



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

September 25, 2009

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 Specialists) and Brian Clark (Extension Educator, Prince George's County)

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 (Technician, 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.

Marmorated Stink Bug, *Halyomorpha halys*



Brown marmorated sting bug nymph



Brown marmorated stink bug adult

The bug of conversation this week is the marmorated stink bug. Tom Musser in Frederick called this week to say they are everywhere in Montgomery and Frederick Counties and his customers are upset. Kevin Nickle, Prolawn Plus, Inc., called to report they are very active in Baltimore County. Tom Wheeler called to report their activity in the Mt. Airy area. The Home and Garden

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Information Center had 40 – 50 calls in just one morning on Thursday. We have had additional calls and emails from landscape and garden centers managers reporting stink bug activity in many locations in Western and Central Maryland. We have not received any calls on stink bug activity from people on the Eastern Shore or Southern Maryland. They have probably not spread this far yet but they are well established in Central and Western Maryland. In Washington County Debby Smith-Fiola reports they were covering pepper plants in gardens. They do feed on plants but at this time of year they are mainly a nuisance pest. The adults are looking for warm places to hang out for the winter and houses and other buildings are candidates for overwintering sites. We had one greenhouse in Frederick County report they were showing up in the greenhouse structure this week.

This true bug in the insect family Pentatomidae is known as an agricultural pest in its native range of China, Japan, Korea and Taiwan. It becomes a nuisance pest both indoors and out when it is attracted to the outside of houses on warm fall days in search of protected, overwintering sites. It occasionally reappears during warmer sunny periods throughout the winter, and again as it emerges in the spring.

What You Can Tell People To Do Before Bugs Enter a Building:

Mechanical exclusion is the best method to keep stink bugs from entering homes and buildings. Cracks around windows, doors, siding, utility pipes, behind chimneys, and underneath the wood fascia and other openings should be sealed with good quality silicone or silicone-latex caulk. Damaged screens on doors and windows should be repaired or replaced.

Exterior applications of insecticides may offer some relief from infestations where the task of completely sealing the exterior is difficult or impossible. Applications should consist of a synthetic pyrethroid (i.e. deltamethrin, cyfluthrin, lambda-cyhalothrin, cypermethrin, sumithrin or tralomethrin) and should be applied by a licensed pest control operator in the fall just prior to bug congregation. Unfortunately, because insecticides are broken down by sunlight, the residual effect of the material will be greatly decreased and may not kill the insects much beyond several days or a week.

How About After Stink Bugs Have Entered the Structure?

If numerous bugs are entering the living areas of the home, attempt to locate the openings where the insects gain access. Typically, stink bugs will emerge from cracks under or behind baseboards, around window and door trim, and around exhaust fans or lights in ceilings. Seal these openings with caulk or other suitable materials to prevent the insects from crawling out. Both live and dead stink bugs can be removed from interior areas with the aid of a vacuum cleaner. It is not advisable to use an insecticide inside after the insects have gained access to the wall voids or attic areas. Although insecticidal dust treatments to these voids may kill hundreds of bugs, there is the possibility that carpet beetles will feed on the dead stink bugs and subsequently attack woolsens, stored dry goods or other natural products in the home. Although aerosol-type pyrethrum foggers will kill stink bugs that have amassed on ceilings and walls in living areas, it will not prevent more of the insects from emerging shortly after the room is aerated. For this reason use of these materials is not considered a good solution to long-term management of the problem. Spray

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insecticides, directed into cracks and crevices, will not prevent the bugs from emerging and is not a viable or recommended treatment.

Boxelder Bugs

Linda Barker, Halcyon Landscapes, has customers in Timonium reporting a huge infestation of boxelder bugs, noting that there are many more than last year.

Control: If adult boxelder bugs are creating a nuisance, remove female boxelder trees and silver maple trees on your property to help reduce the population in your immediate vicinity. Boxelder bugs usually select overwintering sites close to the trees on which they prefer to feed. In the fall, search for the congregations of boxelder bugs and then vacuum up the clusters of bugs (you might want to use the old vacuum) and destroy them. Insecticidal soap or Neem products can be applied to the clustered nymphs found on the trees in April and May. Treating the nymphs will reduce the population on the tree and hopefully reduce the population enough that you will not experience a large population trying to overwinter on your premises. Several predators and parasites feed on boxelder bugs, but so many boxelder bugs are produced that biological controls do not always keep the population to acceptable levels for most people's liking. The Home and Garden Information Center also has a fact sheet available at

http://www.hgic.umd.edu/media/documents/hg10_000.pdf



Boxelder Bug Adult



Boxelder Bug Nymphs

Last Generation of Azalea Lace Bug Active

Azalea lace bug (*Stephanitis pyriodes*), nymphs and some adults are present in Central Maryland. The adults will be laying eggs in October and the insects overwinter in the egg stage. The eggs are inserted into foliage, usually along the midvein area. We usually see nymphs in May in Maryland and can see at least 2 to 3 generations per year. On the Eastern Shore of Maryland where the growing season is a little longer the 3rd generation is more likely. Azalea lace bug populations tend to be highest when plants are grown in full sun and the damage can be the most severe at these sites. Paula Shrewsbury and her graduate students did some really great work with azalea lace bugs and predator activity in plants



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growing in full sun and in shade situations back in the 1990s. She found that spiders were one of the major predators of lace bugs

Cultural control: The best thing you can advise your clientele to do is to stop growing rhododendrons and azaleas in full sun and move them into areas of filtered shade or landscapes with shade part of the day. Also, keep pH low with acidic mulch (pine needles, pine bark) and soil moisture even. A stressed plant is more likely to show heavier injury.

Chemical Control: Imidacloprid has been used by most of our Maryland landscape managers for the last decade. Some are starting to use some of the newer neonicotinoids such as Flagship and Safari for lace bug control. The imidacloprid has controlled both species of lace bug for at least a full growing season. We have had several landscape managers report that they continue to see control carry into a second season.

Photo of azalea lace bug damage by Whitney Cranshaw, Colorado State University, Bugwood.org

Lace Bugs on Oak

Marie Rojas, IPM Scout, reports seeing extreme lace bug damage on the hybrid *Quercus x robur* 'Regal Prince' to the extent that the leaves are almost white

Ambrosia Beetles

Marie Rojas and Amanda Laudwein are finding fresh frass tubes from ambrosia beetles this week on yellowwood trees in a nursery. Steve Dubik found frass tubes on recently transplanted yellowwood in a landscape. It's possible that this is a third generation this year which is highly unusual.

Control: It's too late in the season for control.



Banded Ash Clearwing Borer Adults

I examined an ash tree on September 18 that had a pupal case projecting from the trunk of a tree in Taneytown. The adults are emerging a little on the late side this fall. In past years we have found them emerging in late August to early September. In 2009 the cooler summer must have delayed their emergence. There are still plenty of green ash trees in the landscapes, especially in urban and commercial landscapes. The banded ash clearwing will attack these trees in urban settings, especially if they are in a stressful site.

Control: Astro (permethrin) or Onyx (Bifenthrin) can be used to control these borers. Application should be applied to trunk and major branches now.



Fall Webworm

Reports continue of fall webworm this fall. Some larvae are still being found feeding within the terminal webs.

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Tough Plants With Very Few Pests – Hardy Orange

We had a landscape manager bring in a branch of plant in their customer's landscape and it had round, green balls hanging on the branches. They want to know what the plant with the fruit on the branches. The plant is the hardy orange *Poncirus trifoliata*, which is native to North Korea. The hardy orange, (Zone 5) is one most unusual and of the toughest plants you will find in Maryland landscapes. I have rarely seen it infested with any major insect or disease problems. I have rarely seen anyone try to take a short cut through a hardy



orange hedge. The thorns are wicked. Hardy orange is closely related to the true citrus. It is a small, multi-branched deciduous tree that grows 15 to 20 feet tall and wide. It usually has multiple, very tangled green-thorned branches. It produces green, golf-ball sized fruit with a citrus fragrance, little pulp and a lot of seeds. The fruit turns light yellow during the cool weather and remains on the tree after the leaves drop. *Poncirus trifoliata* is winter hardy to -10 °F.

Photo by James H. Miller, USDA Forest Service, Bugwood.org

Galls on Oak

Someone from a Maryland nursery found these galls on oak. We have received photos and samples of these 'acorn-like' galls in recent years. The galls are caused by a cynipid gall wasp, *Adleria strobilana*. The galls develop after the wasps hatch and begin feeding along the stem. The galls start out yellow, pink to red and eventually turn brown.



Powdery Mildew

We are seeing a lot of powdery mildew on weeping willow foliage in the nursery this week. The powdery mildew is causing premature leaf drop.

Leaf Spots

Red maples are showing a lot of leaf spot damage on foliage this late in the year. Honeylocusts in the nursery and landscape also have very heavy defoliation caused by leaf spots. The infections are due to the moist weather in the spring and during wet periods this summer.

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Using Glyphosate Around Trees

This is the time of year that many are making glyphosate applications for weed control around trees. Be careful when applying it since at this time of year plants are sending nutrients down to the roots.

Here is an article that was included in the report last year discussing some of the issues regarding glyphosate:

Cracking of Nursery Trees – Interesting Mystery (first posted in August 1, 2008 report)

We (Stanton Gill, Karen Rane and Andrew Ristvey) visited a nursery 3 weeks ago that was having problems with several species of nursery trees showing bark cracking including deciduous magnolia and *Thuja* ‘Green Giant’. I examined the trees for borers but found none associated with the cracking. Karen Rane examined the cracking for pathogens but could find no disease culprits. Andrew looked at the plants from a water management and nutritional standpoint and thought that maybe the plants were being pushed too quickly resulting in bark cracking.

While I was speaking at the Perennial Plant Growers Association meeting in Philadelphia I spoke with some of the Ohio State Extension specialists and mentioned the problem with bark splitting in nurseries. They mentioned that work by a researcher, Hannah Mathers, at Ohio State University indicates that cracking in the bark of nursery trees appears to be on the rise. There are questions being raised as to whether glyphosate with many of the new surfactants is being absorbed into thin barked trees and helping to create some of the cracking. Hannah Mathers published an article ‘Take Care When Using Glyphosate Around Trees – Glyphosate Can Damage Trees and Affect Hardiness’ in the July, 2008 issue of *Nursery Management and Production* magazine (NMPRO).

Since glyphosate went off of patent in the year 2000 over 40+ generic glyphosate products, all with different surfactants and amounts have been registered by EPA. Ohio State University researchers have received funding from HRI to investigate glyphosate’s role in bark disruption for certain woody plant species by looking at the number of times applied per season and the surfactant mixed with the glyphosate. They are finding that some surfactant formulations are decreasing cold hardiness. Some formulations of glyphosate are using up to 3 different surfactants. Some of the manufacturers are using surfactants that improve cuticle breakdown so they act fast on weeds. This might be impacting the plant material when it hits the bark of some species.

No doubt about it, but glyphosate has become the workhorse of weed control in many nurseries, but many people are over-using this product with some applying it once a month during the growing season. Nursery growers should be making pre-emergent applications at this time of year to try to control annual grasses and broadleaf weeds instead of relying on repeated applications of glyphosate. Several growers are using a combination of Gallery and Barricade at this time of year and have had good success with weed control. The message from Dr. Mathers is to hold onto the glyphosate application for when weeds get out of control in the spring or early summer. In late summer and early fall be very careful not to hit the trunks of thin barked trees. Using shields and domes may help prevent hitting trunks of trees.

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Ground Beetles

Marie Rojas is finding ground beetle larvae in a nursery in Central Maryland. We often see these larvae very active on mulch, trees and grass at this time of year. These beetles are quick moving predators. No control is necessary.

Ground beetle (*Calosoma sycophanta*) photo by Gyorgy Csoka, Hungary Forest Research Institute, Bugwood.org (The ones being found in Maryland are more velvety black and not as shiny as shown in this photo.)



Twicestabbed Lady Beetle

We've been reporting on our monitoring efforts on the lifecycle and control of Japanese maple scale this season. At one of the sites with a heavy infestation of Japanese maple scale where no treatments were made, we found twicestabbed lady bird beetles feeding on the scale on a zelkova. Look for this distinct beetle predator that is black with two red spots. It is commonly found feeding on armored scale.



Weed of the Week, Chuck Schuster

Common dayflower, often called Asiatic dayflower, *Commelina communis*, is an erect creeping annual found in damp or shaded areas in nurseries and landscapes. It is a monocot, (lilies and daffodils) even with its blue flower that often generates identification mistakes.

Common dayflower will have a fibrous root system, and will often root at the nodes. Leaves are lanceolate in shape with parallel leaf veins. The leaves will most often have hairs on both upper and lower sides. Leaves will be up to four inches in length, and from approximately one half to one and one half inch wide. Leaves will have no petiole and will clasp the stem, often with hairs in this region. Stems may grow to two and one half feet in length, with nodes being thicker and developing roots when in contact with the soil. Flowers will be found on a long flower stalk, the stalk arising from the area between the stem and the leaf axils. Each flower will have one white petal and two blue petals which will appear for only one day, thus its name.



Control of common dayflower can be achieved using post emergent herbicides including bentazon (Basagran, Prompt, Lescogran), and glyphosate products.

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Plant of the Week – Ginny Rosenkranz

Chamaecyparis obtusa ‘Gracilis’ or Hinoki falsecypress is an evergreen tree that can grow in a pyramidal shape to 50 feet tall and 10 - 20 feet wide. The new growth is a light yellow that darkens to green as the plant shades itself as it grows. The leaves are closely pressed together and have a prominent line underneath the leaf that is marked by a wax coating that forms an x shape. The plant branches grow in a fan shaped pattern with the ends drooping downwards. Falsecypress is a medium to fast grower, preferring moist, well drained, slightly acidic soils and full sun to lightly shady sites. They do best in humid areas out of strong winter winds. *Chamaecyparis obtusa* ‘Gracilis’ grow into excellent specimen plants and can be trimmed to create a visual hedge. Although the pollen can be problematic, the plant itself has very few insect or disease pests.



Degree Day Information (as of September 24):

Baltimore, MD (BWI)	3329	Dulles Airport	3544
Frostburg, MD	2115	Martinsburg, WV	3091
National Arboretum	4101	Reagan National	3737
Salisbury	3452		

October 2, 2009 Nursery Field Day

Location: D.R. Snell Nursery, Inc., 9001 Dollyhyde Road, Union Bridge, MD 21791

The schedule with registration form is available at <http://www.ipmnet.umd.edu/09Oct02C.pdf>

October 10, 2009

University of Maryland, College of Agriculture and Natural Resources Open House

Central Maryland Research and Education Center, 4240 Folly Quarter Road, Ellicott City, MD 21042

<http://www.agnopenhouse.umd.edu/OpenHouseCMREC.cfm>

December 18, 2009

Pest Management Recertification Conference

Location: Montgomery College, Germantown Campus

We will list additional recertification conferences soon.



Stanton Gill
410-868-9400
Sgill@umd.edu



Chuck Schuster



Paula Shrewsbury



Ginny Rosenkranz



Karen Rane
301-405-1611
rane@umd.edu

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