



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

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**July 13, 2007**

**Echinacea**

In July and August be sure to monitor your crops for whitefly activity. The eggs of the geometridae (inch worm) caterpillar we found feeding on Echinacea last September have just hatched. Do not confuse this with another caterpillar pest of Echinacea mentioned last week, the sunflower moth. The photo below was taken under a microscope and shows the tiny yellow egg laid on the flower bud.



**Thrips Relief**

Growers are telling us that thrips are everywhere this summer. The problem is that everyone has been using mainly Conserve to control them since there are few options to rotate with for control. I spoke with Jeff Dobbs of OHC and he said they are printing new labels for Pylon and that the new label will include thrips control on ornamentals. Most of you have been using Pylon at 5.2 oz/100 gallons for mite control. For thrips control you would use 10-20 oz/100 gallon. Jeff mentioned that OHC now has ownership of Floramite, B-Nine, and several fungicides. You may see some new bundled chemical mixes later in the season.

## Downy Mildew

We are seeing downy mildew on Rudbeckia this week. Downy mildews are obligate parasites of plants (require a living plant and cannot be isolated in culture). The spores produced on damaged leaves can be carried on air currents to cause new infections. Under certain conditions these spores can produce swimming spores (zoospores).

Extended periods of leaf wetness are needed for initial infection. Once the plant is infected, the fungus can spread inside the plant. Downy mildews are “water molds” closely related to *Phytophthora* and *Pythium*. Some sanitation practices would be helpful as well. Plants with all shoots having blighted leaves and showing stunted growth probably should be discarded. Plants with most shoots free of symptomatic leaves could be salvaged by a combination of grooming out symptomatic shoots and fungicide treatments. Plants showing no symptoms should also be treated with fungicide because it can take a week or more following infection for the first symptoms to appear.

**Control:** Symptomatic plants need to be treated with a systemic fungicide specific for downy mildew such as: Stature; Aliette; Alude; Heritage; Compass. Broad spectrum protectants such as chlorothalonil (Daconil Ultrex; Spectro90), mancozeb (Cleary’s Protect TO, Fore); and coppers (Phyton 27, Kocide, etc.). Protectants could be used to protect other crops in the Asteraceae growing near the symptomatic plants. Stature is a mixture comprised of a systemic specific for water molds with mancozeb, a surface protectant.



## Brown Soft Scale, *Coccus hesperidum*

A staghorn fern sample infested with brown soft scale was sent to our office this week. Brown soft scale feeds on a wide range of greenhouse grown plants and tropical foliage plants. This soft scale feeds in the phloem of the plant and produces copious amounts of honeydew that coats plant foliage. Sooty mold will often grow on the honeydew. The females are light brown, oval and generally flattened in profile. The females are what you usually find on plants; males are rather rare.

**Control:** Systemic neonicotinoids applied to the soil



### **Golden Tortoise Beetle, *Charidotella bicolor***

We are seeing golden tortoise beetle damage on sweet potato vine this week. This beetle is a bright, almost metallic, gold color. The beetle loves to feed on plants in the family Convulvulaceae (morning glory family). One of the plants being used heavily in the landscape is the ornamental sweet potato vine. This plant is highly attractive to the golden tortoise beetle. The beetle is found throughout the east coast. The adults overwinter and the female will lay eggs on the foliage over the next couple of weeks. The larvae that hatch have flattened spines projecting from the body. The larvae will carry feces and cast skins from the rear end - a rather strange and curious habit. Fortunately they have only one generation per year and they appear to be found mainly outdoors. With venting you find some beetles wandering into a greenhouse.

**Control:** Usually not necessary. Generally ornamental sweet potato vine provides so many leaves that a little foliar feeding is tolerable.



### **High Tunnel Seminar in Elizabeth, PA**

Keith and Ralph Cramer hosted an evening high tunnel seminar at Cramer's Posie Patch on July 11th. They discussed which crops are doing well for them in the Haygrove high tunnel system. Here is some of the information that they shared:

#### **Crested Celosia under High Tunnels**

Keith Cramer has grown celosia for the wholesale market for several years, harvesting in August through the fall. The average price has been \$2.40 - \$2.50 for a bundle of 5 stems. Crested celosia grown under high tunnels came into cutting stages in early June and they have been able to obtain \$4.50 per 5 stems bundles. The quality of the cut stems grown under high tunnels is excellent.



#### **Lisianthus**

Everybody loves Lisianthus, but the darker flowering selections are very easily spotted and damaged by violent summer rain storms. The high tunnels protect the flowers and give you a more predictable harvest. At Cramer's Posie Patch, they use a 30 % shade cloth suspended over the plants to get longer stem length, which the wholesale buyers seems to like.

## Dahlias

Karma dahlias are the choice of most growers under high tunnel systems. You can bring this crop on 4 - 6 weeks earlier than field-grown plants and the quality is excellent. However, the dry conditions in high tunnels will promote powdery mildew growth. At Cramer's Posie Patch they are using ZeroTol to deal with powdery mildew. You can also use horticultural oil or Compass, Cleary's 3336, Daconil, Heritage, Junction, Milstop, Phyton 27, Spectro 90, and Camelot, among others.



## Hydrangea under High Tunnels

In 2006, they planted five selections of *Hydrangea microphylla* under Haygrove high tunnels with a trickle irrigation water supply. All of the selections performed very well under the high tunnel growing conditions. Of the white flowering selections, they found that 'Limelight' performed the best. They said that the plants they put under high tunnel average 20 cut stems per plant. 'Limelight' planted in the same season outdoors only averaged 5 - 7 stems per plant. They also noted that the flower heads of the 'Limelight' grown under high tunnels were basically flawless, with no spotting or damage that you may find when growing them in outdoor field conditions. Of the pink flowering hydrangeas, they found that 'Pink Diamond' and 'Quick Fire' performed the best under high tunnels. Both had high quality cut flower heads, however the 'Quick Fire' produced twice as many stems.



## High Tunnel Costs

The HayGrove system averages around \$1.00/ per ft<sup>2</sup> if you use the large, 1/2 acre or greater, system. Other high tunnels usually run from \$1.50 - \$3.50 ft<sup>2</sup> of growing area. The big advantages from using any high tunnel system is that you can bring crops into production several weeks earlier, you can control the water that the plants receive, and you can maintain the quality of the cut flowers much better than you can in field growing situations.

## National Specialty Cut Flower Growers Conference- Raleigh, North Carolina

Mark your calendars for the national cut flowers meeting on October 1- 4 in Raleigh, NC. For information on the program visit the ASCFG website at: [www.ascfg.org](http://www.ascfg.org)

### Cut Flower Scouting Reports

We received a report of imported willow leaf beetle larvae feeding on corkscrew willow this week. Labeled synthetic pyrethroids work well on leaf beetles. Nymphs of phlox plant bug were found damaging phlox in Montgomery County. Harlequin bug is out and active. Look for it feeding on cleome and snapdragons. Controls for harlequin bug include neem, insecticidal soap, acephate, bifenthrin, cyfluthrin, and fluvalinate. *Cosmopepla bimaculata* was seen damaging *Physostegia* and *salvia* this week. *Cosmopepla* can be controlled with bifenthrin or acephate. Milkweed beetle is out and feeding on *asclepias*. Do not confuse this bright orange and black beetle with the milkweed bug, another pest of *Asclepias*. Although the damage from this beetle is limited, it still is a nuisance that damages some of the foliage. Controls include synthetic pyrethroids such as Talstar.



**Willow Leaf Beetle Larvae**



**Phlox Plant Bug**



**Harlequin Bug**



***Cosmopepla bimaculata***



**Milkweed Beetle**



**University of Maryland Cooperative Extension**  
**July 24, 2007 Summer Cut Flower Program**  
**8:30 am—3:30 pm**

At the *Wicomico Cooperative Extension Office and Statice* (Ron Peterman's Farm)

8:30-9:00	<b>Registration/Check-in</b>
9:30—10:30	<i>Growing &amp; Making a Living on a 2 Acre Cut Flower Operation</i> <b>Lisa Beggar</b>
10:30-10:45	Break
10:45—11:45	<i>What is New with Lilies?</i> <b>Ko Klaver</b>
11:45-12:00	Travel to Ron Peterman's Cut Flower Farm for Lunch
12:00-1:30	Lunch with <b>Burt Klotz &amp; Wanda Kelly</b>
1:30-3:30	Tour <b>Ron Peterman's</b> Cut Flower Farm

**Directions to Wicomico Extension Office:**

**From the North:** Follow Rt. 13 South to Salisbury. Continue on Rt. 13 to the Jct. of Rt. 50 West. Turn right at light and merge onto Rt. 50 West. Continue on Rt. 50 West for about two miles to the Jct. of Nanticoke Road (Road 349). Turn left onto Nanticoke Road and drive for about a quarter mile to the first traffic light. Turn right at the light and then an immediate left into the office parking lot. **From the South:** Follow Rt. 13 North to Salisbury. Continue on Rt. 13 to the Jct. of Rt. 50 West. Cross over Rt. 50 and make an immediate left. Merge onto Rt. 50 West and continue for about two miles to the Jct. of Nanticoke Road (Road 349). Turn left onto Nanticoke Road and continue for about a quarter mile to the first traffic light. Turn right at the light and an immediate left into the office parking lot. **From the West:** Follow Rt. 50 **Business** East to Salisbury. Turn right at the first traffic light onto Nanticoke Road (Road 349). Continue on Nanticoke Road for about a quarter mile to the first traffic light. Turn right at the light and then an immediate left into the office parking lot. **From the East:** Follow Rt. 50 **Business** West to Salisbury. Continue on Rt. 50 West of the Jct. of Nanticoke Road (Road 349). Turn left onto Nanticoke Road and continue for about a quarter mile to the first light. Turn right at the light and then an immediate left into the office parking lot.

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**July 24 Summer Cut Flower Program - Registration**

**Cost:** \$30.00/ person (includes lunch)  
EAC

**Make checks payable to:** Wicomico

**Send checks to:** Wicomico Extension  
P.O. Box 1836  
Salisbury, MD 21802

Name(s): \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Payment Amount: \_\_\_\_\_

**For more information contact Ginny Rosenkranz at 410-749-6141 ext. 106**