Commercial Horticulture

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Pest and Beneficial Insect Information: Stanton Gill and Paula Shrewsbury (Extension Specialists) and Nancy Harding, Faculty Research Assistant
Disease Information: Karen Rane (Plant Pathologist) and David Clement (Extension Specialist)
Weed of the Week: Chuck Schuster (Extension Educator, Montgomery County)
Cultural Information: Ginny Rosenkranz (Extension Educator, Wicomico/Worcester/Somerset Counties)
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Early Activity of Eastern Tent Caterpillars (ETC)
By: Stanton Gill

At 4:30 on Friday March 18, Paul Wolfe called in to report hatch of eastern tent caterpillars in Washington D.C. Here is the unusual thing – we expect this caterpillar on crabapples or cherry or apple trees, but Paul reported they were feeding on a tree lilac. I asked him if he was sure and he assured me it was true. So, looks like tree lilac may be an additional host for eastern tent caterpillar.

John Speaker found very tight ETC tents on Malus and Prunus in Gaithersburg on March 24. Jason Hipp, The Care of Trees is finding tents in crotch angles in NW D.C. this week.
Aphid Control on Trees
By: Stanton Gill

As many know use of imidacloprid on *Tilia* (lindens, basswood) is now prohibited on most product labels. Arborists who used the material for aphid control on large specimen lindens where sprays are really not an option (drift, neighbors, pools, decks, equipment limitations, etc.) are asking about alternatives. I would be interested to hear your comments for managing aphids in such situations (where full canopy sprays are not feasible) and on the following:

Acecap implants: some concern for trunk injury from drilling
Abamectin: several products labeled for trunk injection/aphids but not sure of efficacy; sprays at the 8 oz rate (Avid) have worked in my trials. Possible microinjection?
Kontos: not for landscape use
Ornazin, other azadirachtin: some are labeled for aphids and also for trunk injection. Any data showing the ai works against aphids as a trunk injection? (also possibly for microinjection)
Neonicotinoids: Arena, Safari, Flagship
TriStar: labeled for basal bark application but only for adelgid, scales, some borers. Any evidence it does control aphids?

Your feedback will be appreciated: sgill@umd.edu

Endeavor from Syngenta for Aphids?
By: Stanton Gill

Endeavor is a translaminar chemical (foliar applications carry to the bottom of the leaf). The chemical acts as stylet blocker that prevents the insect from pulling up food from the plants so the aphid starves to death. It is a little slow to have action (a couple of days), but very effective and difficult for an insect to develop resistance to the material. We conducted trials in 2002 – 2003 in greenhouses to control whiteflies, green peach aphids, and mealybugs and the material worked well. It has been labeled for use in greenhouses for several years now. It has been one of the materials we have suggested when using biological control in greenhouses without harming beneficials. This winter, I found out the label has been expanded, and it is now labeled for use in landscapes. The label is for foliar applications, not soil drenches. This product might be good to try for controlling crape myrtle aphid, which is one of the fastest growing aphid populations I have seen in Maryland with the widespread planting of crape myrtles over the last 8 years.

Aphids
As trees and herbaceous plants leaf out, aphid activity will increase. Marie Rojas, IPM Scout, found a good population on *Helleborus orientalis* in Montgomery County this week. Monitor plants closely. More often than not, predators increase and prey on the aphids so control measures are not necessary.

Aphids are active on both foliage and flowers of *Helleborus orientalis*
Photos: Marie Rojas, IPM Scout
Winter and Salt Damage to Pansy and Viola Plants
By: Stanton Gill

We received several emails and phone calls from landscapers reporting pansy plants they installed last fall in commercial landscapes were experiencing huge losses. Most reported that the plants looked beautiful in November and December, but have completely collapsed after the winter. Many of these beds were located near sidewalks and driveways. The big snow of February resulted in large deposits of snow cleared from roadways and sidewalks being placed on these beds. The salt in the snow probably caused the death of many of these plants. In some cases the landscape managers said salt was not used on the snow piled on the beds. If you remember when we had the 30 - 36“ of snow in February, it remained cold for 2-3 weeks and the snow did not melt very quickly. Many of these beds had the snow remain up to 3 weeks after the original snow drop. This situation basically cut off sunlight and made gas exchanges impossible for these covered pansy plants.

I spoke with Steve Sullivan, The Brickman Group, who reported that they used violas instead of pansy plants in many of their commercial landscapes. He said the viola plantings that received snow from sidewalks treated with salt did suffer injury. In other beds where just snow was piled up without salt the violas fared well and are looking good this spring. Let us know your experience with pansy and viola in landscapes - Sgill@umd.edu

Drones and Nurseries
By: Stanton Gill

We are working on developing a one day seminar, in cooperation with MNLGA, to cover the topic of using drones for IPM monitoring. The seminar will be on June 29, 2016 and will be located at Still Ridge Farm in Mt. Airy. The program will start at 4:00 p.m. and go until dark. As an added attraction we will have a tour of the MilkHouse microbrewery and hop production on this farm operation. What could be better than drones and brew? MNLGA will be handling the registration. If you know of companies or people successfully using drones in agricultural enterprises, let me know at sgill@umd.edu or call me at 410-868-9400.

Vole Damage
Continue to monitor shrubs in the landscape for vole damage. Brian Scheck, Maxalea, Inc., found vole damage on laurel this week. He noted that it appears the client tried spraying some sort of product to protect the trunks but did not spray far enough up the plant to help protect it.

Ambrosia Beetles
It was cool and rainy over the weekend. We only found 4 ambrosia beetles in our trap here at the research center on March 21. The species found is Xyleborinus saxeseni, which is not the one we’re looking for that causes the major damage on trees.
Beneficial of the Week
By: Paula Shrewsbury, University of Maryland

Mason bees are busy already!

Since some pollinator species are in decline it is important to conserve these beneficial insects. Therefore, I will be discussing various pollinators throughout the season. The solitary bees to discuss this week are mason bees which are in the family Megachilidae since mason bees began to emerge from nesting habitat at my house just over a week ago (Columbia, MD on March 16th). In general, mason bees are early spring pollinators but a few species emerge in late spring or early summer. Mason bees nest in hollow stems of plants, reeds or galleries in wood left behind by wood boring insects. Mason bees get their name because of their habit of making compartments in their galleries that are separated by mud.

Mason bees are well known for the pollination benefits they provide and are some of the earliest pollinators of the season. It is estimated that just 250-300 mason bees can pollinate an acre of apples or cherries. Mason bee males emerge first and females emerge a few days later. This phenomenon, called protandry, is relatively common in the world of insects. It seems that female mason bees are a highly sought after “commodity” and males that emerge early in a season are more likely to find and hook up with mates. Once a male and female mate, the male bee then hangs out on the female’s back and fights off other males that would also like to mate with his partner. This “guarding behavior” ensures sperm from the original male are used by the female. Mated female mason bees spend many hours and days gathering pollen and nectar from which they create pollen cakes or balls. They fill hollow plant stems or wooden galleries with these pollen cakes. After collecting pollen from plants, the female returns to her nest and enters the nest tube head first, deposits the pollen cake (this may take several trips to get enough pollen for one cake), exits the tube, turns around and enters the tube abdomen first. She then oviposits (lays) an egg onto the pollen cake. She then seals that section of the tube or gallery with mud. The female repeats this process until the tube contains several pollen cake – egg compartments and is filled. She plugs the entrance with mud and may then search out another nesting site. Eggs that are destined to be females are laid in the back of the tube, and male eggs toward the front. Mason bees are active about 4 weeks and the females will fill as many nests (tubes) as she can in that time. The eggs hatch into bee larvae that consume the cake as they develop and grow during summer and fall. They complete their development (pupa and adults) during fall, settle down for winter, and are ready to emerge just in time for the return of spring. Mason bees do not produce honey, are not aggressive and do not sting. I stand for long periods of time in the midst of the 100’s of bees busy around their nesting site in my yard and have yet to be harmed but am always entertained by these beauties.
Mason bees provide valuable ecosystem services by pollinating a variety of native and non-native flowering plants, many of which are fruits that we consume or flowers of plants in natural and managed landscapes that provide resources and habitat for animals at other trophic levels. For those of you who would like to become active in the conservation of mason bees you have a little bit of time still – but hurry! At my house I have purchased commercially available “bee tubes” and drilled holes into firewood (see the images). Not only can you enhance ecosystem services of pollination, but you create a great learning environment for children and adults. I highly suggest you try buying or making habitat for these beneficial, educational and very entertaining insects. There are many resources on line that can inform you of best practices for creating habitat and raising these beneficial insects. Do a web search for mason bees or bee tubes. NOW is the time to set up nesting sites!

**Weed of the Week**
By: Chuck Schuster, University of Maryland Extension

Soil temperatures continue to move around quite a bit and have not shown consistency in the range of temperatures that will allow crabgrass to germinate in Central MD. Last weekend (3-19 and 3/20) we had a little snow in some areas, other areas only had rain. The skies remained cloudy for several days and this kept the soil temperatures down. With sunnier days, temperatures are rising and turf managers are watching to stay ahead of the spring germination cycle. As we look at these temperatures, what is the critical temperature that everyone needs to be mindful of? It actually is several different temperatures to be attentive to. Photos below show the current trends we are seeing. A digital thermometer is used at the UME office in Derwood, and the circular thermometer is used at three sites in a more southern MD area and are taken by Luke Gustafson, Extension Educator in Charles County. Even Southern MD is not warm enough yet for a great deal of concern. Continue to monitor the trends as it is time to consider starting applications if you have not already done so. Remember that the sooner a pre-emergent is applied the sooner its efficacy ends.

Soil temperatures should be taken as early in the day as possible as the sun rises. When the minimum soil temperature reaches 55 °F – 58 °F for 4 days crabgrass can start to germinate. Significant crabgrass germination occurs when soil temperature are greater than 73 °F. Monitoring soil temperature is key to knowing when to apply pre-emergent products. A single day in the desired range will not cause the seed to germinate! When considering the process remember that the key temperature is not the indicator of when to apply products. Pre-emergent products must be applied several days before these key temperatures and need moisture to be activated. Moisture patterns have been variable this spring and many sites are dry. Combination products that have both pre-emergent and post-emergent crabgrass products can go down somewhat later as the post-emergent product will halt the growth of the young emerged plant.
While crabgrass is the weed of concern in the beginning one also needs to be mindful of both Japanese stiltgrass and goosegrass, as these weeds also will be in the process of germination in the very near future.

Plant of the Week
By: Ginny Rosenkranz, University of Maryland Extension

Correction from March 8, 2016 Report: Ipheion uniflorum was misidentified as Chionodoxa in last week’s report. The identification and text has been updated in the report posted online.

Magnolia stellata, star magnolia, is one of the first flowering trees to bloom in the spring. It is considered a tree as it reaches heights of 20 feet and a spread of 15–20 feet, but as a slow grower, many consider it a shrub. It is cold hardy from USDA zone 4-8, making it one of the most cold hardy of all the magnolias. Best of all, this magnolia blooms when very small! The star magnolia is usually grown as a multi-stemmed tree with a spreading, rounded to oval silhouette, and can be limbed up to show off the bark and multiple stems of the tree.

It prefers to grow in moist, organically rich, well drained soils with a pH of 6.5-7, in full sun, but it will grow in sandy to clay soils. In the winter the tree is covered with fuzzy pointed buds that open to reveal the fragrant flowers in the spring. The buds are often a soft to bright pink before opening to pure white or light pink flowers. The fragrant flowers are 3-4 inches in diameter with 12-18 narrow strap-like petals that are often wavy. The flowers on star magnolia open up one at a time, so during periods of cold, only some of the flowers are damaged
by the frost. All of the flowers open before the tree leaves out. The bark is a silver gray and smooth to the touch. Some of the cultivars bloom later than the species, making them less susceptible to cold damage. ‘Royal Star’ starts out with pink buds and has slightly larger, showier fragrant flowers with up to 25-30 petals. ‘Centennial’ has light pink flowers that are 5½ inches in diameter and 28-32 petals. ‘Waterlily’ blooms later than most and starts out with rich pink buds that open to pure white very fragrant flowers that have 24-35 petals. ‘Pink Stardust’ has 40-50 pink petals that open to 5-inch diameter fragrant flowers. Star magnolias bloom about 2 weeks before saucer magnolias and can be used as a specimen flowering tree or shrub or mixed into a shrub border. Scale insects are the only listed insect pest and Verticillium can sometimes be a problem.

### Phenology

<table>
<thead>
<tr>
<th>PLANT</th>
<th>PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf)</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forsythia</td>
<td>Full bloom</td>
<td>Columbia (March 20)</td>
</tr>
<tr>
<td>Lindera benzoin</td>
<td>First bloom</td>
<td>Ellicott City (March 24)</td>
</tr>
</tbody>
</table>

### Degree Days (As of March 22)

<table>
<thead>
<tr>
<th>Location</th>
<th>Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baltimore, MD (BWI)</td>
<td>77</td>
</tr>
<tr>
<td>Dulles Airport</td>
<td>75</td>
</tr>
<tr>
<td>Frostburg, MD (from Wiley Ford WV)</td>
<td>54</td>
</tr>
<tr>
<td>Natl Arboretum.Reagan Natl</td>
<td>119</td>
</tr>
<tr>
<td>St. Mary’s City (from St. Inigoes, MD)</td>
<td>106</td>
</tr>
<tr>
<td>Salisbury</td>
<td>99</td>
</tr>
</tbody>
</table>

**Dataloggers:**

- College Park: 158
- Frederick: 103
- Gaithersburg: 122

**Important Note:** Weather.com is not a reliable source of degree day data at this time. The degree days listed above are from weather data loggers placed out at three sites and calculations using weatherunderground.com min and max temperature data. Some sites are not available. The sites that have been used are listed with the nearest weatherunderground.com data listed in parentheses.
Commercial Horticulture Conferences

National Firewood Workshop
Thursday, April 21st, 2016
8:30 am—4:30 pm
Continuing Education Credits approved by ISA, SAF, ML
http://extension.umd.edu/events/thu-2016-04-21-0900-national-firewood-workshop

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