



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

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<p>High Tunnel Conference and Tour May 31, 2007 Montgomery County Extension Office, Derwood Farmhouse Flowers and Plants, Brookeville For more information: 301-596-9413</p>	<p>Chesapeake Green Interiorscape Conference May 18, 2007 Brookside Gardens, Wheaton, Maryland For more information: 410-823-8684</p>
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New Disease on Vinca

A vinca basket with yellow spotting on the leaves was submitted to the Plant Diagnostic Clinic last week. These symptoms are being seen at several Maryland greenhouses. Ethel Dutky found mycelium and conidia of a powdery mildew (*Oidium sp.*) associated with the spotting.



Powdery Mildew Management

Sanitation: Remove spotted leaves from the production area.

Chemical controls: Apply a systemic fungicide to the crop. You have many choices including: Heritage, Compass, Strike, Banner Maxx, Terraguard, and MilStop. Repeat as needed if spots continue to appear.

More Powdery Mildew

We are also seeing powdery mildew on ranunculus this week.



Spider mites

John Speaker reports that two-spotted spider mites are the number one problem this week in many greenhouses. They are being found on lantana, verbena, dahlia, scaevola, sunflower, and sweet potato vines. The 'Tricolor' sweet potato vine is being damaged the most although 'Blackie' and the 'Sweet Caroline' series are also heavily infested. The warm sunny weather is predicted to stay around for the next week so expect mite populations to continue to flourish.

Monitoring: Examine the undersides of foliage for spider mites

Control: With the trailing growth habit of sweet potato vine, it is difficult to lift the foliage with a spray and make contact with the mites. Growers could try using a foliar systemic miticide such as Judo. A good rotation of contact miticides that would have to be directed to the undersides of the foliage would include Floramite, Akari, Avid, horticultural oil, and Pylon.



Sunflower infested with mites



Mite damage on underside of leaf

Slugs

We are seeing slug damage on annual red salvia, gerbera daisies, and zinnias this week.

Controls: Sluggo (iron phosphate), Deadline (metaldehyde), and Mesurol (methiocarb).



Slug damage on red salvia



Slug damage on zinnia

Aphids

We are finding aphids on hybrid lilies and verbena this week.

Monitoring: Look for cast skins, honeydew, and sooty mold on the foliage.

Controls include: TriStar (actemiprid), Marathon, (imidacloprid), Endeavour (pymetrozine), Orthene (acephate), Safari (dinotefuran), Azatin (azadirachtin), BotaniGard (*Beauveria bassiana*), Talstar (bifenthrin), and Astro (permethrin).



Aphids on verbena



Aphids on lily

Gerberas

Leafminers, interveinal chlorosis, and aphids were observed on gerbera daisies this week.

Leafminer controls include: Avid (abamectin), TriStar (acetamiprid), Azatin (azadirachtin), Safari (dinotefuran), and Astro (permethrin).



Interveinal chlorosis on gerbera leaves



Leafminer damage on gerbera

Herbs

Aphids and mites were found on an assortment of herbs this week including basil, sage, oregano, and mint. There was some evidence of parasitism on the mint.



Two-spotted spider mite



Live aphids with aphid mummy

Shoreflies and fungus gnats

We are seeing high populations of shoreflies and fungus gnats this week. Shoreflies are more of a nuisance pest that feeds on algae. Fungus gnats damage plants by feeding on the roots and tunneling into the stems. Growers often have a hard time telling these two apart on their sticky cards. Fungus gnats have slender bodies and a Y-shaped pattern on their wings. Fungus gnat larvae have a black head capsule. Shorefly adults have more robust bodies and white spots on their wings. Shorefly larvae lack a black head capsule.

Controls: Adept (diflubenzuron) and Distance (pyriproxyfen) insect growth regulators.



Fungus gnat larva



Fungus gnat infestation on pentas

Oedema

We are seeing oedema on portulaca (photo) this week. Oedema does not generally have a negative impact on the health of the plants, but it can greatly reduce their marketability. Pimple-like blisters appear as the cells swell with water. The cells will eventually burst and leave corky lesions on the leaf surface.



Scouting Reports

Scouts are finding aphids on gazania, zinnia 'Zowie Yellow Flame', and lemon balm. Thrips are also showing up on lobelia and gerbera daisies. They note that they're seeing more thrips activity on the 'Festival' series than on the 'Festival Spider Mix' series.

Thrips Controls include: acephate (Orthene), azadirachtin (Azatin), *Beauveria bassiana* (BotaniGard or Naturalis-O), dinotefuran (Safari), novaluron (Pedestal), spinosad (Conserve), and bifenthrin (Talstar).



Zinnia 'Zowie Yellow Flame'



Gazania daisies



Thrips streaking on gerbera flower



Thrips damage on gerbera leaf