Downy Mildew on Coleus

We received in a sample of coleus ‘Wizard Scarlet’ with downy mildew, caused by the fungus-like microorganism *Peronospora* sp. this week. This downy mildew disease was first detected in New York and Louisiana in 2005, and by 2006 it was found throughout the United States. Although similar in appearance to basil downy mildew, the pathogen that causes coleus downy mildew infects only coleus (both seed propagated and cutting propagated cultivars) and agastache, NOT basil.

Coleus downy mildew may escape detection because early symptoms are often subtle and can go unnoticed in the busy activity of spring growing. Initial symptoms can include slight chlorotic mottling or small necrotic leaf spots which can enlarge to blotches. The pathogen will produce gray spore-bearing structures on the undersides of symptomatic leaves, which can give the lower leaf surface a fuzzy or “dirty” appearance. However, in some cases the sporangia are not produced in great numbers so it may take examination under a dissecting microscope or with a strong hand lens to see them.

What caught our attention with the “Wizard Scarlet” sample was an unusual twisting and upward cupping of the infected leaves (see photo). Sporulation was initially sparse on our sample, but when the plants were placed in a plastic bag to increase humidity, many more spores developed and became easily visible.

The pathogen can arrive in a greenhouse with new plugs or cuttings. It can also survive on “pet” coleus plants that are kept from year to year in the greenhouse – another reason not to use your commercial greenhouse for your houseplants. The disease spreads from plant to plant through spores moving on air currents as well. Under relatively cool, moist conditions, disease spread is very rapid. In the heat of the summer, spore production decreases and the disease becomes latent, but once the weather cools off in fall, the disease can become active again.

**Management:** Purchase plugs or plants from growers you trust to have excellent disease management and sanitation practices in place. All new shipments should be carefully inspected and kept separate from the rest of the production area for observation if possible. Do not carry over coleus from season to season, and avoid using coleus in plantings outside of production greenhouses. Although both seed propagated and cutting propagated coleus are susceptible to downy mildew, coleus cultivars vary in their susceptibility and severity of disease symptoms. Researchers at Cornell University and Michigan State University have put together a [list of coleus cultivars and their relative susceptibility to this disease](#).
Insect Update
Up to now in the season we have mainly had reports of aphids and fungus gnats as the major pests in greenhouses. As the weather is warming up, thrips pressure is increasing on greenhouse crops, especially since many plants are in bloom now and there are plenty of pollen sources on which thrips can feed. Use blue sticky cards to detect adult thrips in a greenhouse. Place at least 3 – 4 cards in a 10,000 sq ft of growing area and check the cards once a week to see if the population is going up or down. Yellow sticky cards also work, but the blue are more attractive to the adult thrips.

If your populations of thrips are still low you have several options for control. Azadirachtin (Aza-Direct, Azatin XL, Ecozin Plus, Ornazin, Neemix) works fairly well when thrips populations are still low and will help keep them suppressed. The insect growth regulator, Pedestal (Novaluron), works well on immature stages of thrips and works best when populations are relatively low. Pylon (Chlorfenapyr) at 10 -20 oz/100 gallons of water has performed well for thrips control. At this rate it can be a little pricey, but this material is translaminar and fairly effective on thrips. Spirotetramat (Kontos) which is an insecticide/miticide label has increased its soil drench application rates and now includes thrips and scale crawler control. Kontos is both foliar and root absorbed. Kontos is phloem-active, meaning users can foliar-apply (spray) and be assured that the active ingredient (spirotetramat) will move down in the plant. Growers can also soil drench Kontos, and because it is xylem-active, the active ingredient will move up systemically through the roots to the growing tips.

Insect Pest on Bay Plant
We received a sample from a greenhouse with an insect called the bay psyllid sucker, Trioza alacris. The bay plant is about the only plant on which you will find this insect feeding. Most are found on the West Coast, The bay sucker psyllid is a sap sucking insect, commonly known as jumping plant lice. This pest only feeds on bay trees causing the leaves to curl at the edges and become yellow and thickened. These damaged leaves can then turn brown and fall off the tree. The insect produces wax with which it surrounds its body and some growers may mistake this for a type of mealybug. Adult bay suckers are winged and about 2mm in length. They are pale brown in color. They feed on the edges of bay leaves, causing them to curl along the edges. Eggs are then laid within the curls. The small scale-like larvae secrete copious amounts of white wax from their bodies. While the larvae feed and grow, the infested leaves become more curled and deformed. Honeydew is also excreted by the larvae which not only makes the plant sticky, but encourages the growth of sooty mold. If you find this on bay plants in your greenhouse the easiest thing to do is prune off the infested growth and destroy it.
**June 19, 2014 – A Chance for the Horticulture Industry to Learn and Have Fun**

Tidal Creek Growers in Davidsonville will open their doors for The Maryland Greenhouse Growers’ Association and the University of Maryland Extension. This event will be both educational and good general fun. There will be competitive games organized by Ginny Rosenkranz, entertaining live music, and great food. Bring your family along to enjoy the late afternoon to evening event.

Tidal Creek Growers is a plant production greenhouse operation that is known for its production of high quality greenhouse plants. The site for the field day will feature over 5 acres of greenhouse growing area. The owner is Jake Van Wingerden and the head grower is Mike Leubecker who will lead the tours of the facilities.

**Here is what professional horticulturists will see during the tour of the facility:**
- How to produce high quality poinsettias, pansies, mums, and hydrangeas.
- How to get the most out of a flood irrigation and boom irrigation system.
- Use of a shaping and trimming mechanical device for herb trees and other specialty crops.

The University of Maryland Extension will have educational displays on water and nutrient management with Andrew Ristvey; Insect and Disease diagnosis and control options with Karen Rane, David Clement and Stanton Gill; How to calibrate fertilizer injectors with Chuck Schuster.

**The featured topic will be: What do Garden Centers Want from Greenhouse Growers?**

**Featured Speaker:** Carrie Engel, Valley View Garden Center and Nursery, is one of the top speakers from the garden center industry in Maryland. Carrie Engel works for one of the most successful garden center operations in the Baltimore area – Valley View Garden Center and Nursery. Carrie is the greenhouse manager and buyer for annuals, vegetable plants, tropical plant material and holiday plants for Valley View Farms. She has managed the plant department since 1985. Carrie appears on WBAL TV two times a week talking about gardening and answering viewers’ questions about plants.

For details and to register, go to [http://extension.umd.edu/ipm/conferences](http://extension.umd.edu/ipm/conferences)

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**Upcoming Programs**

Go to [http://extension.umd.edu/ipm/conferences](http://extension.umd.edu/ipm/conferences)

- **MGGA Field Day**
  - June 19, 2014 (afternoon through early evening)
  - Location: Tidal Creek Growers, Davidsonville, MD

- **Greenhouse Biocontrol Conference**
  - August 6, 2014
  - Location: Maritime Institute, Linthicum, MD
  - [http://extension.umd.edu/ipm/conferences](http://extension.umd.edu/ipm/conferences)

- **Stormwater Management Program**
  - August 20 and 21, 2014

  **TWO Locations:**
  - August 20 - Montgomery County Extension Office, Derwood, MD
  - August 21 - Robinson Nature Center, Columbia, MD

  Details will be posted when available

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