



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

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Summer Cut Flower Growers Program

July 24, 2007 in Salisbury, MD
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Sawflies

Rachel Channon reported seeing sawfly larvae in Greenbelt last week eating the berries off of false soloman's seal. Sawfly larvae are often mistaken for moth or butterfly larvae. Although they are similar in appearance and cause similar types of damage, sawflies are in a different order of insects and are more closely related to bees and wasps. The way to easily distinguish the difference is that sawflies have six or more pairs of prolegs, and the prolegs do not have crotchets.

Control: Spinosad or Acephate (Orthene) applied to the foliage



Scouting Reports

Scouts are seeing two-spotted spider mites on *Scutellaria*, grasshoppers on *Rudbeckia* 'Goldsturm', leafminers on *Aquilegia* and 'Magellan' zinnias. Aphids are being reported on sweet potato vine, petunias, and pentas.

Sunflowers

Ben Beale, an Extension agent in St Mary's County, is seeing very high populations of thrips in the cut flower fields- especially on 'Sunbright Supreme' sunflowers. The population is so high that the petals are becoming discolored from feeding damage.

Control: Conserve is probably the best option. They can rotate to Mesurol, but it has a 24 REI. There is no really good systemic available (imidacloprid and Safari are too expensive and not great on thrips).

Thrips are at an all-time high this year in greenhouses and in cut flowers. They are showing up on 'Aztec' verbena, mandevilla, marigolds, hibiscus, geraniums, vinca, impatiens, and sweet potato vine. We are seeing damage on vegetable transplants also. John Speaker reported seeing unprecedented numbers of thrips in field-grown verbena. He is also finding *Orius* spp. on cosmos. These thrips predators are commonly called minute pirate bugs.



Photo of minute pirate bug, *Orius insidiosus*, by John Ruberson, University of Georgia, Bugwood.org



Heavy thrips population found on common milkweed flower

Milkweed Bugs

We are continuing to see milkweed bugs this week. The photo shows the bright red nymphs with black wing buds. They have sucking mouthparts which they use to extract plant juices. The milkweed bug rarely reaches high enough levels to warrant spraying and significant damage to plants is not often seen.



Milkweed Bugs on Leucanthemum

Mealybugs

Mealybugs were seen on lime and lantana this week. The infested lime plant was actually a weed left growing under a bench.

Citrus mealybug is a general feeder and can be found on several species of greenhouse plants. As soon as mealybug are detected take aggressive action or else you will have explosive situations in a short time.

Control:

Aria, Orthene, Talstar, Astro, Marathon, horticultural oil, insecticidal soap



Botrytis

We are seeing *Botrytis* on zinnias this week. The *Botrytis* fungus requires a film of water on plant surfaces for several hours to germinate and infect the plant. Any cultural practice that prevents continuous periods of leaf wetness will help to reduce infection. Sanitation is essential to keep *Botrytis* under control because the fungus can produce a huge amount of infective spores on debris. These spores are then moved around the greenhouse and settle out onto plant surfaces where they can wait several weeks for a film of water. Although the zinnia plants were being sub-irrigated, hanging baskets growing above caused the problems with *Botrytis* on the zinnia buds. *Botrytis* can invade the plant directly through unwounded plant parts, especially flowers.

Cultural recommendations include:

- 1- Installation of Horizontal Air Flow fans (HAF fans) to circulate the air in the greenhouse and prevent accumulation of humid air around the plants.
- 2 - Use of trickle or ebb and flood irrigation, so the foliage is kept dry.
- 3 – Vent warm, moist air at sunset. Then heat the colder outside air that is taken in to reduce air humidity overnight.
- 4- Remove fallen flowers and dead foliage from production areas.

Chemical controls: Fungicides may be used to combat *Botrytis* under conditions that are conducive for disease. Foliar sprays of Decree or chlorothalonil or mancozeb or coppers such as Phyton 27 are useful.



Early Symptoms



Advanced Symptoms

Announcement: New Plant Lab Diagnostician – Fall of 2007

The University of Maryland Cooperative Extension has hired someone to fill Ethel Dutky's position. The new member of our team will be Dr. Karen Rane. She will start early this fall. Karen will be stationed in the Department of Entomology on the College Park campus and will diagnose plant problems.

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