



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

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**Getting Green: Sustainable Energy
Use for the Green Industry**
November 8, 2007
Maryland State Fairgrounds, Timonium
For more information: 301-596-9413

New Whitefly

Greg Hodges, Florida Department of Agriculture and Consumer Sciences, reports that fig whitefly (*Singhiella simplex*) is being found in Florida on *Ficus benjamina*. This whitefly is a pest of *Ficus* species in India, and was first recorded in the continental US in Florida in early August, 2007. Severe infestations can cause defoliation. Photos can be seen on the pest alert site: <http://www.doacs.state.fl.us/pi/enpp/ento/Singhiella%20simplex.html>

Interesting Armored Scale on Ficus and Eucalyptus

We received a sample of trilobe scale (also known as cashew scale and gingging scale), *Pseudonidia trilobitiformis*, on *Ficus rubigniosa* and *Eucalyptus microtheca*. This armored scale is polyphagous (general feeder) and is reported on over 80 genera of plants. It is often found on citrus plantings. These samples came from a conservatory in the Baltimore area. The biology has been studied on cashew where it is reported to feed mainly along the midrib and primary veins of leaves.

Control: Horticultural oil or Distance applied when crawlers are present.



Trilobe scale on *Eucalyptus microtheca*



Trilobe scale on *Ficus rubigniosa*

Scouting Reports

Rust

We are seeing hollyhock rust, *Puccinia malvacearum*, on *Alcea* 'Simplex' this week. Yellow spots on the upper surface of the leaves are associated with orange-brown pustules on lower leaf surfaces. The pustules are filled with teliospores that can be carried by wind currents and spread in splashing water.

Management: Remove nearby mallow weeds which can serve as a reservoir. The fungus overwinters in infected plant material. Cut hollyhocks down to the ground in the fall and remove or destroy debris. Groom infected leaves as soon as symptoms are observed. Protectant fungicides can be applied as the new leaves are expanding in the spring.

Controls: Chlorothalonil (Daconil, Concorde, Echo, Manicure Ultrex), mancozeb (Fore, Protect T/0), trifloxystrobin (Compass), myclobutanil (Eagle), and flutolanil (Contrast)



Pustules on undersides of leaves

Leafminers

We are finding damage from columbine leafminers (*Phytomyza* spp.) this week on Aquilegia. This is old damage from the spring that we are seeing now. Serpentine mines are caused by *P. aquilegiovora*, while blotch mines are caused by *P. columbinae* and *P. aquilegiana*.



Serpentine Mine



Oviposition Punctures



Blotch Mine
Whitney Cranshaw

www.forestryimages.org

Snails

We are seeing snails on *Leucanthemum* ‘Becky’, Silver Princess’, and ‘Alaska’ this week. Plants were damaged at the soil line and had completely collapsed. Because slugs and snails are most active at night, often the only evidence of their presence is the silvery slime trail and plant damage left behind. They chew irregularly-shaped holes with smooth edges in the leaves. Also look for round, smooth, clear to white eggs laid in the soil.

Control: Bait containing methiocarb (Mesuro) or iron phosphate (Sluggo)



Whiteflies

We are seeing adult whiteflies on the undersides of older ornamental cabbage leaves this week.

Controls include: acephate (Orthene), acetamiprid (TriStar), azadirachtin (Azatin), *Beaveria bassiana* (BotaniGard), bifenthrin (Talstar), dinotefuran (Safari), imidacloprid (Marathon), permethrin (Astro), pyridaben (Sanmite), pymetrozine (Endeavor), and spiromesifen (Judo)



Aphids

We are finding aphids clustered in the flower heads of *Sedum* ‘Autumn Joy’ this week.

Controls include: acephate (Orthene), pymetrozine (Endeavor), acetamiprid (TriStar), azadirachtin (Azatin), *Beaveria bassiana* (BotaniGard), bifenthrin (Talstar), dinotefuran (Safari), imidacloprid (Marathon), and permethrin (Astro)



Powdery Mildew

We are continuing to see powdery mildew on veronica, sedum, coreopsis, columbine, and beebalm this week.

Controls: Milstop (potassium bicarbonate), Strike (triadimefon), Terraguard (triflumizole), Heritage (azoxystrobin), and Compass (trifloxystrobin)



Veronica ‘Royal Candles’

November 8, 2007 Energy Conference Topics:

Electricity, Co-ops and Current Green Projects: Richard Anderson, CQI Associates, LLC
Growing Strategies and Technology Options to Reduce Greenhouse Energy Consumption:

Dr. Erik Runkle, Michigan State University

The How and Why of Installing Effective Thermal / Shade Curtains: Scott Sanford,
University of Wisconsin

When are technologies truly 'green': David Tilley, Department of Environmental Science and
Technology, University of Maryland

Switchgrass and Wood Burners: Andrew Ristvey, University of Maryland Cooperative
Extension

**Greenhouse Energy Efficiency; Reducing Natural Gas / Propane Use For Greenhouse
Heating; Greenhouse Unit Heaters: Types, Placement, Efficiency:** Scott Sanford

Clean Energy for Maryland, From Policy to Practical: Gary Skulnik, Clean Currents, LLC

Solar Power: John Shepley, Emory Knoll Farms

Biodiesel and Ethanol Fuels: Lynne Hoot, Maryland Grain Producers Association

For a copy of the brochure, go to <http://www.ipmnet.umd.edu/crses97.htm>

**Maryland Dept. of Agriculture/Maryland Cooperative Extension offers nutrient
management plan writing, certification workshops for nursery and greenhouse operators**

Registrations are now being accepted from nursery and greenhouse growers interested in becoming certified to write their own operation's nutrient management plans.

The Maryland Department of Agriculture (MDA), in cooperation with the University of Maryland Cooperative Extension (MCE), will hold classes to train both in-ground and out-of-ground growers how to write a water and nutrient management plan for their operation. During this class, a grower will learn how to write a plan; learn the requirements for planning, implementation, and reporting; develop a plan under the instructors' guidance; and take the exam to become certified. Two class meetings will be required. Lunch will be included in the first class meeting; there will be a small fee for the lunch and exam.

Classes will be scheduled when there are at least ten operations signed up requesting training. Classes may be in different parts of the state. Classes for early 2008 are being planned now. This is a first call, first served basis. Please **call the MDA at 410-841-5959** to request being listed for a 2008 nursery/greenhouse plan writing/certification class. You will be contacted when classes are being scheduled.

Growers are asked to sign up now so there will be classes held this winter or spring. Classes may not be offered later in 2008. Do not put it off if you are interested. For more information on the nutrient management regulations, go to www.mda.state.us. Click on Conservation, then on Nutrient Management.