 6. These beetles are fast-flying predators, often found along open woodland trails. Adult beetles are active predators and stalk their prey. Both immature and adult tiger beetles are predacious.

For more on tiger beetles, see the [April 27, 2018 IPM Report 'Beneficial of the Week'](#).



The six-spotted green metallic tiger beetle is active now; it is a voracious predator

Photo: Nancy Woods, McCrillis Gardens

Beneficial of the Week

By: Paula Shrewsbury

Digging in landscape beds will find some good beneficials: Millipedes

Last week, we started to talk about beneficial arthropods that have lots of legs and are common to find when digging in landscape beds. We started with centipedes. Today, I would like to continue this discussion, but the focus will be a relative of centipedes, the millipedes. Both millipedes (Class Diploda) and centipedes (Class Chilopoda) belong to the subphylum Myriapoda which means “many footed”. I often get asked how do you tell the difference between millipedes and centipedes so I will highlight these differences where appropriate.

First, and potentially most important, millipedes do NOT bite, centipedes can bite. Millipedes are detritivores and important players in recycling plant material, usually eating decaying plant material or moss, and occasionally feeding on plant seedlings (whereas centipedes are carnivorous with a poison claw). [Click here](#) to see a video (by M.J. Raupp, UMD) of a large North American millipede (aka eastern red-ribbed millipede) grazing on moss found on a stone. Funny that with all those legs they still move pretty slowly. Millipedes do not really have a million or even a thousand legs. Most millipedes have less than 200 pairs of legs. The majority of body segments have two pairs of legs per segment (see images) (centipedes have 1 pair of legs per body segment). Interestingly, each segment with two pairs of legs evolved from the fusing together of two single legged segments resulting in the now characteristic 2 pairs of legs per segment. As millipedes molt and grow, they add on body segments, each with its accompanying two pairs of legs. Millipedes range in size from 0.08” up to 11” depending on species. Fossil records indicate the largest extant millipede species grew up to 6.6’ long (feet not inches – Oh my!). Millipedes have long somewhat cylindrical bodies (centipede bodies appear flattened). They live from two to seven years and produce hundreds of offspring during their lifetime. Although millipedes do not bite as a form of defense, they will tuck their heads in and coil their bodies exposing only their hard exoskeleton for protection. They also can secrete chemicals from glands on their bodies. These chemicals can be noxious and used to deter potential predators such as toads or lizards. You might want to wash your hands after handling a millipede since the chemicals can irritate the skin and stain clothes.

If you come across any millipedes, be sure to treat them with respect and leave them to their business. Millipedes provide the ecosystem service of decomposition and recycling of plant material.



A common garden millipede crawling on the sidewalk near a landscape bed. Note the cylindrical shape of the body.
Photo: M.J. Raupp, UMD



A large Giant African millipede that is native to subtropical Africa (can get up to 11” long). You can clearly see the 2 pairs of legs per body segment.
Photo: M.J. Raupp, UMD

Weed of the Week

By: Chuck Schuster

What a week of changing soil temperatures and weather in general. With soil temperatures for a start of the day (usually lowest) as high as 56 °F and as low as 49 °F (today) the critical temperatures for crabgrass germination have been met. The turf growth season is in full swing now.

Turf sites that have not received the first application of a pre-emergent for crabgrass will need to consider switching to a product that has at least some capacity to provide early post emergent abilities.

Dithiopyr (Dimension) is an early post emergent product that inhibits certain steps in plant cell division. This product can be used on established turf, but not sites that will be seeded with new seed.

Dithiopyr is not the product of choice though for Japanese stiltgrass.

Pre-emergent products can still be applied but will not catch those seeds that have already emerged. Mark Schlossberg sent in the photo below of crabgrass found this week in Owings Mills. So, what should the game plan be?

Control of crabgrass is not only achieved through herbicide applications, good soil fertility, proper mowing height, and proper pH are other components in a crabgrass management plan that should not be overlooked. Build a strong turf that is dense. This prevents sunlight from reaching the soil to allow germination of crabgrass. The battle with Japanese stiltgrass is not over either. It though, does not respond to cultural methods of control, unfortunately. It does not respond to dithiopyr well either. For crabgrass, the use of products containing *dithiopyr* (Dimension) *proflam* (Barricade) and *pendimethalin* (Pre-M) are shoot and root development. All of these products can be used on established turf, but not sites that is will be seeded with new seed. *Siduron* (Tupersan) is the only product that can be used in a turf setting when overseeding after application is considered. As stated, dithiopyr also provides early post-emergent control of crabgrass and some other annual grasses (not Japanese stiltgrass). Consider utilizing *dithiopyr* (not at full season rate) if no other applications have occurred this year. A follow-up in a second application can then be either another application of *dithiopyr* or *proflam*. Utilizing *proflam* will catch the Japanese stiltgrass that has yet to germinate. This allows for applications to be done over a longer period of time and keep crabgrass under control for the better part of the season.

Other options for crabgrass control do include use of Drive (*quinclorac*), Tenacity (*mesotrione*), and SquareOne (*quinclorac* + *carfentrazone*) and Solitare (*quinclorac* + *sulfentrazone*). These are post-emergent only products that can be used into late May and June when temperatures are warmer. The benefit with some of these products is that it can be used on a seedling lawn, one that has been seeded and has is becoming established. Check the label carefully. Always remember that pre-emergent products will limit root development of the desired species of turf also. Watch the weather for dry spells.

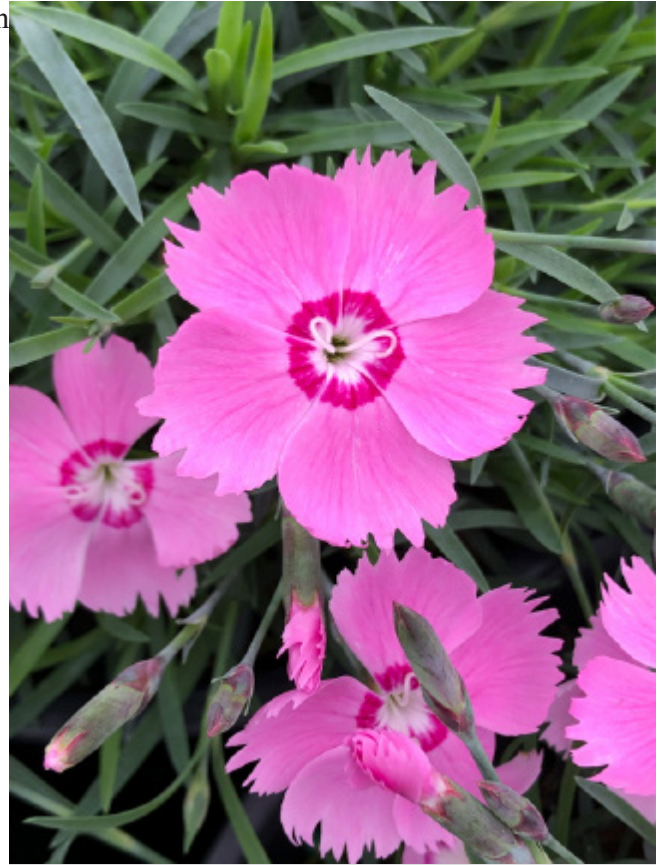


The critical temperatures for crabgrass germination have occurred in the area
Photo: Mark Schlossberg, ProLawn Plus, Inc.

Plant of the Week

By: Ginny Rosenkranz

Dianthus 'Pink Twinkle' is a new dianthus from the Mountain Frost™ collection. The silvery blue green foliage has a waxy sheen, and the plant grows in a low mound about 6-8 inches tall and 10-12 inches wide. The plants are very drought tolerant once established, and this cultivar is also listed as being tolerant of wet rainy conditions. The sturdy stems bear two flowers each that have fringed edges and are bright pink with a darker pink eye creating a lovely bi-color look for the sunny gardens. The flowers, like many of the *Dianthus* family, are very fragrant and will bloom from early spring through the summer into the autumn especially if the older flowers are removed. This plant is cold tolerant from USDA zones 5-9, and the foliage remains evergreen in warmer areas. The fragrance is often considered the reason the plants are resistant to deer nibbles. The only pest problem listed is crown rot in heavy, poorly drained soils.



Dianthus 'Pink Twinkle' is very drought tolerant once established
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 102 DD (Aberdeen) to 238 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.

- Eastern tent caterpillar (early instar larva) (51DD)
- Spiny witchhazel gall aphid – adult/nymph (171DD)
- Boxwood leafminer – adult emergence (249DD)
- Spruce spider mite – adult/nymphs (276DD)
- Azalea lace bug (egg hatch 1st gen) (281DD)
- Pine needle scale (egg hatch 1st gen) (283DD)
- Hemlock woolly adelgid (egg hatch 1st gen) (300DD)

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 April 8)

Aberdeen (KAPG)	102
Annapolis Naval Academy (KNAK)	144
Baltimore, MD (KBWI)	180
Bowie, MD	214
College Park (KCGS)	164
Dulles Airport (KIAD)	188
Frederick (KFDK)	157
Ft. Belvoir, VA (KDA)	213
Gaithersburg (KGAI)	165
Greater Cumberland Reg (KCBE)	144
Martinsburg, WV (KMRB)	131
Natl Arboretum/Reagan Natl (KDCA)	238
Salisbury/Ocean City (KSBY)	188
St. Mary's City (Patuxent NRB KNHK)	226
Westminster (KDMW)	172

Important Note: We are using the Online Phenology Degree Days model site (<http://uspest.org/cgi-bin/ddmodel.us>). 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

Phenology

PLANT	PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf)	LOCATION
<i>Cercis canadensis</i>	First bloom	Columbia (April 6)
<i>Liriodendron tulipifera</i> (tuliptree)	First leaf	Columbia (April 7)
<i>Prunus laurocerasus</i> (cherry laurel)	First bloom	Columbia (April 9)
<i>Viburnum carlesii</i> (Koreanspice viburnum)	Full bloom	Clinton (April 5)

CONFERENCES

June 3, 2020

Eastern Shore Pesticide Recertification Program
Location: Chesapeake College, Wye Mills, MD

Save the Dates for the IPM Scouts' 4-Day Training Program:

June 2 and 4, 2020 at the Gary J Arthur Community Center, Glenwood, MD
June 9, 2020 at Ruppert Nursery, Laytonsville, MD
June 10, 2020 at Cavano's Perennials, Kingsville, MD

June 20, 2020 (Saturday)

Maryland Christmas Tree Association Summer Meeting
Cawley Family Farm, Denton, MD
For info contact Joncie Underwood
Maryland CTA@outlook.com

Regarding UMD Extension activities, we do not know at this time how the Coronavirus Covid-19 will impact these programs scheduled for later in the year.

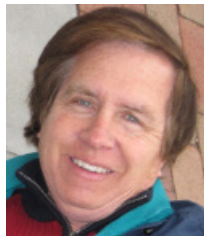
UMD Plant Diagnostic Laboratory COVID-19 Announcement (3/18/2020)

Due to the University of Maryland College Park response to COVID-19, the UMD Plant Diagnostic Laboratory is not able to receive plant samples at this time. Buildings on campus are locked, and packages sent through carriers such as UPS, FedEx and USPS will not be delivered to the lab.

If you need plant diagnostic services, please **DO NOT** send samples to the clinic. Contact me via email (rane@umd.edu) with photos of the plants in question, and I will do my best to answer your concerns. Photos for diagnosis should include at least one overall picture of the site or crop, as well as close-ups of the plants and symptoms in question. Please make sure the photos are in focus for the best chance of diagnosing plant problems. Include a description of the problem, as well as any spray applications made in the past 4 weeks.

We will contact you if there is a change in this procedure. Thank you for your patience as we deal with this unprecedented situation. -Karen Rane, Director, UMD Plant Diagnostic Laboratory

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

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