



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

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**Coordinator of the electronic 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 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](mailto:Sklick@umd.edu) or call Stanton Gill at 301-596-9413.

**2008 Chesapeake Green Energy Conference**

**November 11, 2008 from 7:30-4:30  
at the Howard County Fairgrounds**

**For registration information go to:  
[www.mnlaonline.org](http://www.mnlaonline.org) or call 410-823-8684**

**Bacterial Leaf Scorch**

We've received several inquiries about management strategies for bacterial leaf scorch (BLS) in shade trees. This disease, caused by the bacterium *Xylella fastidiosa*, is spread from tree to tree by several species of leafhoppers. Symptoms first develop in late summer, and include marginal necrosis (leaf scorch) and leaf drop. Often, there is a yellow or dark brown band separating the discolored leaf margin from the healthy green leaf tissue. Infected trees leaf out normally each year, but by late summer leaf scorch symptoms appear



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again, on more branches. After several years, infected trees develop such severe branch dieback that they must be removed. Oaks, sycamore and elms are most susceptible to the disease.

There is presently no treatment that will cure trees with bacterial leaf scorch. Recent research by Dr. John Hartman, plant pathologist at the University of Kentucky, was presented last week at the 16th Ornamentals Workshop sponsored by North Carolina State University. Cambistat (the growth regulator paclobutrazol) applied as a soil drench and Bacastat (the antibiotic oxytetracycline) applied by micro-injection or macro-infusion, were evaluated on mature oak trees with BLS. In one experiment, treatments were applied in May 2007 and the trees evaluated in August through October, 2007. Results from this study showed no difference in symptom development between the Cambistat-treated trees and the untreated controls. However, symptom development was delayed by 2-3 weeks in the trees treated with Bacastat as compared to the untreated control trees. Trees receiving the antibiotic treatment also had less symptom development than untreated trees. It is important to note that this experiment was conducted on trees already infected with BLS- it is not known if these treatments would protect trees from BLS infection. Articles by Dr. Hartman and his colleagues describing this research in more detail can be found in the University of Kentucky Nursery and Landscape Program Research Reports for 2006 <http://www.ca.uky.edu/agc/pubs/pr/pr537/pr537.pdf> and 2007 <http://www.ca.uky.edu/agc/pubs/pr/pr554/pr554.pdf>

The bottom line – there is no “magic bullet” yet for managing bacterial leaf scorch. Treatments aimed at controlling the insect vectors have not been effective. Cultural practices that reduce the effects of environmental stress (irrigation during dry weather, pruning out dead branches, avoiding root damage) may help to slow the progress of the disease. Oxytetracycline injections may delay symptom onset for the months following treatment. The most effective management tactic is to remove infected trees and replace them with tree species not known to be susceptible to the disease.

For more information on bacterial leaf scorch, including a list of trees to use as replacements, check out the fact sheet by Dr. Hartman at the following link:  
[http://www.ca.uky.edu/agcollege/plantpathology/ext\\_files/PPFShtml/PPFS-OR-W-12.pdf](http://www.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-OR-W-12.pdf)

### **Azalea Bark Scale**

Marty Adams, Bartlett Tree Experts, reported finding azalea bark scale this week on azalea in Columbia. This scale overwinters as immatures on the bark. When population levels are low, this scale is most often found in the forks of the twigs.

**Control:** If the population is low and damage is minimal, look for beneficial insects which do a good job controlling this insect. If necessary, apply a dormant spray for overwintering nymphs on twigs. In summer when crawlers are active, you can use a summer rate of horticultural oil for control.



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### **Aphids and Beneficials Found on Pin Oak**

Someone brought in a pin oak sample to the Home and Garden Information Center this week with oak aphids. The leaves also had several aphid midges (*Aphidoletes* sp.) feeding on the aphids. This midge attacks an aphid at its leg joints and sucks out the contents of the aphid. The blackened, collapsed aphid remains on the leaf.



**Close-up of an oak aphid**



***Aphidoletes* (top left) and a live and dead aphid**

### **Liriope Problems Continue**

We have received several calls this past summer about crown rot on liriope- primarily in landscape plantings. Initial symptoms included yellowing, then browning of individual leaves, which progressed to collapse of the entire plant. Affected leaves pulled out easily from the clump, and were often blackened at the base.

Several fungi are reported to cause crown and root rot in this plant – Phytophthora, Pythium, Rhizoctonia and Fusarium are reported in several references. This week Marty Adams reported a positive confirmation of Phytophthora from Bartlett Tree Research laboratories. Earlier in the season Karen Rane, UMD Plant Diagnostic Lab, was able to isolate Fusarium species from three liriope samples submitted from a landscape company and two container nurseries.

### **Some cultural control recommendations from Karen Rane ...**

“Crown rot diseases are usually promoted by excessive moisture, deep planting, and other cultural factors that are stressful for plant growth. This year, abundant rainfall earlier in the season may have contributed to an increase in fungal crown rot problems. It is important to examine plants for symptoms of crown rot before installing them in the landscape – don’t use plants that have a number of yellow or brown leaves, and check the roots to make sure they look healthy and white.

It is very difficult if not impossible to manage fungal root and crown diseases with fungicide applications in the landscape – it is much more effective to avoid introducing potentially diseased plants, and to remove plants promptly, as soon as you notice crown rot problems. Managing irrigation to reduce the amount of time water may sit in the crown of the plant (irrigate early in the day, use drip irrigation instead of sprinkler irrigation, for example) will help reduce disease problems as well.”

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## Diplodia Tip Blight

Marty Adams reported diplodia tip blight on Douglas fir this week in Glenwood. This disease is caused by the fungus, *Sphaeropsis sapinea* which most infects weakened trees causing tip blight and death of lower branches. Infection only occurs on new growth in the spring. In the fall when it is dry, prune out infected plant growth. Fungicides can also be used earlier in the season.

## Weed of the Week, Chuck Schuster

Jewelweed, *Impatiens capensis*, often called touch-me-not is an annual weed common to landscapes, edges of streams and low lying moist areas throughout this region of the United States. It is easy to identify with its distinctive orange funnel-shaped flowers.

The leaves are ovate to triangular in shape, two to five inches in length and one to three inches in width. The leaves have a dull upper surface, and are without hairs. The leaf edge is slightly toothed. The flowers are funnel-shaped and produce a seed capsule that will project the seed several feet.



Control of jewelweed can be successful with most non-selective post emergent herbicides. Pre emergent broadleaf herbicides successfully control this weed without difficulty. Mechanical cultivation is has been very successful as the plant is fragile for those desiring non chemical control.

## Plant of the Week, Ginny Rosenkranz

Norway spruce (*Picea abies*) is one of the most beautiful spruces available in Maryland, growing well from zone 3 to zone 7. It has a fairly shallow root system that thrives in sandy, acidic, and moist but well drained soils.

Growing best where the temperatures are cool in the summers, Norway spruce prefers full sun for the most even growth. A fast grower, Norway spruce can reach a height of 75 feet after 50 years and can be used for a solid wind break. A shorter plant that can fit into smaller gardens with the same soil and water requirements is the bird's nest spruce (*Picea abies* 'Nidiformis').



This plant can grow 3-6 feet tall and 3-4 feet wide, and as it matures the center of the plant begins to create a depression, giving it the common name of bird's nest spruce. Both plants are a solid green all throughout the year which helps in the middle of winter when most plants are shades of brown or bronze. Diseases include Cytospora canker, needle casts, rusts. Insects include spruce gall aphid, cooley spruce gall aphid and red spider mites. **Photo of bird's nest spruce by Ginny Rosenkranz**

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## **Irrigation Uniformity = Irrigation Efficiency, Andrew Ristvey**

Irrigation management is the key to nutrient management for above ground or containerized nursery operations. Efficient irrigation systems can apply water uniformly throughout the growing bed area. An irrigation manager will determine the amount of time plants should be under irrigation based on the plant that gets the least amount of water. If an irrigation system does not apply water uniformly over the plants, then some plants will be under-irrigated, while others are over-irrigated. The over irrigated plants will leach nutrients, and the under irrigated plants will lose growth potential. Uniform application depends on many factors including operating pressure, equipment age and wear, the number of irrigation nozzles per unit distance, the overlap of irrigation water, etc. All these factors can be difficult to keep track of, but each is important for increasing efficiency.

On Wednesday October 15 an **Advanced Nutrient Applicator Training** will be held at the Conard-Pyle Nurseries in Centreville, MD. This program is **hands-on**. You will be able to interact with the instructors and experience the latest techniques in improving irrigation efficiency of container-grown crops. Not only is this program for those who need to renew their applicator voucher credits, some of which expire next year, but also for anyone managing an irrigation system. Learn to evaluate irrigation systems and how to perform an Irrigation Audit, a practical methods for achieving irrigation uniformity. Also, learn about how to evaluate your substrate's physical properties and more... Attendance at this workshop awards 3 continuing education hours for Nutrient Applicator Voucher renewal or Maryland Nutrient Management Certification. This is one program that you **do not** want to miss. The program is free, but advanced registration is required; call University of Maryland Extension at the Wye Research and Education Center at 410-827-8056.

## **Degree Day Information (as of October 2):**

Baltimore, MD (BWI)	3504
Dulles Airport	3492
Hagerstown, MD	3249
Mechanicsville, MD	3298
National Arboretum	3801
Reagan National	4212
Salisbury	3371



Stanton Gill



Chuck Schuster



Paula Shrewsbury



Ginny Rosenkranz



Karen Rane

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