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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 found in the landscape or nursery to sklick@umd.edu

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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), David Clement (Extension Specialist), and Joe Roberts (Plant Pathologist for Turf)

Weed of the Week: Chuck Schuster (Extension Educator, Montgomery County)

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

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Dieback on Japanese Maples

By: Stanton Gill

Back in January when we were blasted with extremely cold weather of single digit temperatures, there was plant damage occurring. One of the plants that is suffering now is Japanese maple cultivars. The winter caused branch dieback on which cankers are forming as we move through April.



**A Japanese maple with winter damage and early Botryosphaeria infection
Photo: Stanton Gill, UME**

Canker diseases are common on many trees

and shrubs. Cankers are often associated with an open wound that has become infected by a fungal or bacterial pathogen. Canker diseases frequently kill branches or structurally weaken a plant.

Canker and stem dieback diseases are most common on trees and shrubs under stress, such as winter injury. Extended periods of extreme temperatures also cause stress to the plants. Opportunistic, infectious pathogens (fungi

or bacteria) enter a wound during these periods of plant stress. In this case it was the cold weather of January that caused the initial injury.

Botryosphaeria is a common disease that moves in on the wounded Japanese maple branches. There is not much to do except prune out the damaged wood this spring.



A healthy Japanese maple is starting to leaf out this week
Photo: Stanton Gill, UME

Ambrosia Beetle Update

By: Stanton Gill

We had two good warm days, and then it crashed back down to winter like weather. Results – no *Xylosandrus* beetle adult activity yet at CMREC in Clarksville, Darnestown and Frederick where we have baited alcohol traps.

Boxwood Mites and Spruce Mites

By: Stanton Gill

I examined boxwood foliage at CMREC on April 17th and the mites are still in the egg stage at this point. Foliage from the Olney area was also examined from Alberta spruce and the eggs were still present with no hatching on the stems. We should see spruce spider mites on dwarf Alberta and Norway spruces, but other spruce species are also susceptible. This mite is also found on Leyland cypress and several juniper species so monitor these plants for spruce spider mite hatch. The eggs have turned an amber to reddish color and they have a single hair (called a stipe) protruding out of the center of the egg. The length of the egg hatch is impacted by the weather. It is supposed to remain relatively cool for the next 7 days so we should continue to see hatch of spruce spider mites.

Horticultural oil at 1 – 2% rate can be use. The mite growth regulator (MGR) Hexygon (sygenta Company) is very effective at this early stage of development.



Spruce spider mite damage on dwarf Alberta spruce
Photo: David Clement, UME-HGIC

Boxwood psyllid, *Psylla buxi*

By: Nancy Harding, UMD

In this year's [April 6 IPM Alert](#), Stanton Gill wrote about boxwood psyllids being a common pest of *Buxus sempervirens* (American boxwood). On April 13 and 14 boxwood psyllid nymphs (egg hatch) were found inside the cupped terminal leaves of American boxwood in Bowie MD (GDD 110) and in Washington DC (GDD 189). Chris von Kohn, US National Arboretum, is finding nymphs, but notes that they are not widespread. Nymphs are green and rather flattened, with posterior fluffy white wax. There is one generation per year. If the accumulated growing degree days (GDD) in your area are close to GDD100-189, look inside the cupped terminal leaves of the American boxwood for young nymphs.

Control: The damage is insignificant in that it only causes new growth to cup slightly so control is usually not necessary. However, if you do choose to treat at this time, use insecticidal oil or soap sprays to control nymphs.



Within the cupped foliage (left), look for the green, waxy coated psyllid (above)

Boxwood Leafminer: Chris von Kohn, US National Arboretum, is finding the leafminers mostly in the pupal stage in Washington, D.C..

Oystershell scale, *Lepidosaphes ulmi*

By: Nancy Harding, UMD

Eggs of the oystershell scale were found this week on silverbell, *Halesia tetraptera*, in Adamstown. This native armored scale overwinters as eggs underneath the protective waxy covering of females. Oystershell scale occurs throughout the United States and is more common in the northern states than the southern states and has been recorded feeding on more than 30 plant families. Preferred hosts include lilac, beech, birch, ash, maple, poplar, willow, elm, boxwood, and fruit trees. The adult female covers are approximately 3mm long, convex, oystershell-shaped and can vary in color from light brown to dark brown to gray. The male covers are similar, usually smaller and may not be present. Eggs and crawlers are white.



Oystershell scale
Photo: John Davidson, UMD, Bugwood.org

Look for these oystershell shaped covers on the bark of the host plant. We will continue to monitor this scale and report egg hatch (crawlers) recorded to be sometime in late May.

Girdled Trees

Brian Scheck, Maxalea, Inc., reported that: “*Along an abandoned entrance to a house I saw 8 trees that had snow fence around the trunks of the tree. Obviously, they have been there for some time - maybe when they were planted to help with preventing deer rubbing. It is amazing how many evergreen trees I run across each year that people have forgotten to remove tree stake wires from trees. People just forget to look inside of trees.*”



Old wire from snow fencing has girdled this tree
Photo: Brian Scheck, Maxalea, Inc.

Excessive Mulch - Trees and Shrubs

From: [UMD Home and Garden Information Center](#)

Mulches in general, are beneficial to plant growth, however, if the wrong kind or too much is used they may be detrimental to plants. Keep organic and synthetic mulches several inches away from the trunk to prevent excessive moisture and the possibility of crown rot diseases. Organic mulches should not exceed three inches in depth. Although organic mulches break down over time they should only be replaced as needed to maintain their original depth.

Excessive mulching may encourage certain plant species to establish roots in the mulch layer rather than the soil underneath. Over time this can lead to root death due to desiccation during dry weather as the mulch dries out more quickly than the soil. Irrigation of mulched plants should be carefully monitored for water percolation through the mulch layer into the soil. Insufficient watering may only wet the mulch layer while the soil remains dry. Excessive mulch may delay the onset of dormancy in the fall by keeping root zone temperatures warm. In contrast, excessive mulch may prevent the breaking of dormancy in the spring due to cooler root zone temperatures.



Volcano mulching causes problems for trees and shrubs
Photo: Kevin Nickle, ProLawn Plus, Inc.

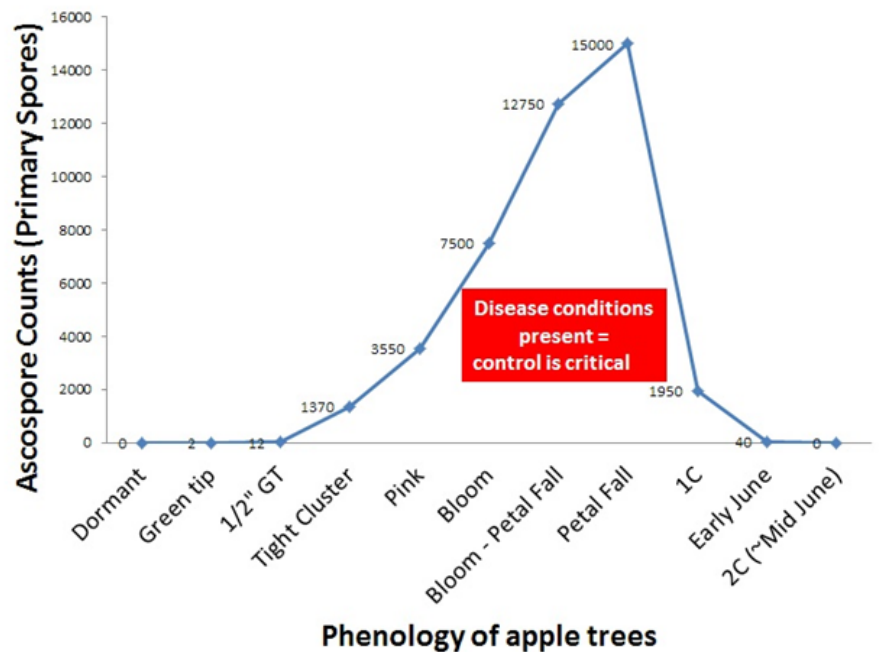
Apple Scab Activity

By: Kari Peter, Associate Professor, Penn State, PA State Biglerville Experimental Station report

Several of you tend apple and pear trees in your customer landscape. Kari Peter, Plant Pathologist, with the commercial fruit industry has the following advice for scab control:

The summer days late last week pushed the apple trees in Pennsylvania to finally reach green tip. Coinciding with green tip, the first mature apple scab ascospores have started to disperse. We detected a few mature ascospores from overwintering leaves on April 9; however, the numbers are still very low. The ascospores do not all mature and release at once. The ascospores will gradually disperse, peaking from late pink until petal fall (see figure 1). Consequently, save your best apple scab control products for your sprays from pink until petal fall when the disease pressure can be at its greatest.

Primary Period for Dispersal of Apple Scab Ascospores



Although it is on the chilly side with the temperatures, the amount of leaf wetness hours occurring is enough to trigger an apple scab infection period right now. April 15 – 16 (and maybe April 17) will be an apple scab infection period. If you had applied your dormant copper in the last week, your trees are protected during this infection period. However, this system has dumped at least 2 inches of rain on the region, and there is a good chance whatever had been sprayed has been washed off. With the cooler temperatures this week, another copper spray could be applied if your trees have not reached ½ inch green tip. If you are well past ½ inch green tip, consider using mancozeb only, or Syllit at 1.5 pt/A plus mancozeb 3 lb/A.

Sapsucker Damage

Connie Bowers, Garden Makeover Company, is reporting: “I’ve seen a lot of sapsucker damage on *Viburnum rhytidophyllum* (leatherleaf viburnum) and *Viburnum rhytidophylloides* ‘Allegheny’ (Allegheny viburnum) in northern Silver Spring (Colesville and White Oak areas). These are mostly plants that have suffered sapsucker damage repeatedly for each of the past several years, and a couple at this point are losing their bark.”

Yellow-bellied sapsuckers make two types of holes; round holes that go deep into the tree that are not enlarged in which sapsuckers probe for sap; and shallower rectangular holes that are maintained continually for the sap to flow. Previously called a migratory species, sapsuckers are now being reported to be winter residents in this area.



Yellow-bellied sapsucker damage is commonly found on viburnums in this area
Photo: Connie Bowers, Garden Makeover Company

Gymnosporangium Rusts

Cedar-apple, cedar-hawthorn, cedar-quince, Japanese apple rust, and pear trellis rust infections are currently visible on the stems of Eastern red cedar and a few ornamental juniper cultivars. Marty Adams, Bartlett Tree Experts, reports that the telia are starting to swell and become gelatinous on heavily infected junipers in Clarksville this week. If warm weather and rain occurs, look for sporulation to happen quickly.

Management: Timing is critical for good disease management on the pomaceous hosts that include apple, crabapple, hawthorn, quince, and pear) The sprays have to be applied when spores are being shed from the junipers, usually starting in mid to late March-April. No chemical control is usually advised to prevent infection of the junipers. The period during which the pomaceous plants are infected is relatively short, usually from the start of symptoms on juniper through May. Spray susceptible crabapples, apples, quince, pears, and hawthorn during this time period with a labeled fungicide.



The telia of gymnosporangium rusts are swelling up and becoming gelatinous in Clarksville this week

Photos: Marty Adams, Bartlett Tree Experts

Aphids on Roses

Oscar Peña, Wray Brothers Landscapes, found foxglove aphid, *Aphis armada*, on roses in Chevy Chase this week. Oscar noted that the population was starting to build up on the shrub. Look for predators such as lady bird beetles and syrphid fly larvae. Monitor plants to see if populations continue to increase and whether control is necessary.



Aphid populations are showing up on roses this week
Photo: Oscar Peña, Wray Brothers Landscape

Beneficial of the Week

By: Rebecca Waterworth and Paula Shrewsbury, University of Maryland

Green is nice, but brown is beautiful, too!

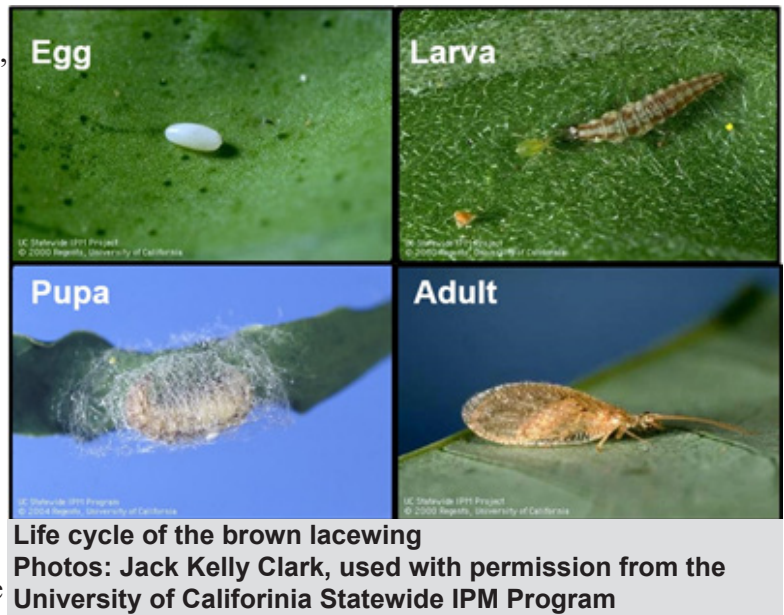
At the end of March, we received an email from a former student who had proudly and excitedly identified an adult brown lacewing (Order Neuroptera, Family Hemerobiidae), which was caught between the glass and screen of her window. As her former professors, we were proud that she knew what to do with her “catch.” She released this small insect (3/8”) on a houseplant that was infested with mealybugs. Brown lacewings, like their relatives the green lacewings (Family Chrysopidae), are known as generalist predators. However, despite their role as a natural enemy, much of the literature that we reviewed mentioned that the distribution and biology of many North American species of brown lacewings are “poorly known.”

Neuroptera means “nerve wings,” and for folks who have excellent close-up vision (or a hand lens), they can see numerous veins which can look like nerves crisscrossing the wing’s surface. All insects in this order undergo complete metamorphosis, which means there are egg, larval, pupal, and adult stages (see the figure for the brown lacewing’s life cycle). Larvae of green lacewings are infamous predators, and depending on the species, adults are predacious as well. Brown lacewings are predacious as larvae and adults and specialize on small, soft-bodied prey, including mites, aphids, mealybugs, scales, whiteflies, thrips, small caterpillars, psyllids, and insect eggs.

Other traits are helpful to distinguish between these two families. As the name implies, adult brown lacewings are various shades of brown and about half the size of green lacewings. For brown lacewings, eggs are oviposited (or laid) directly on a leaf surface, not on a [stalk](#). After about four days, the first instar (or stage) hatches and immediately searches for food. While searching, a larva moves its head rapidly from side to side, and after prey is encountered, it uses its thin mandibles to puncture and then suck out the contents of its victim. There are three larval stages, all of which grow successfully larger, but each stage is still more slender than any stage of green lacewing larva. The head and jaws of a brown lacewing larva are smaller, too. See this [video](#) of a brown lacewing larva and note its overall slimmer appearance. Pupation occurs in silken cocoons that are woven loosely and attached to plants or under loose bark.

Brown lacewings are associated with dense vegetation, including trees and shrubs and collected most often in wooded areas. You might be asking yourself “How come I haven’t seen one?” There are fewer species of brown lacewings (61 in North America) compared to green lacewings (84 species), and they are considered less common. After reading the Natural Enemies Handbook, we discovered that brown lacewings seem to prefer cooler temperatures, which may explain why my student observed her lacewing at the end of March. Unfortunately, brown lacewings are not available commercially for purchase, so conserving their woody habitat is important to ensure that they remain present in your managed landscape.

One last question is why the lacewing was caught in a window. Adult lacewings fly predominately at night and are often seen when drawn to lights. As professors, we like to think that our former student was up late studying with her light on!



Weed of the Week

By: Chuck Schuster, University of Maryland Extension

Hairy bittercress, *Cardamine hirsute*, is a weed found throughout the northeast. This summer annual can sometimes be found as a winter annual in landscapes and turf, and is currently showing up in many landscape and turf settings in Central Maryland. Hairy bittercress is one of several weedy plants in the Mustard family that is native to Eurasia. It has a taproot and branches that are erect and reach twelve inches in height. This plant has alternately arranged leaflets occurring in two to four pairs. The leaflets are rounded and emerge from a petiole that is hairy. Leaf size decreases as they emerge higher on the stem. The flower of this weed is in clusters at the end of flowering stems, are two to three mm in diameter, and are made up of four petals. The fruit of this weed is a silique, a narrow capsule that is designed to release the seeds held within in an explosive manner, spreading the seed up to eight feet from the plant. In one research study, the average plant produced 68 of these siliques or seed pods with an average of 29 seeds per pod. This plant is quick growing and can have several crops or generations in one season.



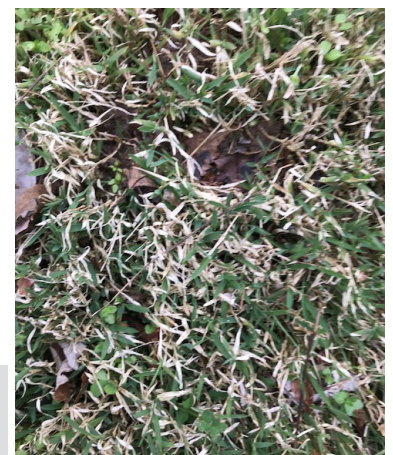
Often identification is a problem, Hairy bittercress is sometimes confused with Calepina (*Calepina irregularis*), but upon close examination it will be noted that calepina does not have 2 to 4 pairs of round leaflets like hairy bittercress does. Waxy bittercress can also be confused with hairy bittercress. The flowers of hairy bittercress have 4 stamens, while the flowers of waxy bittercress have 6 stamens.

Control of this weed is difficult especially with having it germinate this time of year. Cooler temperatures can make post emergent control harder without the plant being in active growth. Hairy bittercress control can be accomplished with the use of Pre-emergent products that include oxadiazon (Ronstar), flumioxazin (Broadstar) or isoxaben (Gallery). Post emergent products can provide excellent control in turf, they include, 2,4D and triclopyr (Chaser) Metsulfuron (Blade), Speedzone (tri-mec + Quicksilver) works better in the cooler weather. Use caution with the post emergent products that have potential to volatilize near landscape materials to prevent potential for damage.



Hairy bittercress has erect stems that can reach 12 inches (above) and a taproot (below)
Photos: Chuck Schuster, UME

Weed Note: Kevin Nickle, ProLawn Plus, Inc. is finding nimblewill greening up in the area.

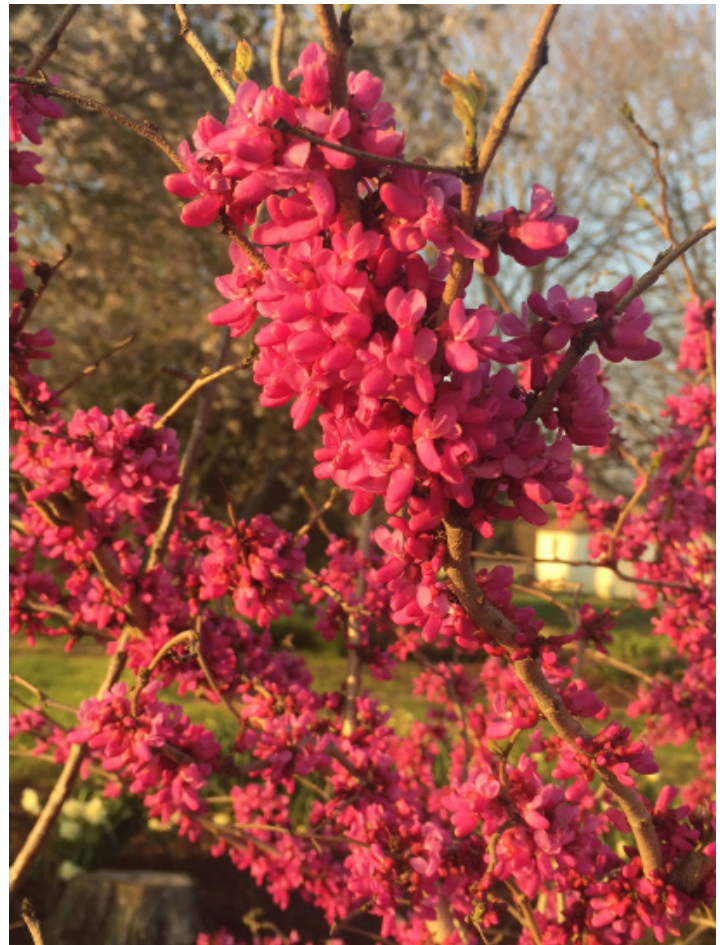


UMD Home and Garden Information Center has information available online on [nimblewill](#)
Photo: Kevin Nickle, ProLawn Plus, Inc.

Plant of the Week

By: Ginny Rosenkranz, University of Maryland Extension

Cercis chinensis 'Don Egolf', a US National Arboretum introduction in 2000, is a compact version of the Chinese redbud that can grow 10 to 12 feet tall and wide. It blooms best in full sun and will tolerate light, partial shade. The plant grows as a multi-stemmed, upright shrub and is cold hardy in USDA zones 6-9. *Cercis chinensis* 'Don Egolf' prefers to grow in moist, well drained soils and dislikes dry or heavy clay soils. The flowers are pea-shaped, vivid rosy pink-purple in color covering the stems and branches in clusters, and continue to bloom for 2-3 weeks. Unlike the species, 'Don Egolf' Chinese redbud flowers are sterile so no decorative pods full of seeds are formed making fall and spring cleanup easier. The heart-shaped foliage emerges after the flowers are finished and are a leathery dark green that can expand to 3-5 inches across. Fall color of foliage is a pale yellow. Leaves are spaced in an alternate fashion along straight stems. After a few years of planting and establishment, 'Don Egolf' develops a strong taproot making it difficult to move. Listed as deer resistant in some publications and not deer resistant in others, 'Don Egolf' does have good resistance to Botryosphaeria canker, a common disease that affects both our native and the Chinese redbuds. As a lovely compact shrub, 'Don Egolf' can be planted in full sun as a specimen or in a shrub border, in naturalized areas or light woodland gardens. Pests include leaf spots, Verticillium wilt, tree hoppers, caterpillars, scales and leafhoppers.



Cercis chinensis 'Don Egolf' blooms best in full sun, but will tolerate light shade
Photos: Ginny Rosenkranz, UME

Phenology

PLANT	PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf)	LOCATION
<i>Camellia japonica</i> ‘Jerry Hill’	First bloom	Ellicott City (April 17)
<i>Lindera benzoin</i> (spicebush)	Full bloom	Ellicott City (April 14)
<i>Syringa vulgaris</i> (common lilac)	First bloom	Bowie (April 18)

Degree Days (As of April 18)

Aberdeen, MD (KAPG)	112	Annapolis Naval Academy (KNAK)	163
Baltimore, MD (KBWI)	154	College Park (KCGS)	167
Dulles Airport (KIAD)	165	Frederick (KFDK)	121
Ft. Belvoir, VA (KDAA)	193	Greater Cumberland Reg (KCBE)	106
Gaithersburg (KGAI)	157	Martinsburg, WV (KMRB)	122
Natl Arboretum.Reagan Natl (KDCA)	197	Salisbury/Ocean City (KSBY)	188
St. Mary’s City (St. Inigoes, MD-KNUI)	199		
Westminster (KDMW)	137		

Important Note: We are now using the [Weather Underground](#) site for degree days. It changes some of the locations available.

1. Enter your zip code (not all locations are included, check nearest weather station to your site) and hit enter
2. Click the “custom” tab/button below the date
3. Enter the start date below the word “from” (ex. Jan. 1) and the end date below the word “to” (current date)
4. Hit the get “history” button
5. Read your growing degree days (base 50) in the ‘Sum’ column (=Cumulative DD to date for the year)

Upcoming Conferences

2018 Maryland Urban & Community Forestry Summit

Organized by the Maryland Forestry Foundation
 May 11, 2018
 4.5 Maryland Licensed Tree Expert CEUs
 (Submitted to ISA for CEU approval)
 Location: Patuxent Wildlife Visitor Center, Laurel, MD

**Registration links for conferences
 are posted at:**

<http://extension.umd.edu/ipm/conferences>

Eastern Shore Pesticide Recertification Conference

June 1, 2018
 Location: Wye Research and Education Center, Queenston, MD
 Contact: Ginny Rosenkranz, rosnkranz@umd.edu

2018 Procrastinators’ Pest Management Conference

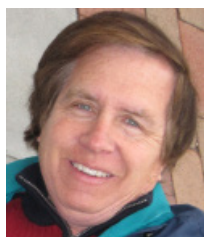
June 8, 2018
 Location: Montgomery County Extension Office, Derwood, MD
 Contact: Chuck Schuster, cfs@umd.edu

The Pest Predictive Calendar is a monitoring tool to assist in predicting when susceptible life stage(s) (stage you want to target for control measures) of pest insects are active by using plant phenological indicators (PPI) and growing degree days (GDD). This tool will lead to improved timing of management tactics and more effective pest management.

We recently made updates to this calendar.

Check it out at [Pest Predictive Calendar](#)

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