



**Greenhouse TPM/IPM Weekly Report**  
**University of Maryland Cooperative Extension**  
**Central Maryland Research and Education Center**

**From:** Stanton Gill, Regional Specialist and Karen Rane, Plant Pathologist  
Ginny Rosenkranz, Chuck Schuster and Brian Clark, Extension Educators  
Suzanne Klick and Shannon Wadkins, Technicians, Maryland Cooperative Extension  
John Speaker, Independent IPM Scout

**October 24, 2008**

**Black Vine Weevils Active This Fall**

We had samples of foamflower (*Tiarella cordifolia*) in the lab this week with the top of the plant completely severed from the root zone. Many small, white legless larvae of the black vine weevil were found feeding at the soil surface. Adult females notch the edges of the foliage in June through September. The larvae will continue to feed on the roots of herbaceous perennials until late fall when they will migrate down to the bottom of container-grown plants.

**Other susceptible hosts include:** astilbe, heuchera, hosta, sedum, bergenia, aster, lily of the valley, epimedium, fern, cranesbill geranium, heather, lirioppe, peony, phlox, and toad lily

**Chemical Control:** bifenthrin (Talstar) applied as a soil drench will control larvae

**Biological Control:** several species of entomopathogenic nematodes applied as a soil drench are effective including; *Steinernema carpocapsae*, *S. glaseri*, and *Heterorhabditis bacteriospora* (= *helioidis*). In Europe, *Heterorhabditis megidis* has also been used successfully to control black vine weevil larvae.

The nematodes will reproduce inside the black vine weevil larvae, and then migrate out into the soil to look for another host. For nematode survival, the soil must be kept moist and soil temperatures must be above 10° C (50° F). *Steinernema kraussei* has been used to control black vine weevil at temperatures between 43-50° F. This species may be a good choice for growers at this time in the fall.



**Black Vine Weevil Larva**



**Black Vine Weevil Damage**

### Strange Symptoms on Chrysanthemum

We are finding what appears to be adventitious rooting or galls on the stems of Belgian mums at two greenhouse operations this week. The abnormal growth is causing reddening and stunting of the foliage.

These photos were sent to Will Healy at Ball International, Karen Rane at the University of Maryland Plant Diagnostic Clinic, and Melodie Putnam at Oregon State University for their input.

Will said that this looked like *Agrobacterium* gall to him. Infection from this bacterium causes large swellings on the crown and nearby roots. A molecular assay is performed to test for *A. tumefaciens*.

Karen disagreed, saying that these look more like root projections to her, not undifferentiated callus tissue. She noted that often branches that have been semi-broken will begin to form roots. Karen also added that adventitious rooting can sometimes be caused by exposure to 2, 4-D herbicide.

Melodie agreed, saying that this does not look like crown gall to her because in mums *Agrobacterium* forms pretty good sized galls, not a lot of little tiny ones. It also does not cause the foliage to turn red. She asked if the plants had been exposed to growth regulator type herbicides which can cause adventitious roots to form on the stems.



**Reddening of the Foliage**



**Adventitious Roots at Base of Stems**

### Scouting Reports

Scouts are finding whitefly on variegated marjoram and aphids on silver helichrysum this week. A grower in central Maryland is reporting problems with *Rhizoctonia* on their poinsettias. They are seeing the worst symptoms on the 'Advent' and 'Prestige' varieties.

### Scales on Interiorscape Plants

We are seeing fern scale (*Pinnaspis aspidistrae*) on cast iron plant (*Aspidistra elatior*) this week. This armored scale is a general feeder that can be found on a wide range of host plants and is reported to be a pest of *Aspidistra*, ferns, and citrus. The female covers are light brown and oystershell shaped. The male covers are white and more elongated. In Maryland it is commonly seen in landscape plantings of liriopogon and ophiopogon.



**Male Fern Scale Covers**

**Latania Scale** (*Hemiberlesia lataniae*) is being seen on corn plant (*Dracaena fragrans*) this week. This armored scale is a general feeder that can attack a wide range of host plants. In California and Florida it is reported to be a serious pest of avocados, palms, ferns, and other foliage plants. In the U.S. it occurs outdoors as far north as Maryland, and can be found on holly, euonymus, cotoneaster, and pyracantha.



**Female Latania Scale Cover**

### Cuban Laurel Thrips

Brian Kunkel at the University of Delaware made the following comments on our October 10, 2008 report...

“I noticed in the newsletter awhile back you mentioned that you found Cuban laurel thrips (*Gynaikothrips ficorum*) on *F. benjamina*. I was wondering if you had those thrips checked to see if they could have been *G. uzeli*? The reason I ask is that earlier this year a grower here had *G. uzeli* show up on a *F. benjamina* from Florida. Dave Held at Auburn has been tracking the spread of this thrips and is interested in new cases.”

Brian also sent us an article on *G. uzeli* written by David Held and David Boyd which states that before 2003, Cuban laurel thrips (*Gynaikothrips ficorum*) was the only species of *Gynaikothrips* to exist in the United States, and that the only reported morphological difference between the two species is the length of certain body hairs. They say that a more practical way to distinguish *G. uzeli* from Cuban laurel thrips is by host plant association. *G. uzeli* is primarily found on *F. benjamina*, whereas Cuban laurel thrips is found on *F. microcarpa*.

Talstar was the only product they tested that provided more than two weeks of residual control. Their research suggested that most neonicotinoid insecticides (Safari, Discus, Marathon, Flagship, Tri-Star) applied to the foliage provide only seven days of control. Similarly, biorational products (Safer insecticidal soap, Conserve, Avid, Azatin) also provided moderate to poor control.

### **Cleaning and Re-using Pots**

Cleaning and re-using pots, trays and flats may be an economical move for some growers, but it is important to do it right. Plant pathogens like *Pythium*, *Rhizoctonia* and *Thielaviopsis* can persist in root debris or soil particles on greenhouse surfaces. If you know the previous crop had a disease problem, it is a safe move to avoid re-using those containers. It is also a good idea to avoid planting crops that are prone to *Thielaviopsis* problems, like pansies, in containers that have been previously used.

Even if there was no evidence of disease in the crop, all containers should be washed thoroughly to remove all soil particles and plant debris before being treated with a greenhouse disinfectant – organic matter can protect pathogen spores from coming in contact with the disinfectant solution. There are several products available for disinfecting greenhouse surfaces: quaternary ammonium products (Greenshield®, Phytan 20™, Triathlon®), and hydrogen dioxide (ZeroTol®, OxiDate®). Follow label directions for these products - labels indicate that pots must be soaked for at least 10 minutes in these products to be fully effective. A 10 percent solution of household chlorine bleach (one part bleach to 9 parts of water) may be used for pots and flats, but the solution has a shorter activity period than other disinfectants, losing half its strength in 2 hours. Sanitation with chlorine bleach also requires a longer soaking time. Chlorine bleach is also phytotoxic to some plants, and must be used in a well-ventilated area to protect workers.

Tina Smith from the University of Massachusetts has an excellent fact sheet called “Cleaning and Disinfecting the Greenhouse” that describes the greenhouse disinfectants and their proper use in great detail, including links to labels of disinfecting products. The fact sheet can be found at: [http://www.umass.edu/umext/floriculture/fact\\_sheets/greenhouse\\_management/ghsanitz.html](http://www.umass.edu/umext/floriculture/fact_sheets/greenhouse_management/ghsanitz.html)

### **Free Yourself From the Grid**

What would it take to set-up wind power at your business? How efficient are the new solar panels coming onto the market? What incentive programs do the state and federal government offer to help you install alternative energy sources at your operation? What are some low cost things that you can do to save energy and money in tight times?

Answer these and other energy-related questions by attending the 2008 Chesapeake Green Energy Conference on November 11, 2008 at the Howard County Fair Grounds. This event is being co-sponsored by the University of Maryland Cooperative Extension, the Maryland Nursery and Landscape Association, the Maryland Greenhouse Growers Association, and the Maryland Arborist Association. The program is intended to help the nursery, greenhouse, landscape, and arborist industries investigate alternative energy sources. For more information go to [www.mnlaonline.org](http://www.mnlaonline.org) or call 410-823-8684.

### **Poinsettias**

Check your plants for whiteflies this week. Bract color is just starting on most of the poinsettias we have seen in central Maryland, so you still have some time to control the whitefly if necessary. Some materials that work well include: Astro, Avid, Azatin, Aria, Endeavor, Enstar, Flagship, Judo, Marathon, Pedestal, Sanmite, Talus, TriStar, and Safari.

### **Easter Lilies**

We have not even reached Halloween yet, and it's already time to start thinking about Easter. Don't worry- you still have a little time to prepare, but keep in mind that Easter is on April 12<sup>th</sup> next year. You will want to obtain your pre-cooled bulbs for delivery in early to mid-December and pot them up around December 14<sup>th</sup>. We will have more on Easter lily production guidelines in upcoming issues.

### **Farewell**

Shannon Wadkins, who has been the key person in organizing the Greenhouse IPM Alerts, has accepted a position as head grower at a greenhouse operation in Baltimore County. This is a great career move for Shannon, but we will all miss her greatly. She has done an outstanding job with the Greenhouse IPM Alerts and was wonderful in working with Maryland growers. Hopefully she will stay in contact with us as she moves into this exciting new job.