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**Integrated Pest  
Management for  
Commercial Horticulture**

[www.ipmnet.umd.edu](http://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](mailto:sklick@umd.edu)

**Coordinator Weekly IPM report:**

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Weed of the Week: Chuck Schuster (Extension Educator, Montgomery County)

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**Good News**

I (Stanton) spoke with four garden center owners and managers on Monday who reported that Mother's Day weekend was a huge sales time for all of them. We had sunny weather Friday through Sunday which could not have been better for sales. Two of the four garden centers reported record sales during these three days. After all of the cold, wet weekends, people were treating last weekend as a festival time and were spending money. Let's hope the good weather shows up for a couple of more weekends in May so the green industry can try to recoup from a dismal April.



**Bagworms**

Marie Rojas, IPM Scout, reported hatching of bagworms in Montgomery County. Eggs were present in bags that she checked in Frederick County.

**Monitoring:** Bagworm caterpillars have a very broad host range feeding on many deciduous and evergreen trees and shrubs. Newly hatched bagworms are difficult to see. Closely monitor trees with bags from last year and any nearby trees. Monitor for "shothole" type defoliation by the little caterpillars, small caterpillars (~1/4") silking out from the bottom of old bags, and tiny (<1/2") new bags being formed.

**Control:** At this early stage, Bt can be used. Other options include Acelpryn, Confirm, and Conserve.

## Brown Marmorated Stink Bugs

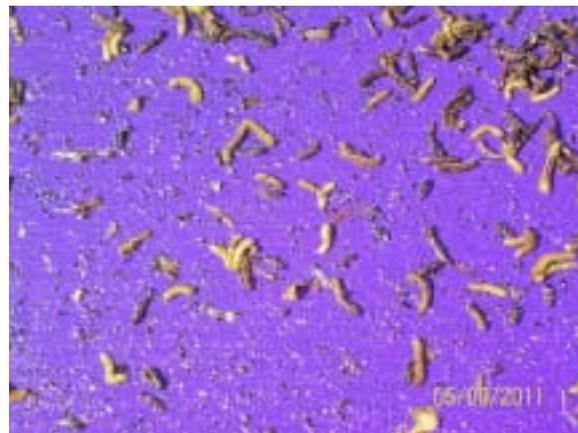
The stink bugs are going wild this week with the warmer weather. We are getting a lot of reports of them swarming on windows and sliding doors trying to get outdoors. This weekend I (Stanton) found them on a Loring peach tree feeding on the marble size fruit. They should start laying eggs on the undersides of plant foliage over the next couple of weeks. There are color pictures of the eggs so you can recognize them on your customers' plants. BMSB tend to lay their eggs in multiples of seven, often laying 28 eggs at a time.

Go to [http://ipmnet.umd.edu/landscape/Indscp\\_pubs.htm](http://ipmnet.umd.edu/landscape/Indscp_pubs.htm) for our fact sheet.



## Ash Sawfly

While checking emerald ash borer (EAB) traps, Dick Bean, MDA, found a purple trap covered with larvae and a tree defoliated by ash sawfly larvae. Several years ago, we received photos of sawfly larvae that were gathering in large clumps at the base of a tree.



**Ash sawfly: tree defoliation (left) and larvae covering EAB trap**  
Photos: Dick Bean, MDA

## Problems on American Beech Trees

We have received several reports about beech trees with browning leaves that are dropping foliage. So far, Karen Rane has not seen any samples to be able to identify the problem here in Maryland. The Delaware Plant Diagnostic Lab has received samples with similar symptoms which were confirmed as anthracnose.

**Anthracnose is a common problem on London planetree. There is nothing to do for control at this time.**  
Photo: Steve Sullivan, The Brickman Group



## Adult Lilac Borers

Adult lilac borers were caught in a pheromone trap this week in Brookeville. These borers damage lilacs as well as ash trees.

**Control:** Renewal pruning of lilacs to remove the large, old trunks is a good control for lilac borer since these borers attack the older trunks. To protect shrubs and trees, treat trunks with Astro or OnyxPro in the landscape or OnyxPro in the nursery.

## Plum Curculio

This weekend plum curculio adults were active in Westminster and feeding on fruit.

**Control:** Your customers can use Imidan as a foliar spray to control this pest. It is active for just a couple of weeks in early May, so if you are going to control it the time is now.



## Japanese Maple Scale (JMS)

While conducting a trial on campus in College Park this week, we were directed to several rows of maple trees with a wonderful population of Japanese maple scale. The trees were still staked and appear to have been transplanted approximately two years ago. The population of JMS scale is so heavy that there is dieback of many branches. This sort of large, impressive (at least to me) scale population, at this level of infestation, had to come when the plants were shipped from the nursery. This situation shows how prevalent the Japanese maple scale has become in the nursery industry. If you have a nursery make sure you scout for this scale and watch our weekly reports for when the crawler activity starts. In the past two years this has been in June. We popped the female covers and purple eggs are present, but they have not hatched and gone to crawler at this point. This scale should be dealt with aggressively, or it will spread to a wide range of plant material in your landscape or nursery.



**Defoliation from JMS (left); overwintering female covers (top right); and a flipped female cover showing eggs (bottom right)**

## Ambrosia Beetles

We received a report of ambrosia beetle (*Xylosandrus germanus*) activity in southeastern PA. The beetles were pulled from traps placed around a nursery. Scott Norden, Kingstowne Lawn & Landscape, reported ambrosia beetles (species not identified) in willow oaks in Alexandria, VA.

## Eyespot Gall on Maple

Steve Sullivan, The Brickman Group, sent us photos of maple eyespot gall caused by the midge *Acericeris ocelliaris*. The midge causes a raised area on the leaf where the insect larva feeds. A disease causes similar spotting, but there will not be a raised area present. No control is necessary.



**Maple eyespot gall**  
**Photo: Steve Sullivan, The Brickman Group**

## Galls on Elm

Joe Pritchard, Level Green Landscape LLC, sent us photos of elm finger galls that he found on elms in D.C. this week. This gall is caused by the eriophyid mite, *Eriophyes ulmi*.

**Control:** Usually not necessary.



**Elm finger galls**  
**Photo: Joe Pritchard, Level Green Landscape LLC**

## European Elm Scale

Marie Rojas, IPM Scout, is reporting late instar females of European elm scale on the bark of 'Patriot' and 'Dynasty' elms. Look for the yellow crawlers along veins on the undersides of leaves from now through fall. Heavy infestations of this scale will produce large amounts of honeydew.

**Control:** Look for beneficial insects on trees which can do a good job controlling this scale. If an insecticide application is necessary, treat with a soil drench of dinotefuran (Safari) or imidacloprid (Merit in landscape, Marathon in the nursery) or make foliar applications of oil or Distance.



## Flea Beetles

In years past we have had reports of flea beetle feeding on hydrangea in nurseries on the Eastern Shore and in Baltimore County. Brian Kunkel, University of Delaware Extension, did some testing of insecticides against this pest.

### Here is what he found:

Redheaded flea beetles were most susceptible to Safari and Flagship with bifenthrin (Talstar) being the only non-neonicotinoid with similar activity. Control started dropping off considerably after a week. Tests were conducted on Joe-Pye weed. Entomopathogenic nematodes show promise, but rates, dosage and timing still need to be worked out. A grower in Virginia reported their first adults emerged in early April.

## Four-lined Plant Bug

Damage from four-lined plant bug was found on anemone in a landscape in Bethesda. Garden center customers might be asking about this damage on plants such as rudbeckia, mints, phlox, and coleus. This bug, however, can damage around 250 plant species, including some woody plants like dogwood, rose, azalea and forsythia. There is only one generation of this insect per year. Damage occurs early and plants grow out of it through the season.

**Monitoring:** Look for white to dark colored spots on the foliage with damage concentrated on the upper foliage of the plant. The four-lined plant bug is a sucking insect that injects a toxin that discolors the foliage.

**Control:** This pest is easily controlled by insecticidal soap or neem products. Acephate (Orthene) is also effective.



## Lace Bugs on Oak

Marie Rojas is reporting adult activity of lace bugs on *Quercus robur* 'Regal Prince' oaks. Marie noted that lace bugs love this particular oak hybrid and do quite a bit of damage to its foliage.

**Control:** Options include Orthene, Merit (foliar application), Tristar or horticultural oil (need to make contact with insects on the undersides of the leaves). Soil injections and drenches with systemics are highly effective and may provide several seasons of control.



## Aphids in the Landscape

### Spirea Aphids

Ben Hall, Mainscapes, Inc., brought in a spirea sample from Columbia that was heavily infested with spirea aphids. These aphids show up at this time of year, but most often populations are reduced by beneficial insects such as lady bird beetles, midge larvae, syrphid fly larvae, and spiders.

**Control:** If you must treat, try an insecticide with reduced or zero impact on beneficial organisms such as neem oil.

Spirea aphids feeding along the stem of spirea



### On Hawthorn

Marie Rojas reports aphids feeding on the leaves of hawthorns and causing cupping and curling of foliage. She mentioned that cool thing was that there were syrphid fly larvae eating the aphids!

### Melon Aphids

A small population of melon aphids were found feeding on sedums in the landscape in Ellicott City this week. Syrphid fly larvae were also actively feeding on these aphids.

**Control:** Usually not necessary in the landscape, but options include horticultural oil, insecticidal soap, Orthene, or Merit. Be sure to look for beneficial insects such as lady bird beetles and syrphid fly larvae feeding on the aphids, and aphid mummies (a sign of parasitism).

## Monitoring Hemlocks

### Hemlock Woolly Adelgid

Hemlock woolly adelgid (*Adelges tsugae*) is a common pest of Canadian hemlocks in this area. This week at the research center in Ellicott City, most of the adelgids are settled immatures with only a few active crawlers being found on the foliage. The settled immatures are small and black with a fringe of white, waxy hairs around the edges and are found on the new growth of hemlocks. There are two generations a year.

**Control:** Insecticides such as Tristar (acetamiprid), insecticidal soap or horticultural oil can be used to control the immature stages. Soil applications of systemic insecticides like Merit (imidacloprid) or Safari (dinotefuran) can also be made.



Univ. of MD  
Settled crawlers on stem of hemlock

### Fiorinia Scale

Fiorinia scale (*Fiorinia externa*), also known as hemlock elongate scale, is another insect pest that infests hemlocks. This scale can also be found on spruce, pine and yew. Feeding causes foliar chlorosis, needle drop and plant dieback. Look on the foliage for the yellow crawlers of this scale. The first generation occurs in May with subsequent overlapping generations throughout the summer.

**Control:** Control can be difficult because crawlers can be present throughout the summer. Distance can be applied to the crawlers. Horticultural oil can be used to control overwintering females. Soil applications of dinotefuran (Safari) are effective in control of this scale.



University of Maryland  
Fiorinia scale on hemlock

### Spruce Spider Mites

We received a sample of Canaan fir from northern Baltimore County this week that had a heavy infestation of spruce spider mites. Damian Varga, Plant Scientific Services, also reported them on hemlock in Severna Park on April 29. While the mites typically hatch in March and April, all stages were active this week: eggs, nymphs, and adults. Spruce spider mites are active in cooler spring and fall months. They cause stippling and yellowing of foliage. Bits of webbing can be seen between the needle and stems with high populations and needle drop can occur.

**Control:** Horticultural oil can be applied to suffocate the eggs, and growth regulators such as Hexygon or TetraSan may be applied to early nymphs. Other options include Shuttle O, Avid, and Forbid.



Univ. of MD  
Univ. of MD  
Spruce spider mite eggs (left) and adult (right)  
Photos: Sarah Kenney, UMD

## Gypsy Moth

Bobby Saylor, Carroll Tree Service, found newly hatched gypsy moth larvae on an egg mass on a weeping willow on May 11 in Butler (Baltimore County).



**Gypsy moth egg mass showing one larva**  
Photo: Bobby Saylor, Carroll Tree Service

## Beneficials Update:

Besides the syrphid fly larvae as mentioned above, another beneficial insect being found on plants in the landscape this week include a lot of lacewing eggs on red maples that had Japanese maple scales in previous years. Marie Rojas also found assassin bugs hatching out early this week in Frederick County.



**Assassin bug nymphs**  
Photo: Marie Rojas

## Beneficial of the Week, Paula Shrewsbury and Mike Raupp

**Why are those dead flies clustered on the tips of tree branches?**

Have you ever been looking at a tree or shrub and noticed dead flies stuck on the tip of a leaf or branch and wondered “what the heck is that about”? This is what happened to me a few weeks ago. Well it turns out the fly is the adult of the seed corn maggot. The seed corn maggot is a pest of many field and horticultural crops including soybeans, corn, peas, onions, potatoes, and beans. Early in spring adult flies emerge from football-shaped pupal cases in the soil that have survived the winter months. The flies feed on nectar from spring-blossoming plants and lay eggs in organic-rich soils. The eggs hatch and the translucent white larvae, called maggots, search for food. These maggots usually consume decaying organic matter, but when a cool wet spring delays germination and development of crops, seed corn maggots feed on seeds and the roots of seedlings still in the soil thereby creating significant injury. If temperatures are favorable, seed corn maggots can complete



**Dead seed corn maggot adults, killed from an insect killing fungi, on the tip of a maple branch.**  
Photo: Paula Shrewsbury, UMD

a generation in about a month and several generations can occur each year in Maryland. While the cool wet spring is favorable for larvae, as temperatures warm danger awaits the adult seed corn maggot flies. Although not visible to us, there are infective spores of a fungus called *Entomophthora muscae* on the vegetation of plants. As the fly alights on vegetation, unseen spores attach to the surface of its exoskeleton. When just the

right combination of temperature and humidity come together, the spores hatch and fungal hyphae penetrate the skin of the fly and establish a lethal infection. Once inside its host, the fungus manipulates the fly in several remarkable ways. In a related species, the house fly, researchers found that infected female flies became highly attractive to males. In the process of courting these moribund females, spores on the surface of the female fly infect the male who unwittingly helps spread the infection – a remarkable example of a fly STD! In a final act of trickery, *Entomophthora* causes the doomed, but inherently fidgety fly to move ever more slowly until it reaches a final resting spot at the tip of a leaf or branch (see images). From this elevated perch, the fungus erupts from the skin of the fly and spews spores into the air, all the better to distribute its spawn on vegetation where other flies will inadvertently become infected. As you encounter dead flies on the tips of leaves and branches, be glad that *Entomophthora muscae* attacks flies and not humans.



**Death of the seed corn maggot on a lofty perch ensures that fungal spores will be widely distributed.**

**Photo by Mike Raupp, UMD**

**To learn more about this insect, please visit the following web sites:**

<http://www.ento.okstate.edu/ddd/insects/seedcornmaggot.htm>

<http://www.ca.uky.edu/entomology/entfacts/ef309.asp>

**Weed of the Week, Chuck Schuster**

Thoroughwort pennygrass, *Thlaspi perfoliatum*, is a winter annual that can be found in the southeastern United States in landscapes, turf and nursery settings. It forms a basal rosette; the leaves are oblong in shape, and without hairs. Leaves found on the flower stalk will clasp the stem and will become smaller as they move toward the top. Rosette leaves are lobed. The white small flowers with yellow anthers are found on the upper portion of the terminal stem or inflorescence and are made up of four petals. This plant is very similar to shepherd’s purse, but the fruit is larger and is more heart-shaped. The leaves of shepherd’s purse do not clasp the stem. Control of thoroughwort pennygrass can be obtained using dicamba mixed with 2,4D or triclopyr in turf settings. For pre emergent in landscape use oxadiazon (Ronstar).



**Thoroughwort pennygrass  
Photo: Virginia Tech Weed ID**



**Fruit on thoroughwort pennygrass  
Photo: Virginia Tech Weed ID**



**Fruit on shepherd’s purse  
Photo: Chuck Schuster, UME**

**Notice that the photo on the far right (shepherd’s purse) has more triangular fruit than the center photo which is thoroughwort pennygrass.**

## Plant of the Week, Ginny Rosenkranz

*Paeonia*, the garden peony, prefers the cold temperatures of the north and the colder the winter, the happier the peony. Peonies grown on the Eastern Shore of Maryland should be early bloomers and the single or Japanese flower forms will grow best since they bloom while the temperatures are still cool. The double blooming flowers are spectacular, but if they bloom later in the spring when the temperatures are high, the flowers become susceptible to many diseases like Botrytis. Western Maryland is cooler longer and the semi doubles and doubles will grow much better. Peony plants need well drained soil, but still need to be well watered during the growing season. The plants grow best in neutral to slightly acidic soils. Full sun sites are often best, but the farther south the plants are grown, the more afternoon shade insures a better looking plant in the late summer. Planting depth is extremely important for peonies or they will not bloom. The buds or eyes on the root stock should be about 2 inches below ground and no deeper. If planted too deep – or mulched too deep- the plants will not initiate blooming. The flower colors range from pure white, light pink, red and deep burgundy. They will bloom for a period of 2-3 weeks, but if they bloom during a rainy period, the flowers will often fall apart. Peony plants are long-lived herbaceous perennials and do not need to be divided for 15-20 years. Many of the diseases that attack peony plants are caused by rain or very humid conditions. Botrytis usually occurs during rainy weather, especially if the flowers are large double flowers. Pruning off the dead or dying flowers will reduce the amount of botrytis. *Phytophthora cactorum* causes large black spots on the leaves and can cause cankers on the stems as well and white mold (*Sclerotinia sclerotiorum*) attacks plants in hot sunny areas in the south.



**Double flowering peony**  
**Photo: Ginny Rosenkranz**

| PLANT  | PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf) | LOCATION      |
|--|---|---------------|
| <i>Aronia arbutifolia</i> 'Brilliantissima'  | Full bloom (May 8)  | Silver Run    |
| <i>Cornus kousa</i>  | First bract (May 13)  | Ellicott City |
| <i>Dicentra eximia</i> 'Dolly Sods'  | Full bloom (May 8)  | Silver Run    |
| <i>Diphylea cymosa</i>   | First bloom (May 8)   | Silver Run    |
| <i>Hesperis matronalis</i>   | Full bloom (May 8)  | Ellicott City |
| <i>Illicium floridanum</i>   | Full bloom (May 8)  | Silver Run    |
| <i>Iris pseudacorus</i>  | First bloom (May 11)  | Ellicott City |
| <i>Kalmia angustifolia</i> 'Royal Dwarf'   | First bloom (May 8)   | Silver Run    |
| <i>Lonicera</i> 'Blanche Sandman'  | First bloom (May 8)   | Silver Run    |
| <i>Osmanthus americanus</i>  | Full bloom (May 8)  | Silver Run    |
| <i>Paeonia veitchii</i>  | First bloom (May 8)   | Silver Run    |
| <i>Rhododendron</i> 'Homebush'<br><i>Rhododendron flammeum</i> 'Double Pleasure'<br><i>Rhododendron</i> 'Snowbird' | First bloom (May 8)   | Silver Run    |
| <i>Rhododendron</i> 'Bizzard'<br><i>Rhododendron</i> 'Gibraltar'<br><i>Rhododendron atlanticum</i>                 | Full bloom (May 8)  | Silver Run    |
| <i>Robinia pseudoacacia</i> (black locust)   | Full bloom (May 8)  | Ellicott City |
| <i>Saruma henryi</i>   | First bloom (May 8)   | Silver Run    |
| <i>Sedum ternatum</i>  | Full bloom (May 8)  | Silver Run    |
| <i>Uvularia grandiflora</i>  | First bloom (May 8)   | Silver Run    |

### Degree Days (As of May 12)

|                     |     |                    |     |                 |     |           |     |
|---------------------|-----|--------------------|-----|-----------------|-----|-----------|-----|
| Baltimore, MD (BWI) | 452 | Dulles Airport     | 441 | Frostburg, MD   | 193 |           |     |
| Martinsburg, WV     | 374 | National Arboretum | 528 | Reagan National | 509 | Salisbury | 489 |

## Upcoming Programs:

### May 18, 2011 Pest Walk

Location: Eastern Shore

Contact: Ginny Rosenkranz, 410-749-6141

### May 26, 2011

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

Location: Gwendolyn E. Coffield Community Recreation Center, Silver Spring, MD

### June 2, 2011 Pest Walk

Location: Carroll County Extension Office, Westminster, MD

Contact: 410-321-8082

### June 10, 2011

Procrastinator's Pest Management Conference

Location: Montgomery County Extension Office, Derwood, MD

### June 23, 2011

MNLA Field Day

Location: Priapi Gardens, Cecilton, MD

Contact: 410-823-8684

### June 25, 2011 (Saturday)

Summer Maryland Christmas Tree Association Meeting

Location: Sewell's Tree Farm, Taneytown, MD

Contact: 410-452-9793

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