TPM/IPM Weekly Report
for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture
June 19, 2015

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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)
Fertility Management: Andrew Ristvey (Extension Specialist, Wye Research & Education Center)
Design, Layout and Editing: Suzanne Klick (Technician, CMREC)

Mayflies

By: Stanton Gill, UME

Mayflies showed up late this year appearing in early June. A dense swarm of mayflies caused motorcycle crashes and the overnight closure of a bridge in Pennsylvania. The sheer volume of insects reduced visibility and turned the road surface of the bridge over the Susquehanna River, in Lancaster County, into a treacherous, slippery mess. Piles of mayflies up to 2ft (0.6m) deep were seen the morning after. The bridge was closed late on Saturday, reopening early on Sunday, police said.

Immature mayflies live in water, before hatching as adults to mate in swarms. When they emerge, they molt into an immature winged form (subimago) before molting into an adult. Mayflies are the only living insects that molt after they have wings. Adults do not feed.
Scale Update

Gloomy Scale
By: Stanton Gill, UME
Steve Sullivan, The Brickman Group, reported heavy populations of gloomy scale on red maples in Northern Virginia. The females of this armored scale are still in the 3rd instar stage. Crawlers should be out in early July. If someone has branch samples send them in late June and I will look for egg laying. Send it to me at CMREC, University of MD, 11975 Homewood Road, Ellicott City, Maryland.

Control: Talus or Distance applied at crawler stage should give control.

San Jose Scale
By: Stanton Gill, UME
San Jose scale has been showing up more and more in the last 5 years. It feeds on several species of Prunus. There was a crawler period in mid May and the second generation with crawlers should be coming up in mid July.

Control: Distance or Talus is effective at the crawlers period.

Japanese Maple Scale
Marie Rojas, IPM Scout, is still finding plump eggs under female covers in Central Maryland. Monitor this scale in your area to determine its current stage of development. Crawler timing has varied in the region this season.

Control: Distance or Talus is effective at the crawlers period.

Cryptomeria Scale
Marie Rojas, IPM Scout, is finding both eggs and some immatures of cryptomeria scale. If the majority of the eggs have hatched (crawlers), this is the time for optimal control.

Monitoring: Cryptomeria scale prefers hemlock, fir, and pine (not Cryptomeria). This introduced armored scale has 2 generations per year. Crawlers are yellow and usually appear in June and August. Look for discolored needles showing yellowish-to-brownish blotches. All stages of cryptomeria scale are found on the underside of needles. The covers of the adult females are elongated, oval and translucent to light brown. Male covers are similar but smaller. Also, look for holes in the scale’s wax covering indicating parasitoid activity.

Control: If crawlers are abundant apply pyriproxyfen (Distance) or buprofezin (Talus) mixed with 0.5 - 1% horticultural oil for control. If there is parasitoid activity, use only insecticidal soap or oil sprays. Be sure to get good contact for best control.

MDA Pesticide Container Recycling Program for 2015
For more information:
**Tarnished Plant Bugs**

Tarnished plant bugs are active now. They feed on the developing leaves, fruits, and flowers of woody and herbaceous plants. If populations are high enough, tarnished plant bugs can damage plants. With their piercing sucking mouthparts, they cause stippling and necrotic spots on foliage and deformed foliage, flowers, and fruit. Tarnished plant bug has a wide host range. Herbaceous plant hosts include helichrysum, rudbeckia, asters, zinnia, chrysanthemum, snapdragon, sunflower, cleome, and gomphrena. This bug also infests tree fruits and flowers.

**Bagworms**

Reports are still coming in of bagworms hatching. Marie Rojas, IPM Scout, has been finding them hatching out on quite a lot of deciduous plant material, including *Prunus sargentii* and *Malus x domestica*. Tony Murdock, Fine Pruning, found an infestation on arborvitae in Mt. Airy. An early instar bagworm was even found feeding on iris foliage this week.

**Control:** Bt (Dipel, Caterpillar Attack), Spinosad (Conserve) or Acelepyrn will all give good control of young larvae.

**Japanese Beetles**

Japanese beetle adult activity is starting to increase throughout the area. Linda Barker, Halycon Landscapes, is finding them in wildflower meadows in Harford County, and Jessica Frakes, Thrive, Inc., is finding them on crape myrtles in Potomac. Japanese beetle adults can cause significant damage to many species of ornamental plants, most commonly linden trees and roses. **Control:** Acelepyrn is one of the new materials with a label in Maryland. It lasts about 3 weeks in controlling adult beetles. Older materials that work include bifenthrin and permethrin.
Gypsy Moth Caterpillars
We are receiving a few reports of gypsy moth caterpillars, but no reports of high numbers or heavy damage at this point. Marie Rojas, IPM Scout, found one gypsy moth caterpillar on red oak in Frederick County. She noted that it was the first one she has found in years. Ginny Rosenkranz, UME, found a dead gypsy moth caterpillar on the Eastern Shore. Paul Subong, Benfield Tree Service found one caterpillar on a red oak in Crownsville on June 12.

Red Milkweed Beetles
Red milkweed beetles (*Tetraopes tetrophthalmus*), were found feeding on common milkweed in Bowie this week. Red milkweed beetles are herbivores, in the family *Cerambycidae* (long-horned beetles), and are given this name because they are generally host specific to milkweed plants (genus *Asclepias*), though they may occasionally be found on other related plants such as dogbane. The head, pronotum, and elytra of *Tetraopes tetrophthalmus* are bright red, while the legs and antennae are black. The scutellum is also black. Typically there are four black spots on the pronotum and four on each elytron.

The larvae bore into the stems and roots of the milkweed plant. Adults eat the leaves and buds of the milkweed. *Tetraopes* is one of the few insects that can safely feed on milkweed. Others include the monarch butterfly caterpillar and the milkweed leaf beetle, *Labidomera clivicollis*.

Control is not necessary.

Redbud Leaffolder Caterpillar
Marie Rojas, IPM Scout, found the redbud leaffolder, *Fascista cercisella*, feeding redbud leaves. Larvae skeletonize leaves and fold them over while feeding.
**Witchhazel Leaf Gall**
Cecily Perez, Facility Service Company, found witchhazel leaf galls on witchhazel which are caused by the aphid, *Hormaphis hamamelidis*. The alternative host for these aphids is birch. No control is necessary.

**Galls on Linden**
Cecily Perez, Facility Service Company, found two types of galls on linden this week. Both are caused by eriophyid mites. One is a spindle gall found on both the upper and lower leaf surface. The other type is a felt-like gall found on the underside of the leaf. These galls do not cause serious injury to the trees.

**Golden-backed Snipe Fly, Chrysopilus thoracicus**
Nancy Woods, Montgomery County Parks, sent in a photo of a golden-backed snipe fly, *Chrysopilus thoracicus*. Several species have been active this spring. They are often common in wooded areas. Both adults and larvae are predaceous.

**Tobacco Hornworms**
Jessica Frakes, Thrive, Inc., is finding tobacco hornworms on tomatoes this week. Caterpillars can be handpicked off plants. Keep an eye out for both the small eggs of tachinid flies (usually laid near the head) and the cocoons of braconid wasps (usually along the back and toward the rear of the caterpillar) which feed on this caterpillar.
Beneficial of the Week
By: Paula Shrewsbury, UMD

Firefly flashing has begun!
This past week I saw my first fireflies of the season. Fireflies (a.k.a. lightening bugs) are beetles (interestingly not bugs or flies) in the order Coleoptera and the family Lampyridae. There are over 2000 known species of fireflies. Fireflies are found in temperate and tropical regions and in the humid regions of the Americas, Asia, and Europe. Most adult fireflies in the U.S. are about ¾” in length and are active at night. Adults and larvae of many firefly species exhibit bioluminescent – they glow in the dark! Most of us have fond memories of catching fireflies as a kid and putting them in glass jars to watch during the night. That was fun! Recently, I met someone who was brought up in California and had never seen fireflies before… sad. It turns out the species common to the western U.S. do not glow! Many firefly species have special light organs that make the underside of their abdomens light up. The insects take in oxygen and, inside special cells, combine it with a substance called luciferin to produce light. The purpose of this bioluminescence varies. Both males and females emit light that is intermittent or in flashes. The rhythmic flash patterns produced are specific for each species of firefly and vary by sex. It is believed that the flashes are part of a signaling system for attracting mates. Adult females lay eggs in the soil. Larvae, which are active in the soil and referred to as glow worms also glow and are believed to glow as a warming signal to predators not to eat them as they are mildly toxic and taste nasty. It is not well known what all adult fireflies feed on but some feed on pollen and nectar and some do not feed at all. Interestingly, in one species of firefly the female mimics the flash pattern of another species to attract the male of the other species which it then feeds on – surprise for that male! The soil active larvae or glow worms are known to feed on slugs, snails, worms, and other soil-dwelling insects. To assist glow worms in their feeding they first inject their prey with a substance that numbs the prey, making it defenseless.

It is thought that firefly populations may be in decline due potentially to changes in land use (ex. meadows or fields becoming housing developments or parking lots) and light pollution. Many articles refer to this decline and to anecdotal evidence of firefly population decline. To my knowledge there is no data supporting these claims.
Marsh yellowcress, *Rorippa palustris* L., is a member of the Brassica or Mustard family. This plant can be found in many settings and is often found in nurseries and landscapes. This plant is classified as an annual or biennial, which is one method of identification between this plant and a very similar plant, yellow fieldcress. Marsh yellowcress prefers areas that will be wetter at times, stream edges, areas that flood or remain damp for extended periods of time, locations that are irrigated and where pools form. The leaves are alternate, arising from a basal rosette. They are deeply lobed, oblanceolate in shape. Leaves on the upper stem are smaller and have a toothed margin and are usually sessile. The upper stems end in a raceme of flowers about 2-8” in length. The flowers are small, light yellow in color, with four petals. The seeds are yellowish brown and tiny. The usual plant height is no more than twenty four inches, often less. This plant reproduces by seed. Each plant is a prolific seed producer, with each raceme producing between 20 and 90 seeds. The plant has a taproot system.

Control of marsh yellowcress can be obtained using moisture management. In nursery settings attempt to manage moisture very carefully as this plant prefers the wetter medias. This is difficult during the initial planting stages. Preventing this plant from going to seed in areas where plants are in pots may be achieved using Marengo SC which has shown to provide more than 14 weeks of control and most pre-emergent products applied in the late summer/early fall and again in the spring will keep marsh yellowcress under control in landscapes or pots where plants are established. It is not a deep rooting plant and does respond to mechanical removal.

All photos: Chuck Schuster, UME
**Plant of the Week**  
**By: Ginny Rosenkranz**  

*Hemerocallis* x ‘Happy Returns’ is an ever blooming daylily with fragrant sunny yellow flowers on a compact plant. The flowers are prolific and with a full sun site and weekly watering, will rebloom from June through October. The 3-inch, slightly ruffled flowers are held upright on 18-inch stems, just above the 16-inch tall dark green strap like foliage. Like many other daylilies, ‘Happy Returns’ has semi-evergreen foliage depending on how far north the plants are located. Daylily flowers bloom only for 1 day, but ‘Happy Returns’ flowers bloom from early morning until late in the evening, often for 16 hours or more. The plants are not picky about soil pH but do prefer being planted in organically amended soils and are hardy from USDA zone 4-11. ‘Happy Returns’ is very drought tolerant once established, but will give an outstanding flower show with weekly applications of at least an inch water. These compact plants are excellent as edging in an herbaceous border, a ground cover in the sun, cottage gardens, container gardens and meadow gardens. In the early spring slugs and snails can be pests. Later in the summer aphids, spider mites, hemerocallis gall midge and thrips can be insect problems. Daylily rust can be a disease problem.

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**Phenology**

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<th>PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf)</th>
<th>LOCATION</th>
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<tr>
<td><em>Asclepias incarnata</em></td>
<td>First bloom</td>
<td>June 16 (Ellicott City)</td>
</tr>
<tr>
<td><em>Asclepias tuberosa</em></td>
<td>First bloom</td>
<td>June 15 (Ellicott City)</td>
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*Hemerocallis 'Happy Returns' brightens up the landscape*  
*Photos: Ginny Rosenkranz, UME*
Degree Days (As of June 18)

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To check degree day (DD) accumulations in your local area go to:  
http://www.yourweekendview.com/outlook/agriculture/growing-degree-days/. Note: degree days reported in this newsletter use a base temperature of 50 °F, a start date of January 1st, and the date of monitoring as the end date.

MAC-ISA Arborist Certification Course
August 17-19  
NVCC Loudoun Campus, Sterling VA  
Taught by Joe Murray

Class to prepare for the Arborist exam or get 24 ISA CEUs if already certified.

Topics include all domains of the ISA Arborist Test, such as Tree Biology, Soil Science, Pruning, Plant Health Care, etc. Ability to register 1, 2 or 3 days may be available, contact the office.

For more information or to register visit www.mac-isao.org  
Questions call 703-753-0499.
Upcoming Conferences:

Greenhouse Tour and MNLGA Picnic
June 25, 2015
Location: Greenstreet Growers, Lothian, MD

Summer Meeting of the Maryland Christmas Tree Association
June 27, 2015
Location: Pine Valley Christmas Trees, 342 Blake Road, Elkton, MD 21921
Meeting includes a 60th MCTA Anniversary celebration. For more information: GaverTreeFarm@aol.com or http://www.marylandchristmastrees.org/

Alternative Greenhouse Crops Conference
August 5, 2015
Location: Brookside Gardens, Wheaton, MD

LCA Hands-on Training Seminar
September 16, 2015
Location: Johns Hopkins University, Montgomery County Campus

Interiorscape Conference
October 1, 2015
Location: Rawlings Conservatory, Baltimore, MD

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery and Landscape Association, Professional Grounds Management Society, and FALCEN for your financial support in making these weekly reports possible.

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

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