



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

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Greenhouse thrips, *Heliothrips haemorrhoidalis*

Shannon Wadkins found thrips on a gardenia plant last week called the greenhouse thrips. This thrips feeds on a wide variety of greenhouse crops. The adult has a dark colored head and thorax with an alternating dark and reddish striping on the abdomen.



You can find the 2 larval stages, which are light colored with red eyes on the undersides of leaves. The thrips pupates on the leaves, usually on the undersides, and is light colored with short wing pads. This is generally one of the easier thrips to control in greenhouses since it feeds in the open where you can make contact with sprays.



Adult Greenhouse Thrips

***Heliothrips haemorrhoidalis* Larva**

Hydroponic Tulips

The tulips in this photo were placed in a hydroponic growing system and given several weeks of chilling to get the bulbs to form roots. They were then brought into a greenhouse and forced into bloom this week. If you would like more information on how to try this at your operation, we have an excellent fact sheet on *Production of Tulips as Cut Flowers*. You can contact us at 310-596-9413 or visit our website at www.ipmnet.umd.edu to obtain a copy of FS 837 and other cut flower fact sheets.



***Pseudomonas syringae* on Celosia**
Karen Rane, Plant Diagnostic Laboratory

We've received several samples of celosia with foliar blight symptoms caused by *Pseudomonas syringae*. This plant pathogenic bacterium can infect a number of herbaceous and woody ornamental hosts, including garden impatiens, New Guinea impatiens, geranium, hibiscus and lilac. Symptoms include dark brown or black leaf spots, leaf blight, and shoot blight. Diseases caused by *P. syringae* are most common under cool, wet conditions. Crowded benches, cool spring temperatures, high humidity, overhead watering, and poor air circulation favor the disease.



Photos by Karen Rane

Management: Bacteria can be splashed from plant to plant during irrigation. Sanitation (removal of symptomatic plants) is very important for disease management. Avoid handling plants when the foliage is wet, and irrigate in the morning to reduce the duration of leaf wetness. There are reports that plants receiving excessive nitrogen fertilizer are more susceptible to this pathogen- one more reason to use a balanced fertilizer program. While copper products such as Kocide or Phytan 27 are labeled for managing bacterial leaf spot diseases in greenhouse crops, these must be used in conjunction with sanitation and cultural practices to be effective.



***Pseudomonas syringae* on Celosia**

Shore Flies

We are receiving a lot of reports from greenhouses and garden centers that shore fly adults are all over the foliage of their plants, especially on zinnias, begonias, and osteospermum. We just went through two weeks of cool, rainy weather which is ideal for algae growth. Algae is what the larval stage of shore flies feed and thrive on, resulting in the increase of adult populations that we are seeing this week. Growers often have a hard time telling shoreflies apart from fungus gnats on their sticky cards. Shoreflies are nuisance pests, but fungus gnats damage plants by feeding on the roots and tunneling into the stems. Some ways you can tell them apart are that fungus gnats have slender bodies, a Y-shaped pattern on their wings, and the larvae have a black head capsule. Shorefly adults have more robust bodies, 5 white spots on their wings, and the larvae lack a black head capsule.



Note the 5 spots on the wings

Scouting Reports

This week scouts are reporting aphids on sedum and gardenia; oviposition wounds on *Aquilegia* from columbine leafminers; *Botrytis* on geranium, gerbera daisy, and angelonia; iron deficiency on petunia and calibrachoa; slug damage on salvia and coleus; slug damage on salvia and coleus.



Botrytis blight on Angelonia



Interveinal chlorosis on petunia



Slug damage on red salvia



Leafminer injury on Columbine

Pavement ants, *Tetramorium caespitum*

John Speaker is continuing to find pavement ants damaging the roots of annual vinca, celosia and marigold in greenhouses this week. We are not sure what drives these ants to become pests, but we have had them show up in several greenhouses in the spring. The worker ants will strip the cortex off roots and girdle the base of the plant.



Photo by John Speaker

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Field Mice

John Speaker is also reporting that field mice moved into a greenhouse and ate verbena plants almost to the soil level. The plants look like they will recover, but it set them back about 10 -14 days. If we could just train them how much to prune back plants, we might have a natural growth regulator system.

Thrips Overwintering in Maryland

In the April 14, 2008 Maryland Pest Net Update Gerald Brust, IPM Vegetable Specialist with Maryland Cooperative Extension, reported that several thrips species are overwintering outdoors on winter annuals in Maryland. Over the last two winters he has taken weed samples from vegetable fields looking to see if any thrips were overwintering, and if so how many and what species?

Gerald has seen that the results from this year of sampling show that thrips are overwintering to a greater extent than last year's sampling program detected. In 5 of his 12 sample sites, thrips were found in December- January. The species found included Eastern flower thrips, onion thrips, tobacco thrips, and Western flower thrips. He found that 81% of the thrips found were female adults. Chickweed harbored 70% of all thrips, with wild mustards and henbit being the next best winter hosts. This entire article can be found at www.mdipm.umd.edu

Upcoming Programs

Procrastinators' Pesticide Recertification Conference

June 6, 2008

Montgomery College, Germantown

For more information contact: Chuck Schuster at 301-590-2807 or cfs@umd.edu

IPM for Nurseries and Landscapes

June 11, 2008

Allegheny College of Maryland, Cumberland

For more information contact: Derrick Bender at 301-724-3320 or dbender@umd.edu

Procrastinators' Pesticide Recertification Conference- Eastern Shore

June 13, 2008

Wye Research and Education Center, Queenstown

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