



TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

August 27, 2010

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Beneficial of the Week
Weed of the Week
Conferences

**Integrated Pest
Management for
Commercial Horticulture**

www.ipmnet.umd.edu

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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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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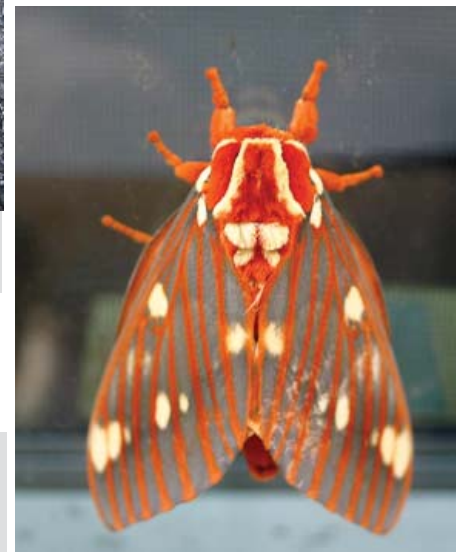
Hickory Horned Devil Caterpillar

Michael Gildea, Chevy Chase Club, sent us a photo of one of the larger and more colorful caterpillars we find in this area. It was a late instar hickory horned devil caterpillar that was crawling over a driveway. It was most likely going to find a place to pupate. The adult is called the regal moth. It feeds on various woody plants including hickory, cherry, ash and sweet gum.

Control: Not necessary.



Hickory horned devil caterpillar
Photo by Michael Gildea



The adult moth of the hickory horned devil is the brightly colored, orange regal moth

Caterpillars in the Landscape

A lot of different caterpillars can be found feeding on plants in the landscape at this time of year. Some do not cause significant damage to plants to warrant control. However, some like the saddleback caterpillar and the puss caterpillar, should not be handled since they have 'stinging' hairs.



Orangestriped oakworm caterpillar i



Yellownecked caterpillar



Saddleback caterpillar - one of the caterpillars with 'stinging' hairs



Puss caterpillars have several color forms and 'stinging' hairs



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Several caterpillars can be found feeding on the native dogbane. A tiger moth caterpillar (*Cycnia* sp.) is shown on the left and the dogbane saucrobotys caterpillar is shown on the right.

Mimosa Webworm

Steve Sullivan, The Brickman Group, reported that he has been seeing a lot of damage on honeylocust by mimosa webworm this summer. He recently found some damage in Columbia. The larvae feed within the webbing. The second generation is active at this time of year.

Control: Control is not worthwhile at this point. Watch for the first generation next year in June.



Close-up of mimosa webworm damage and a honeylocust tree showing overall damage
Photos by Steve Sullivan

Margined Blister Beetles

Moira Parker, MNCPPC, is reporting that they had a swarm of margined blister beetles do quite a bit of damage on their cestrum. There were only about 10 cestrum in 5 gallon pots and most of the damage was on two plants. On one, about 50% of the leaves were eaten and about 30% on the other. She noted that it seemed to happen overnight. Do not handle blister beetles. This beetle produces cantharadin which causes blisters when it makes contact with the skin. Blister beetles are also highly toxic to animals, especially horses.

Control: Fortunately even though they tend to swarm into an area, blister beetles only hang around for a week or so before moving on. If their damage is intolerable then most synthetic pyrethroids will provide control.



Margined blister beetle damage and an adult
Photos by Moira Parker

Spruce Tip Dieback

We had a couple of calls from nursery and landscape managers inquiring about tip growth on spruce wilting and dying back. The weather this summer has been extreme to say the least. We have had excessively high temperatures followed by downpours of rain for short periods. We think the tip dieback is a result of the tip growth not receiving enough water during the hot stressful periods and the excessive rain for short periods possibly causing some root injury. As long as it is just the tips dying and it does not progress down the branch there is probably nothing to worry about. Further dieback of branches would warrant sending in a sample to the Plant Diagnostic Lab to determine if it is a disease problem.

Japanese Maple Scale (a special alert was sent on August 23rd)

Paula Shrewsbury and her assistant found crawlers in a nursery in central Maryland last week. In chemical control trials using Kontos that we (Stanton and team) are conducting in Central Maryland, we also found crawlers and settled 1st instars of Japanese maple scale.

Last week while in Kentucky I (Stanton) visited nursery growers with Amy Fulcher, Kentucky University Extension. Crawlers were present in the Lexington/Concord area. It looks like Japanese maple scale is in the crawler stage throughout the central southeast area of the US right now.

Last year we conducted trials at a couple of Maryland nurseries using the insect growth regulator, Talus, and it gave excellent control. Over the years we have tested out Distance, another IGR, and it also gave excellent control. Check the labels but generally Distance is used at 14 oz per 100 gallons and Talus is used at 20 ounces per 100 gallons. Neither material is inexpensive but both are very effective when making a timed application. Now is the time to apply these materials for this armored scale.



Japanese maple scale female cover with purple eggs (left) and a purple crawler (right)

Nursery Pests

On August 17 and 18 I was asked to come down to Kentucky to present at the Kentucky nursery conference in the Louisville area. It is always great to see what pests the industry is experiencing in other parts of the country. The ambrosia beetle, *Xylosandrus*, that is such a problem in Maryland nurseries in the spring hits different trees in Kentucky. Goldenrain tree is one of the trees that this ambrosia beetle attacks in the south.

I also mentioned that potato leafhoppers on maples is a problem in Maryland during the summer on red maple and sugar maple. The Kentucky growers tell me that it is really not much of a problem on their trees in the Louisville area.

Whitefly on Azalea

Tony Murdock, Fine Pruning, is reporting whitefly damage on azalea in Bethesda this week. Look for honeydew and sooty mold. Whiteflies will often take flight if the plant is disturbed.

Control: If needed, Merit, TriStar or Orthene.

Tree Stress

Jan van Zutphen, City of Annapolis, sent us photos showing stress and scorch injury on saucer magnolia foliage from the hot periods in July and August.



Photo by Jan van Zutphen

Foliar Disease on Horsechestnut

Jan also sent a photo showing rectangular-like blotches on the leaves. These symptoms are typical of horsechestnut leaf blotch, caused by the fungus, *Guignardia aesculi*. This is a very common disease of several *Aesculus* species. The blotches often develop in late summer, and usually have no impact on the overall health of the tree due to their late appearance in the growing season.



Photo by Jan van Zutphen

Elongate Hemlock Scale, *Fiorinia externa*

Justin Hunt, University of Maryland Extension, Garrett County, found elongate hemlock scale on a hemlock in Western Maryland. This elongate hemlock scale, sometimes known as the fiorinia scale, is a serious armored scale insect pest of hemlock, *Tsuga* spp., on ornamentals and is found on eastern hemlock, *T. canadensis*, Carolina hemlock, *T. caroliniana*, and northern Japanese hemlock, *T. diversifolia*, fir, *Abies* spp., and spruce, *Picea* spp. This armored scale pest also feeds on cedar, *Cedrus* spp., Douglas-fir, *Pseudotsuga menziesii*, pine, *Pinus* spp., and yew, *Taxus* spp., but these are not preferred hosts. This scale is usually found on these less preferred host plants when they are growing near infested hemlocks. Reports indicate that this armored scale insect was introduced into the United States from Japan and it was first observed in Queens, New York in 1908.



University of Maryland

Hemlock elongate scale on hemlock

Monitoring: Look for the waxy covers of this scale on the lower surface of needles as well as on new cones. The adult female is flattened, elongate, with a light yellow brown to brownish orange waxy cover and it is about 1.5 mm long. The adult female's body, eggs, and crawlers are yellow. The white, waxy cover of the male is smaller. Adult male scales only have one pair of wings. Sometimes settled crawlers can secrete so much wax that they create a mass of tangled strands which can make the lower surface of infested needles have a white appearance.

Control: This is one tough scale to control since it has multiple, overlapping generations each year. You could try Talus or distance but the systemic Safari, applied as a soil drench, is probably your best bet for control.

Brown Patch in Turf

Mark Schlossberg, Pro-Lawn Plus, Inc., sent us photos of brown patch in turf at a site in Owings Mills on August 23. Brown patch starts as circular spots and spreads out to turn whole areas brown. You may see grass blades with foliar mycelium in the early morning if it is warm and humid in the early stages of the infection process. Look for brown margins with tan centers on infected foliage.

Management: Although lawns turn brown they do recoup when the weather cools down. There is development of brown patch resistant tall fescues. In test plots at the University of Maryland, 'Silver Watch' showed about 15% blight as compared to 'Rebel' which had 40% blight. To reduce the incidence of brown patch in tall fescue lawns avoid applying nitrogen in the spring. If applied, don't apply nitrogen later than early to mid May. Use slow release N (75% WIN) in the final application of N in the fall. Apply some complete fertilizer in the fall (N-P-K) with a 3:1:2 ratio. For high visibility areas and people with large fungicide budgets The fungicide Insignia 20 WG lasts 28 days in suppressing brown patch. Heritage 50 WG gave at least 14 days of suppression in test plots at the University of Maryland.



Brown patch in turf
Photo by Mark Schlossberg

Botryosphaeria and Diaporthe Fungi on Mountain Ash

Bradley Seay, Bartlett Tree Experts, reported that Bartlett Tree Research labs identified the fungi, Botryosphaeria and Diaporthe, in stem canker lesions from American mountain ash, *Sorbus americana*. Both cause cankers and dieback on trees. The Botryosphaeria was also found on the branches.

Management: Prune out infected wood.

Glyphosate Resistance and Herbicide Drift

Herbicide Resistance

After my talks at the Kentucky nursery conference I listened to Shawn Wright, University of Kentucky weed specialist, present information on weed resistance management. He started with marestail which as reported in previous reports is developing resistant to glyphosate. The seed of this weed will blow ¼ mile in normal winds and farther in storms, spreading glyphosate resistant marestail. This means the problem will be spreading to additional locations in the United States. In the Midwest, corn growers have been using glyphosate resistant corn and this has ended up developing resistant marestail. Monsanto has been telling growers to mix 2,4-D with glyphosate to use on corn to help deal with this problem. The seed companies are planning to release 2,-4-D and dicamba resistant soybeans in the next two years which will increase the use of these materials and development of resistant of weeds to these phenoxy products.

Shawn suggested that nursery managers use cultivation and mowing of marestail before it goes to seed as the best mechanical way to control this weed. He mentioned that he has not seen a weed that has developed resistance to mechanical controls. He said it is very, very bad to use only glyphosate to control this weed or any other weed. Combining 2,4-D and glyphosate is a very bad long-term solution to weed control. You will see resistant to both classes of chemistry.

Marestail germinates in the fall so the use of pre-emergent herbicides is a good idea. He did say that some of the marestail will overwinter as seed and germinate in spring so you have to apply preemergent herbicide in late winter to early spring.

While I was down in Kentucky I visited a couple of nurseries and saw them using a small disc set-up that cultivates between rows and it did a good job of tearing up small weeds. You cannot let the weeds grow large and expect cultivation to work as well at attacking young weeds.

Herbicide Drift

Concerns of herbicide drift in nurseries was also covered by Shawn. He told the group that a spray droplet of 5 microns can stay suspended in the air for up to 60 minutes and can travel up to 3 miles with a 3 – 4 mph wind. It's suggested to use no more than 40 psi pressure for a sprayer and use anti-drift solutions and increase droplet size. Many nursery growers using glyphosate tell us that their applicators are really careful applying around their nursery trees, but this is almost impossible according to Shawn unless you are using very coarse spray droplets.

Beneficial of the Week, Paula Shrewsbury Yellow Jackets – Good guys or bad guys?

From a human perspective yellow jackets might be considered somewhat schizophrenic. On one hand they can result in severe discomfort when you accidentally disturb a nest and the workers swarm out and attack you. On the other hand they are voracious predators of plant feeding herbivores such as many caterpillars, beetles, and other pests. Yellow jackets are efficient at reducing pest populations.

Yellow jackets are wasps in the family Vespidae. There are many species of yellow jackets in North America. Only fertilized females spend the winter in protected locations such as under tree bark or in logs and start new colonies in the spring. Colonies can be underground, in dense shrubs or vegetation, or in human-made structures. Nests are made of paper and unlike honey bees nests contain no honey or pollen.

Although adults feed primarily on items rich in sugars and carbohydrates (fruits, flower nectar, tree sap, soda), the larvae feed on proteins (insects, meats, fish, etc.). Adult workers forage for “meat”, return to the nest and chew and condition the meat that they then feed to the larvae. In this regard, yellow jackets are beneficial because they kill many insects such as caterpillars and beetles that are pests in our landscapes and nurseries.

Next time you come across a nest of yellow jackets try to remember that they actually have a beneficial pest management side.

To learn more about yellow jackets go to: <http://www.raupplab.umd.edu> (the September 11, 2009 issue)

Weed of the Week, Chuck Schuster

Japanese hops, *Humulus japonicas*, is an annual weed being found in some areas recently. It is a vining plant capable of training on the ground or climbing fences, trees, or other upright objects. It can be identified by its five to nine lobed leaves, and its stem which has downward facing prickles which help it climb. It has been found in landscapes, nurseries and in areas where tree tubes are used. The rough textured leaves are two to four inches in length, will occur with a toothed margin, and are in pairs. The petioles are up to eight inches in length with a pair of small bracts at the base where attached to the stem. Flowers are small. The male flower is greenish and is found on a branched panicle. The female flowers are pale green, face downward, have scales and have a cone like appearance with scales. The seeds are round in shape with a blunt tip, light brown in general color and about one eighth to an inch in diameter. This plant is often mistaken for native bur cucumber. Native bur cucumber has tendrils that help it climb, and it will not have the downward facing prickles on the stem as does Japanese hops.



Yellow jacket
Jerry A. Payne, USDA Agricultural Research
Service, Bugwood.org

Control of Japanese hops can be accomplished by looking at the site itself. Usually not found in well shaded sites, it will not do well in turf. When found in turf, avoid the use of non selective herbicides as this will create a bald site, where the weed can thrive. Japanese hops will grow over grass creating shade, which will kill the turf, so proper mowing is important. In nursery settings, scouting and mowing can prevent the need for herbicides. Pre-emergent products including Sulfometuron methl (Oust XP), as well as simazine, and imazapic, with the latter products having a shorter residual. Pre-emergent products should be applied in early March in this region. Non-selective, post emergent products are effective, but create a dead or bare area which promotes good seed germination. Of these products Escort XP has shown to be very effective. Seeds are viable for up to three years.



Japanese hops
Photo courtesy of Phil Pannill

September 15, 2010

MGGA & MAEF Scholarship Golf Tournament

Contact: Brett Karp, VP- MGGA, 301-830-1474, Brett.karp@syngenta.com

Contact Brett about playing or being a sponsor

November 30, 2010

Green Industry Energy Program

Location: To be determined

Contact: Suzanne Klick, 301-596-9413

December 17, 2010

Pest Management Conference

Location: Howard Community College, Columbia, MD

Contact: Suzanne Klick, 301-596-9413

February 10 – 11, 2011

Chesapeake Green 2011 Horticultural Symposium

Location: Maritime Institute, Linthicum, MD

Contact: 410-823-8684

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