TPM/IPM Weekly Report for Arborists, Landscape Managers & Nursery Managers University of Maryland Cooperative Extension

April 18, 2008

Coordinator of the electronic weekly IPM report:
Stanton Gill, Extension Specialist, IPM for Nursery, Greenhouse and Managed Landscapes, Sgill@umd.edu. 301-596-9413 (office) or 410-868-9400 (cell)

Regular Contributors:
Pest and Beneficial Insect Information: Stanton Gill and Paula Shrewsbury (Extension Specialist)
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 (Regional Specialist, Wye Research & Education Ctr)
Design, layout and editing: Suzanne Klick and Shannon Wadkins (Technicians, CMREC)

Please call us if you are a commercial horticultural business finding insect, disease, weed or cultural plant problems in the landscape or nursery. Send submissions to Sklick@umd.edu or call Stanton Gill at 301-596-9413.

Invasive Tree Borer Certification Training – Big Success
Thirty two arborists, city forest managers and landscape managers participated in our first training session for First Detectors of Invasive Insect Species. Mike Raupp, Dick Bean and Stanton Gill provided the training with assistance from Shannon Wadkins, Suzanne Klick, Chris Sargent and Paula Shrewsbury. Participants received extensive identification training in detecting emerald ash borers (EAB), Asian longhorned borers, and the wood wasp *Sirex noctilio.* The afternoon session involved getting down on hands and knees and learning to use a draw knife to look for EAB, redheaded ash borer, and banded ash clearwing larval galleries in ash wood. The hands-on part of the training was a big hit.

Packed frass in larval galleries made by redheaded ash tree borer

Emerald ash borer tracks after using the draw knives to remove the bark.

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible. Photographs by Suzanne Klick, Stanton Gill or Shannon Wadkins unless otherwise noted.

Each of the participants took a written and practical exam. Those individuals who passed the exam will receive certification as First Detectors in the National Diagnostic Network Program. Those attending the training were provided an extensive notebook with color pictures of damage and life stages of each of the invasive species covered in the training. MDA provided one draw knife to each company to help in diagnosing larval damage in the field. If you missed this session we plan to hold it again next year so watch for future announcements of training sessions.

Special thanks to the Maryland Arborist Association and the Maryland Department of Agriculture in working with our IPM team at the University of Maryland Cooperative Extension on conducting this training session.

Woodpecker damage on ash

Dick Bean brought in samples of ash with woodpecker damage for the training session. He noted that when ash trees are infested with the larvae of the emerald ash borer that woodpeckers will commonly be found pecking through the bark which makes a great monitoring tool.

Asian longhorned beetle exit hole

Sapsucker Injury of Nellie Steven's Holly

Ben Hall, Mainscapes Landscape Company, brought in pictures of Holly 'Nelly Stevens' that had fresh injury from sapsucker injury. The sapsuckers are migratory and maybe they have moved north already. The interesting thing is John Austin, Green Gardens, called in January and told us of apparently fresh sapsucker damage. I told him the damage was probably from the fall but he felt it was current. As far as I know sapsuckers head south in late fall and return sometime in the spring. If someone who is up on birds can enlighten us on the migration timing let us know. **Photo by Ben Hall**

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible. Photographs by Suzanne Klick, Stanton Gill or Shannon Wadkins unless otherwise noted.

Leyland Cypress, Arborvitae, Cryptomeria, and Junipers

If you are growing any of these plants at your nursery or your customers have these plants in their landscapes you need to look carefully for Maskell Scale, *Lepidosaphes pallida*, on the foliage. John Speaker brought samples in from a nursery last week and we have received samples from Carroll and Montgomery Counties in the last couple of weeks. This armored scale appears to be showing up more frequently on Leyland cypress and cryptomeria. We received samples of Leyland cypress from several sites with minute cypress scale present in abundant numbers. In some cases Maskell scale and minute cypress scale have been found on the same plants.

In 1991, Hodgson and Hilburn reported Bermuda cedar that was infested with both Maskell scale and minute cypress scale killed entire trees and almost eliminated the Bermuda cedar on Bermuda. The problem with Maskell scale and minute cypress scale is the increase in the frequency of samples we have been receiving at CMREC.

The exact number of generations per year is not clear for Maskell scale. Davidson and Miller (2006) reported that in Maryland, adult males are present in late September into October along with all stages including eggs, crawlers, 2nd instar and adult females. If you have infested plants please let us know when you see crawlers so we can alert others in the state. Thanks.

Maskell scale on cryptomeria

Minute cypress scale on arborvitae

Gloomy Scale, *Melanspis tenebricosa*

Marty Adams, Barlett Tree Experts, brought in a maple sample that was heavily encrusted with gloomy scale, *Melanspis tenebricosa*. What a great name – gloomy scale. It does look like a gloomy landscape when you examine the covers under a microscope. The females are circular and brown to gray. The males are more elongated and black in color. The photo shows a close-up of the scale covers. There is one generation per year in Maryland and egg laying occurs in July and continues through August.

Control: In July and August use Distance or Distance and 0.5 horticultural oil mixture.

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible. Photographs by Suzanne Klick, Stanton Gill or Shannon Wadkins unless otherwise noted.

Pine Bark Adelgids
Marie Rojas reported on April 10 that pine bark adelgids were just starting to appear on white pine at the tip of the needle whorls.
Control: Trees can tolerate relatively high populations of these adelgids. If the aesthetic of the "snow" on the tree is an issue you can wash / scrub the adelgids and their wax from the tree. Wait for egg hatch if you decide to apply a chemical.

Hemlock Woolly Adelgids
Crawlers of hemlock woolly adelgid are just starting to become active this week on hemlocks in Ellicott City.
Monitoring: Look for reddish crawlers as they emerge from the white, woolly egg sacs.
Control: Merit (imidacloprid) soil application, Safari (dinotefuran) soil application, Tristar (acetamiprid) foliar spray.

Tuliptree Scale
Marie Rojas, IPM scout, found tuliptree scale immatures on *Magnolia stellata* and *Magnolia x soulangiana* on April 10 in Laytonsville. Marie also found this scale on Magnolia 'Jane' in Beallsville. It also gets on tuliptree. This scale overwinters as immatures and will begin feeding shortly. They can produce lots of honeydew throughout much of the summer.
Control: You can treat these now with horticultural oil or a systemic labeled for soft scale (Merit (imidacloprid), Safari (dinotefuran), Tristar (acetamiprid) foliar spray only).

Indian Wax Scale
Marty Adams brought in a sample of holly with overwintering adult female Indian wax scale from Ellicott City on April 15. This scale can be found on a number of different landscape plants. Look for this scale on barberry, pyracantha, camellia, and most holly species but not on American holly.
Monitoring: Examine plants for crawlers in early June.
Control: Wait and target the crawler stage. For now you can hand remove the white scales. They "flick" off the branches easily.

Sawdust Shortage?
Last week we put out a report on a shortage of wood mulch and higher prices in 2008. One alert reader sent me an e-mail with an article attached from the Baltimore Sun Paper. The article mentions that there is a shortage of sawdust in the northeast where people are finding they cannot obtain sawdust this spring. People in the west can find some sawdust but the price has doubled from 2007 when a trailer load of sawdust was $800 to $1400 in 2008. The sawdust is used to make wood pellets for wood stoves, and for large farm animal bedding. Many locations have been using

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible. Photographs by Suzanne Klick, Stanton Gill or Shannon Wadkins unless otherwise noted.

sawdust to burn instead of oil this winter, contributing to the shortage. The short falls on sawdust is again due to the slow down in the housing market and the resulting lower activity in sawmills.

Ambrosia Beetles

In last week's report we put an announcement out that we had our first positive adult female ambrosia beetle drilling into sweet bay magnolia and *Cornus kousa* dogwoods. In Maryland we usually see *Xylosandrus germanus* (commonly called the Black stem borer) attacking *Styrax*, yellowwood, dogwoods, sweet bay magnolias, sugar maple and occasionally holly. The females have been overwintering in leaf litter and became active with the short warm spell on April 10- 12. The females bore into sapwood, constructing a brood chamber with branching side tunnels. The fungus A*mbrosiella hartigii* is planted by the female from her myganium (kind of a pocket). Eggs are laid and the larvae feed on the growing fungi. It takes about 50-55 days to complete a lifecycle within the plant. Pupation and mating occurs within the galleries. The males do not fly and do not leave the rearing chamber. Females disperse and start a second generation in the summer.

Monitoring: Look closely for wet areas on the trunk and for small holes and sawdust / toothpick-like in shape coming out of the holes. Watch for another influx of beetles into the beetle traps as the weather starts warming up this week.

Control: NOW is the time to protect your bark before the adults get into your trees. Onyx (nurseries) and Onyx or Astro (landscape) should provide the best control for this pest.

Adult ambrosia beetle

Wet areas and frass by holes with ambrosia beetles on Styrax.

Katydid Eggs

Katydids look like large grasshoppers with long antennae and thin jumping hind legs. The most common one in Maryland is green and the body and wings, when folded, look like a leaf. In the fall the females lay a cluster of disc-like gray colored eggs on branches of shrubs and trees. Marie Rojas found katydid eggs inserted on a deciduous magnolia branch in Frederick.

Control: Control is not necessary.

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible. Photographs by Suzanne Klick, Stanton Gill or Shannon Wadkins unless otherwise noted.

Clover Mites7
Clover mites are active this time of year. They live in the turf or grasses and often migrate. Your customers might see them on the sunny sides of buildings or on windowsills as we have warmer days this spring. Clover mites are a large, red mite with elongated front legs. Mites will be active into May.
Control: The mites are harmless so control is not necessary. Note: if you squish them they will streak red.

Peachtree Borer in Cherry Laurel

We are receiving a lot of digital photos of cherry laurels with scorched foliage. There can be a lot of causes of the leaf scorching but one you need to check for is injury from peachtree borer larvae. Steve Sullivan, The Brickman Group, examined cherry laurel at a couple of his sites and dug out the larvae of peachtree borers, which are caterpillars. The larvae are found at the base of the plant at and below the soil level. The bark may appear cracked and gnarled, and somewhat girdled. With the extended drought in 2007 the cherry laurels were very susceptible to attack from peachtree borer. The larvae actively feed in the cambium in April and May and adults should show up in mid-summer.
Control: Nothing at this time of year. This summer you can apply Astro or Onyx in the landscape to protect the base of the tree against a new infestation. We will put out a report on when the adult peachtree borers are active this summer.

Southern Red Mite
At a site in Gaithersburg, Southern red mite damage from last year was evident on *Ilex* 'Dr. Kasaab'. Eggs were also present.
Monitoring: Look for red eggs that overwinter on the undersides of foliage and twigs of Japanese hollies, laurel, camellia, and azalea.
Control: Horticultural oil, Hexygon, Floramite, Akari, or other labeled miticides.

Spruce Spider Mites
Marty Adams brought in a sample from a landscape in Glenwood of spruce with spruce spider mite damage. We have also seen damage on trees during site visits to Maryland.
Monitoring: These are cool season mites that attack a wide range of evergreens. Be sure to monitor for active mites.
Control: Horticultural oil, Hexygon, Floramite, Akari, or other labeled miticides.

Aphids in the Landscape
Steve Sullivan reported this week that he is seeing heavy infestations of aphids on pansy and viola on plants in commercial landscapes. He noted that the white-flowering plants had the highest populations. Plants looked like they were drying out, but he found the aphids when he took a closer look. Dave Keane is reporting aphids on perennials in Frederick; Brian Clark is seeing them on cherry laurel; and Luke Hallman reports aphids on Daylily 'Stella D'Oro' in Waldorf.

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible. Photographs by Suzanne Klick, Stanton Gill or Shannon Wadkins unless otherwise noted.

Iris Borer
We received in a sample of iris with oozing on the foliage from iris borer larval activity. The sample was from Frederick County. The iris borer larvae are hatching and the larvae feed externally for a couple of days before they bore into the leaf fans and start feeding between the leaf folds.
Control: If you are going to try entomopathogenic nematodes such as *Steinernema carpocapsae*, now is the time to apply them when the early instar iris borer larvae are just entering the plant tissue.

Sap Beetles – Could be Confused as Something Harmful
An alert nursery owner in Frederick sent in pictures of their dogwood that had a fissure crack in the bark and sap oozing out. In the cracks of the bark were small beetles identified as the 4-spotted sap beetle, *Glischrochilus quadrisignatus.* These are called sap beetles in the family Nitidulidae. The sap beetles are commonly found feeding on over ripe fruit but they will also feed on the fermenting sap bleeding from wounds on trees. We find them in our alcohol traps placed in nurseries in Maryland.
Control: Control is not necessary for this beetle.

Boxwood Leafminers

On the boxwoods here at the research center in Ellicott City, there are larval and pupal stages of boxwood leafminers (BLM) within the leaves. No adults have emerged here yet.
Monitoring: Look for the orange-bodied adults in the next two weeks.
Control: The best control for BLM is a systemic that targets the larvae in the leaf. However, any systemic products put down now will likely not affect the current generation of larvae. If you have a heavy population of BLM you want to get your systemic down anytime from now to within the next few months. This will put the chemical in the plant when the next generation of larvae begin to actively feed in the early fall. Imidacloprid has been shown to give multiple year control. Note to watch for secondary boxwood spider mite outbreaks. Other labeled systemics should also give control but studies have not examined the duration of their control.

Eastern Tent Caterpillar
Dave Keane found eastern tent caterpillars making their tents in Frederick. Luke Hallman is reporting large numbers of tent caterpillars feeding on the leaves of Yoshino and Canadian red cherries in Waldorf.
Monitoring: Look for webbing (tents) in the branch forks of host plants.
Control: The best control is to get a stick (or use your hand) and tear the tents apart. If warranted you can use Bt, Confirm, or Conserve.

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible. Photographs by Suzanne Klick, Stanton Gill or Shannon Wadkins unless otherwise noted.

Euonymus Leaf Notching Caterpillar

Bradley Seay, Bartlett Tree Experts, reported finding euonymus leaf notcher caterpillars in Glen Burnie on April 17. He noted that this site had a major infestation last year so he returned to the site this year and found them active again. Caterpillars are 5/16" long found on *Euonymus kiautschovicus.* Damian Varga, Plant Scientific Services, also reported this caterpillar in Pasadena.

Control: *Bacillus thuringiensis*, Conserve, or Confirm should work very well in controlling this caterpillar.

Weed of the Week, Chuck Schuster

Dwarf dandelion, *Krigia caespitosa*, is a winter annual that has been showing itself in recent weeks. It is a weed found in turf throughout the southeast. It will appear a very light green in color, arising from a loose rosette with several irregularly shaped leaves. Above these leaves will be found a flowering stem with several yellow flowers. The leaves are scalloped with a narrow base and wide tip. Leaves will be from one to four inches in length, and up to three quarters of an inch in width. The flowers are produced on a tall flower stalk and will develop from the leaf axils not necessarily from the tip. The yellow flowers are toothed, and produce a tan nutlet fruit. The root system of dwarf dandelion is fibrous.

In a turf setting this weed can be controlled using selective broadleaf weed control products that contain 2,4D. In landscape settings any of the non selective products are very effective. Caution needs to be used when using 2,4D as temperatures are getting warmer, and even the morning temperature in many areas will be at 50 °F. The amine form of 2,4D, which will not work as well in cooler temperatures, works well as temperatures increase and will not have the volatilization issue that the ester form has.

Photo courtesy of Virginia Tech

Plant of the Week, Ginny Rosenkranz

Azaleas are spring - braving the cold temperatures and still looking a bit tropical with large colorful flowers in shades of the purest white, pink, red, purple and orange. This past winter was hard on a lot of older, mature azaleas that went into the winter in a drought condition. Many never came out of the cold alive. As sad as that is, it becomes a chance to try new plants, in this case new azaleas. Encore® Azaleas come in all the colors with single and double flowers, ruffled petals, pure colors and color streaks. These azaleas were developed from southern azaleas that seemed to bloom more than once a season. With research trials, many Encore® Azaleas can thrive in Maryland's zone 7 climate. A

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible. Photographs by Suzanne Klick, Stanton Gill or Shannon Wadkins unless otherwise noted.

short list that should be considered include Autumn Royalty™, an excellent azalea with deep purple flowers that was voted as Azalea of the Year by the American Rhododendron Society. Autumn Amethyst™ is the most cold hardy of all the Encore® Azaleas, also a deep lavender flower. Autumn Angel™ has pure white flowers and Autumn Belle™ has light pink ruffled flowers. Autumn Carnival™', a medium pink, is said to be the heaviest bloomer of all, but all of these azaleas bloom in the spring, the summer and in the late fall – if they are given adequate irrigation all summer long. They are still susceptible to many of the common azalea pests including azalea lace bugs.

Plant	**Plant Stage** (Bud with color, first bloom, full bloom, first leaf)	**Location**
Cercis canadensis (Redbud)	Bud	Columbia (4/16)
Chamaedaphne calyculata 'Verdant'	Full Bloom	Silver Run
Croton alabamensis	First Bloom	Silver Run
Dentaria laciniata	First Bloom	Silver Run
Epimedium x rubrum	Full Bloom	Silver Run
Erythronium americanum	First Bloom	Silver Run
x Heucherella alba 'Bridget Bloom'	First Bloom	Silver Run
Mertensia virginica	Full Bloom	Columbia
Pachysandra procumbens	Full Bloom	Silver Run
Paxistima canbyi	Full Bloom	Silver Run
Phlox diverticulata	First Bloom	Silver Run
Spirea prunifolia (Bridalwreath spirea)	Full Bloom	Ellicott City (4/9)
Stylophorum	Full Bloom	Columbia

Degree Day Information (as of April 17):

Baltimore, MD (BWI)	99	Dulles Airport	114
Hagerstown, MD	72	Mechanicsville, MD	103
National Arboretum	110	Reagan National	176
Salisbury	132		

Stanton Gill


Chuck Schuster


Paula Shrewsbury


Ginny Rosenkranz


Karen Rane

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible. Photographs by Suzanne Klick, Stanton Gill or Shannon Wadkins unless otherwise noted.