



TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

April 22, 2011

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**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

Coordinator Weekly IPM report:

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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 Center)

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Winter Injury Shows Up This Spring

Remember that it was nice weather in November, but it got really cold, really fast in December of 2010? We also had a very cold and windy January and February. The results are showing up now on plant material. Marie Rojas, IPM Scout, reported that she has seen this year (and in years past) what she thinks is severe winter injury on Cryptomeria 'Yoshino' (to the point of 1/2 of the plant is dead or dying) in multiple locations. Yes, she is right, Cryptomeria took it on the chin this winter and we are seeing a lot of brown growth and completely dead plants in some nursery rows.

Major Storm

On Saturday we had a tornado warning issued for Frederick and Carroll counties. The wind and rains came in violent waves and the rivers were overflowing. Soil moisture levels this spring are high for central Maryland, western Maryland and the Eastern Shore. We just need a little dry weather at this point and spring should burst forward, finally. As it gets warm and humid expect to see foliar diseases flourishing.

Need Scale Samples As We Move into May

Scale insect crawler periods should be starting soon. As we move toward May I need to see samples of white peach scale and prunicola scale so we can tell in which stage they are from various parts of Maryland. Also if you have Taxus/Camellia scale or euonymus scale send those samples as well to CMREC, Attn: Stanton Gill, 11975 Homewood Road, Ellicott City, MD 20142. Thanks.

Hemlock Woolly Adelgid

Marie Rojas reports adelgids are producing the white cottony fluff, but only eggs are present this week. No crawlers yet. There are also still only eggs on hemlocks here at the research center in Ellicott City.

Monitoring: Look for eggs under this wax and then the reddish brown crawlers over the next few weeks.

Control: Small trees (under 20 ft) that can be thoroughly covered with a spray can have an application of 2% horticultural oil or insecticidal soap applied to crawlers or newly settled crawlers. Acetamiprid (Tristar) can be applied as a foliar spray. Imidacloprid (Merit) can be applied as a soil drench or soil injection. It takes 60 days for Imidacloprid to become toxic in the plant before controlling the pest. Make sure the soil has adequate soil moisture at time of application. Do not apply imidacloprid during drought conditions unless the area is thoroughly irrigated after an application. Applications can be made in the fall or early spring. Dinotefuran (Safari) can be applied as a soil drench. It takes about 2 -3 weeks for uptake of dinotefuran.

Eastern Tent Caterpillar

Matt Anacker, is reporting that Eastern tent caterpillars are hatching and very active this week in Baltimore City. Norm Brady, Bartlett Tree Experts, is finding Eastern tent caterpillars in Talbot County on April 19 and noted that most tents are about the size of a fist and caterpillars are close to an inch long.

Control: Physically destroy tents if possible. *Bacillus thuringiensis* (B.t.) would work well for early instars. Other good caterpillar controls are Confirm (also works best on young caterpillars), Conserve, or Acelepryn.

Birch Leafminer, *Fenusa pusilla*

Birch leafminer damages foliage of black and European birch, and occasionally river birch. The adult sawfly emerges when Eastern redbud is in bloom which is occurring in Central Maryland now.

Control: The best control is to replace black and European birch with river birch, which can be damaged by this pest, but usually to a much more tolerable level. Chemical control is not really necessary for this pest.



Damage on birch from birch leafminer
Photo: Whitney Cranshaw, Colorado State University, Bugwood.org

Spiny Witchhazel Gall Aphid

Look for spiny witchhazel gall aphids and damage on witchhazels and birches in the next few weeks. This aphid causes red puckering damage to the foliage of birch and the woolly aphids can be found on the undersides of the leaves. It causes spindle galls on its alternate host which is witchhazel.

Control: Most often, control is not necessary. Many natural enemies such as lady bird beetles, syrphid flies and parasitic wasps are active this time of year and usually move into the area to reduce the aphid populations. If populations are high, use a low impact material like horticultural oil to minimize the effect on the beneficial insects that are present.

At <http://ipmnet.umd.edu/landscape/LndscpAlerts/2010/10May14L.pdf> there is information on some of the beneficials present in landscapes and nurseries that help control this insect.



Top Photo: Red puckering damage to birch
Bottom Photo: Spindle galls on witchhazel

Imported Willow Leaf Beetle

The imported willow leaf beetle will be emerging as weeping cherry comes into bloom. This beetle damages the foliage of willows. With all of the native plantings over the last couple of years, willows are being used in landscapes in greater numbers and this insect could become a major pest.

Adult imported willow leaf beetles and damage on foliage
Photo: David Cappaert, Michigan State University, Bugwood.org



White Pine Weevil, *Pissodes strobi*

Overwintering female white pine weevils are active as forsythia reaches peak bloom which has occurred in central Maryland and is almost here in western Maryland. On the Eastern Shore, this peak has already occurred. Females will lay eggs in terminal the growth of white pine and blue spruce in April and early May. As the hatching larvae feed you will see flagging of terminal growth in late July through August.



Damage on spruce from white pine weevil (left) and an adult weevil (right)

Control: If you are going to apply a chemical control, then now is the time. A synthetic pyrethroid such as bifenthrin (Talstar) or permethrin (Onyx) will provide control.

Pear Blister Mite, *Phytoptus pyri*

The Eriophyidae mite called the pear blister mite is moving from the bud scales onto the foliage of pears this week. The adult is white or light red and ranges from 0.16 to 0.25 mm long. The body is long and tapers to the rear. The front end bears the head with the mouthparts. There are long hairs, or setae, on the legs and five pairs on the sides of the body.

The adult mites entered the bud scales back in August or September of 2010 and spent the winter there. As the foliage comes out in the spring, the mites become active, migrate to the tender leaves, burrow beneath the epidermis of the undersurface and start feeding. The resulting irritation produces a thickening of the leaf tissue. The eggs are laid in the fall and the young remain in the gall until they mature. Adults leave the gall through a minute opening in the underside of the leaf. They migrate to new leaves and start new blisters. Reproduction is continuous and new galls are formed throughout the growing season.



Pear blister mite damage

This mite causes brownish blisters on the undersides of pear and apple leaves. The pimple-like blisters start greenish and become red in color before finally turning brown on pears. The blisters on apples start yellow and never become as red as the ones found on pears. When massed together, these blisters can cover large areas of the undersides of leaves. Look at the undersides of leaves for the blister-like galls in the spring. On fruit, the damage symptom is a depressed reddish brown spot and the fruit is often deformed.

Control: Avid combined with .05 – 1.0 horticultural oil applied now will reduce the population of mites.

Ambrosia Beetle Traps

We are receiving samples from the monitoring traps for ambrosia beetles in the region. Below is a summary of what is being found this week.

Control: Treat with Onyx in nurseries and Onyx or Astro in the landscape. Closely monitor susceptible trees such as *Styrax*, yellowwood, Stellar series dogwoods and sugar maples.

Montgomery County

Laytonsville: There was a selection of ground beetles in the trap and several species of ambrosia beetle. The ambrosia beetles included *Xyleborinus alni* and *Xyleborinus saxesenii* (generally we don't worry about these species). We also found *Cyclorhipidion pellicollosum* which is the one being seen in traps for the last 3 weeks. There are a couple of *Scolytus* sp, including *Scolytus rugulosus* in the traps. I doubt these will be a problem. No *Xylosandrus*.

Rockville and Damascus: Both sites had a mix of bark and ambrosia beetles, but they had *Xylosandrus germanus* at both locations.

Beallsville: There were *Xyleborinus alni* and *Cyclorhipidion pellicollosum* (most of the specimens). There were a couple of *Dendroctonus tetebrans* in the samples. Two *Xylosandrus germanus* were present in the sample. No *Xylosandrus crassiusculus* yet.

Frederick County

Adamstown: There were *Xyleborinus alni*, *Xyleborinus saxesenii*, and *Cyclorhipidion pellicollosum* in fairly large numbers present. No *Xylosandrus* so far.

Harford County

There were several *Xyleborinus* in the sample. There was one *Xylosandrus germanus* which we have had from several other sites this week.

I (Stanton) believe the warm spell we had for a couple of days resulted in a lot of flight activity. It will probably settle down now that it is cooler for the next couple of days. This is pretty late for *Xylosandrus*, but I think the cool wet spring has delayed the emergence this year. Good reason to monitor each year.

Black Widow Spider

Brian Clark found a black widow spider when he pulled up black plastic recently. He noted that she was feeding from an ant hill nearby. The black widow is not aggressive, but it will bite instinctively when touched or pressed so be careful when working around areas where black widows may be found.

Boxwood Psyllid

Craig Greco is finding psyllid damage on boxwood in Middleburg, VA. Steve Sullivan, The Brickman Group, is also finding psyllid damage on plants in Columbia. The boxwood psyllid causes tip growth to curl. Often, damage is not severe enough to warrant control.



Boxwood psyllid damage
Photo: Craig Greco



Fire Blight

Fireblight is a serious bacterial disease of plants in the rose family. The most commonly damaged plants in the landscape are apple, crabapple, cotoneaster, firethorn, hawthorn, mountain ash, quince, and pear. However, the list of susceptible plants includes over 130 plant species. The first symptoms usually start on the blossoms as they quickly droop, shrivel or turn brown. The disease progresses from the blossoms into the twigs and branches. The very tips of the branches often droop or characteristically curl over to give a hooked appearance. The affected leaves turn a dark brown to black and remain attached to the branch which gives the appearance of scorching as if by fire.

With few exceptions, after blossom infection the disease moves more slowly in branch and trunk tissue, and often moves down to the base of a branch where it forms a lesion or canker. The color of the infected wood beneath the bark is often a reddish brown. The most damaging cankers are those formed on the main stem or base of the plant since they often girdle and kill the plant. During wet weather droplets of bacterial ooze form on the surface of cankers and can be spread by wind, rain, birds, humans or insects to other plants. The most common insects that spread the disease are pollinators such as bees and flies. The disease causing bacteria overwinter at the margins of cankers and become active again in the spring.

Management: Disease management often involves selecting resistant plant varieties. Avoid cultural practices, such as over fertilizing, that induce excessive succulent growth which is more susceptible to infection. Small branches with early symptoms of infection should be pruned in dry weather, 8-12 inches below visible symptoms. Cut out cankers and blighted larger branches during dry weather making cuts at least 1 ft. below the visible limits of infection. Do not prune infected shoots back to a healthy branch during the growing season. Leave a 4-5 inch stub (ugly stub pruning method) that can be pruned off over the winter when the disease is dormant. Disinfect tools between cuts with 70% ethanol or 10% bleach solution (if using bleach, take care to clean and oil the tools to avoid corrosion). Severely infected trees should be removed.

For high-value specimen trees, chemical controls may be warranted, but applications are most effective at bloom. Products labeled for fire blight management/suppression include copper sulfate pentahydrate, Alude and Camelot. Check label for plant species and rate information. Control insect populations with appropriate insecticides.

Vole Damage

We received another report of vole damage this week. Ed Rhone, Hagerstown Community College, noted that on March 20 a Knock[®] Out rose was lying on its side by a large planting of blue star juniper on one side and pro-nana juniper on the other. Though the junipers show minimal damage, the Knock[®] Out rose was chewed smooth. Last week, he found a second Knock[®] Out rose had joined the first one. There are still 3 Knock[®] Out roses remaining which are untouched as of now. This is a very visible area right at front of campus so control would be nice. Ed has have found that other than cats or owls(work at my home in Pa.), mouse traps help some. He has heard that some use scented materials to scare them away.



Univ. of MD

Fireblight on crabapple



University of Maryland

Close-up of fireblight damage on callery pear

Pine Bark Adelgid Eggs

Adam Colgan, On The Green, Inc., found eggs of white pine adelgid on April 13 in Odenton. This adelgid overwinters as nymphs on the bark of its hosts. Pine bark adelgid has several generations per year.

Monitoring:

Visually monitor the bark and larger branches of pines for fluffy white wax.

It often starts at the base of needles. Black wingless adults will be within the wax along with yellow eggs. When populations are high trunks of trees can be almost covered with white wax. Trees can generally tolerate relatively high levels of this pest. They are sucking insects so they remove plant sap.

Control: Pine bark adelgids are often kept at low populations by a number of different generalist predators (flower fly larvae, lady beetles). Horticultural oil can be applied now or at most times of the year to reduce populations of adelgids. The horticultural oil should help conserve the natural enemies that should prevent adelgid populations from returning to high levels. Wait for egg hatch if you decide to apply a chemical.



Pine bark adelgid along stem
Photo: Marie Rojas



Pine bark adelgid eggs (and a pine sheath mite at top center of photo)
Photo: Adam Colgan, On The Green, Inc.

Beneficial Insects Spotted

- Tony Murdock, reported seeing an multi-colored Asian lady bird beetle on apple trees in Boonesboro on April 11 and a twice stabbed lady bird beetle today in Frederick on April 15.
- There have also been six-spotted metallic tiger beetle active in Columbia this week. These predaceous beetles are often found in open woods along paths and streams.

Beneficial of the Week, Brian Clark

This week I found several short-tailed ichneumons (*Ophion* sp.). This group of ichneumons looks somewhat like a crane fly (which is also flying right now). It can be distinguished from the crane fly by its four wings, while crane flies have only two wings.

The short-tailed ichneumon obviously doesn't have the long ovipositor typical of the family. Ichneumons are beneficial insects as their larvae are parasitic on other insects, especially caterpillars and grubs that are harmful to turf and ornamental plants. Each species of ichneumon is usually restricted to only a single, or at most a small group, of prey insects. This focus allows them to key in on certain chemical cues produced by their hosts, making them effective even with low numbers of prey. Members of the genus *Ophion* generally lay their eggs on the grubs of scarab beetles, such as the June beetle and green June beetle. With the warm weather, I have been seeing white grubs coming into the root zone.



Ichneumon wasp
Photo: Brian Clark

The adult ichneumons eat nectar, plant fluids, pollen and other sugary substances. Although they are common, they are not all that obvious most of the time, tending to be rather secretive and blend in with the surrounding vegetation. Work by Paula Shrewsbury, Mike Raupp, and their students over the past several years has shown that providing nectar and hiding places increases the survival of these beneficial insects.

Weed of the Week, Chuck Schuster

Prickly lettuce, *Lactuca serriola*, is an annual, often a winter annual weed, of the United States. Introduced from Europe, it is a broadleaf plant with prickly leaves, and is found in nurseries and other sites. It is often called compass plant as its leaves will develop on the north-south direction, perpendicular to the sun. The leaves are alternate, two to fourteen inches in length, lobed and clasp the stem at the base. The leaves will emit a milky substance when cut and will become progressively smaller the farther up the stem they emerge. All leaves have prickles along the leaf margin and on the midrib on lower leaf surfaces. The stem of prickly lettuce can reach sixty inches in height, is hollow, and white to light green in color. One single stem emerges from the rosette, and then will branch into several stems. It has a deep taproot. The plant produces numerous flower heads with pale yellow flowers that are small with 5 or more petals ranging from one quarter to one half inch in width. Flowers will produce a seed that moves easily in the wind.



Prickly lettuce foliage
Photo: Tom Heutte,
USDA Forest Service,
Bugwood.org



Prickly lettuce flowers
Photo: Ohio State Weed
Lab Archive, The Ohio
State Univ., Bugwood.org

Control of this weed can be obtained using most systemic weed control products. In open areas 2,4D containing products work very well. In landscape and nursery settings, Dicamba (Banvel D), and Bentazon (Prompt) are labeled to control this weed as post emergent herbicides. Note that some herbicide resistance has been noted in the agronomic sector.

Comment from Brian Scheck, Maxalea, Inc. on Lesser Celandine Control:

On the lesser celandine, we have had pretty good success spraying it in the turf. Use a broadleaf ester right when it starts to bloom. It may not die off this year but next year you should have 70% less in the turf.

Plant of the Week, Ginny Rosenkranz

Ilex x meserveae, China Girl® holly, is a female holly with light green shiny, spiny leaves and beautiful large red berries in the fall and winter. The parents are a prostrate Japanese holly (*Ilex rugosa*) that is very cold tolerant and the English holly (*Ilex aquifolium*) that produces a large number of bright red berries. The resulting China Girl® holly is a good combination of the two, exhibiting cold tolerance in USDA zones 5-8 and is covered with bright red berries starting in October. China Girl® hollies are also the most heat resistant of the meserveae hollies and are heat tolerant from zones 3-9. China Girl® hollies grow 3-4 feet tall, although after 20 or so years it can grow as tall as 6 feet if left unpruned. China Girl® holly prefers full sun or part shade in moist, but well drained, slightly acidic soils. It is dioecious meaning that it needs both a male and female plant of the same species for the berries to be formed on the female holly. China Boy® holly is often chosen as the best companion as it has the same growth habit and the same light green leaves with chartreuse colored stems. Cottony camellia scale is a major pest, often leaving the plants covered in black sooty mold that grows on the honeydew excreted by the scale insect. Cold winter winds can dry up the foliage, and if the ground is frozen the leaves will lose what moisture they have and not be able to replace it.



China Girl® hollies
Photos: Ginny Rosenkranz

PLANT	PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf)	LOCATION
<i>Amelanchier arborea</i> <i>Amelanchier canadensis</i> <i>Amelanchier fernaldii</i>	Full bloom (April 18)	Columbia
<i>Brassica kaber</i> (wild mustard)	Full bloom (April 21)	Silver Run
<i>Cercis canadensis</i> (redbud)	Full bloom (April 22)	Clarksville
<i>Clematis</i> 'Lagoon'	First bloom (April 16)	Columbia
<i>Cornus florida</i>	Full bloom (April 22)	Silver Run
<i>Croton alabamensis</i>	First bract expansion (April 21)	Ellicott City
<i>Daphne odora</i> 'Marginata'	Full bloom (April 22)	Silver Run
<i>Dentaria laciniata</i>	Full bloom (April 22)	Silver Run
<i>Enkianthus perulatus</i> 'JL Pennock'	Full bloom (April 22)	Silver Run
<i>Epimedium sulphureum</i>	Full bloom (April 22)	Silver Run
<i>Epimedium versicolor</i>	Full bloom (April 22)	Silver Run
<i>Erythronium americanum</i>	Full bloom (April 22)	Silver Run
<i>Fraxinus pennsylvanica</i> (green ash)	Full bloom (April 22)	Silver Run
<i>Mukdenia rossi</i>	First bloom (April 21)	Ellicott City
<i>Podophyllum peltatum</i> (mayapple)	Full bloom (April 22)	Silver Run
<i>Sassafras albidum</i>	Full leaf (April 21)	Ellicott City
<i>Trillium flexipes</i>	Full bloom (April 21)	Ellicott City
<i>Viola sororia</i> (common blue violet)	Full bloom (April 22)	Silver Run
	First bloom (April 10)	Columbia

Degree Days (As of April 21)

Baltimore, MD (BWI)	189
Dulles Airport	189
Frostburg, MD	48
Martinsburg, WV	140
Mechanicsville, MD	242
National Arboretum	233
Reagan National	227
Salisbury	222

Upcoming Programs:

May 18, 2011 Pest Walk

Eastern Shore

Contact: Ginny Rosenkranz, 410-749-6141

May 26, 2011

Taking Care of Trees: Top to Bottom and Organic
Turf Care - Opening Pandora's Box

Location: Gwendolyn E. Coffield Community Rec-
reation Center, Silver Spring, MD

Contact: 301-948-0810

June 2, 2011 Pest Walk

Carroll County Extension Office, Westminster, MD

Contact: 410-321-8082

June 23, 2011

MNLA Field Day

Location: Priapi Gardens, Cecilton, MD

Contact: 410823-8684

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