



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

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**Downy Mildew on Basil**

Many garden centers have been selling a ton of basil this year and it has been relatively pest free. Deer even leave it alone in most landscapes. Karen Rane sampled basil from a site in the Brookeville area in Central Maryland and found downy mildew. What caught her attention was the distortion of lower foliage on Italian basil.

**Tarnished Plant Bugs**

Brian Clark is finding tarnished plant bugs on sunflowers in Upper Marlboro this week. We are also finding them active on snapdragons and mums. They feed on developing leaves, fruits and flowers of a variety of woody and herbaceous plants including other cut flower crops such as helichrysum and gomphrena. It is an omnivore that also feeds on aphids and other soft-bodied insects. Plant injury includes stippling and deformed foliage.



**Control:** If necessary - Acephate (Orthene)

**Sunflower Moth**

Brian Clark is seeing the larvae of the sunflower moth, *Homoeosoma electellum*, on sunflowers in Upper Marlboro. We have also received reports of larval activity on Echinacea in recent years. These distinctive larvae are reddish-brown with light yellow stripes running the length of the body. The adults are present in late June through early July and females lay eggs on flower heads. The larvae tunnel down into the flower heads. They can produce silk, and in some cases may cover a flower head with fine silk. Sunflower moths also feed on sunflower and zinnia. The larvae feed on the floret and then the seed head, consuming seeds of the plant.



**Control:** The best time to target for control is before the larvae have tunneled down into the flower heads. Options include *Bacillus thuringiensis* on early instar larvae or Conserve.

## Gray Sunflower Weevil

Brian Clark also found the gray sunflower seed weevil, *Smicronyx sordidus*, on sunflowers. Information on the gray sunflower seed weevil and additional photos of the adults of these sunflower pests are available at: <http://ipmworld.umn.edu/chapters/charlet2.htm>



## IPM Report:

An IPM scout is reporting ...

Thrips are active this summer on the following perennials: *Achillea*, *Salvia*, *Aster*, *Dianthus*, *Leucanthemum*, *Armeria*, *Phlox subulata* and *Phlox paniculata*. Thrips cause stippling of foliage and streaking on flower petals. An article in the October 10, 2008 report (<http://www.ipmnet.umd.edu/08Oct10G.pdf>) covered thrips control options.

Two-Spotted Spider Mites are active on *Salvia* and *Rosa*. Look for stippling on foliage. Twospotted spider mites also produce webbing on plants. Control options include Judo, Akari, Floramite, Avid, horticultural oil, and Pylon.

There is some botrytis on Rosemary. Maintain good air circulation as much as possible during periods of high humidity.

## FYI - Weed Control Update:

Marestail (also called horseweed) is being found throughout Maryland to be resistant to glyphosate products. Marestail is both a spring (summer) and winter annual, germinating both in early spring and in August. Pre-emergent herbicides should be applied in August to prevent germination this fall. Materials to use include Barricade, Surgard, and Snapshot.

David Schell, BASF, sent us an e-mail letting us know that BASF has a product called Freehand 1.75 granule that contains 1% pendimethalin and .75% dimethenamide. David report this works well for summer applications to prevent seed germination of marestail.



### **Pigweed Flea Beetle**

We are seeing pigweed flea beetle adults and larvae heavily damaging love lies bleeding (Amaranth) in the landscape. This plant is often grown as a cut flower crop. Look for this yellow and black striped beetle skeletonizing foliage.



### **Cabbage and Kale Under Attack**

The imported cabbageworm butterfly, the cabbage looper and cross-striped cabbage moth larva are all active this week on ornamental cabbage and kale. John Speaker is reporting a lot of caterpillar activity in nursery operations in central Maryland.

**Control:** Any material applied should have a spreader sticker to help it adhere to the foliage. Bt is effective but you will need to repeat applications every 7 days while caterpillars are present. Conserve works well. If the cabbage and kale is in the greenhouse you can use Pylon.



**Cabbage looper (photo taken under a microscope)**



**Cross-striped cabbage moth larva**



**Adult butterfly (cabbage white) of imported cabbageworm**



**Larva of imported cabbageworm**

### **Variegated Fritillary**

We found variegated fritillary butterflies very active on flowers at a cut flower operation this week. The larvae of this butterfly feeds on Viola species. Monitor fall pansy crops for adult females laying eggs and early instar caterpillars feeding on the foliage.

**Control:** Bt or Conserve

