



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

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**March 23, 2007**

**Scouting Reports**

IPM Scouts are seeing aphids on bell pepper plants and powdery mildew on rosemary 'Barbeque'.



**Aphid on pepper**



**Powdery mildew on rosemary**

**Weekly Easter Lily Update**

Source: 2006 Easter Lily Guidelines from William B. Miller, Cornell University Flower Bulb Research Program

**March 27:** Buds are 3 inches long. Plants should be 18.5 inches tall. Double check for aphids. Cold stored plants should be held at 35-40° F. Before placing plants in cold storage make sure that the soil is moist, plants have a root rot drench within the last two weeks, a Fascination spray application to the leaves and buds at a rate of 25 ppm has been made, and the foliage is dry going into the cooler.

**Predatory Mites**

Geri Cashion, EcoSolutions, Inc., recommends using *Neoseilus californicus* for controlling two-spotted spider mites. A release rate of 1 predator per square foot of crop is suggested for preventative control. Two releases should be made at 14 day intervals. The release rate to control an existing problem is higher. Geri tells her clients to scout 5 leaves on 20 plants to come up with a percentage of infestation. If the infestation level is above 10%, she recommends first applying a soft, short-residual product to bring pest populations down. Once the infestation percentage is below 10%, release 2-4 predators on a bi-weekly basis as needed.

Geri has a client that uses an inexpensive garden duster (Dustin-Mizer by RJ Winmore, Inc.) for dispersing predators throughout the greenhouse. The *Neoseiulus californicus* available from EcoSolutions are packaged in bottles with a 1.25" opening so this grower has modified his duster by drilling a 1.25" hole in the top of the applicator tube. Then he simply screws the bottle on and turns the hand-crank. The Dustin-Mizer (available at [www.gardenduster.net](http://www.gardenduster.net)) is lightweight and easy to operate. It is also cleaner, quieter, less expensive, and less harmful to the beneficials than using a gas-powered blower.

### Swirskii-mite

Geri Cashion of EcoSolutions, Inc. is also reporting having continued success with *Amblyseius swirskii*. Just in case you missed it, the following is a reprint of her information from our June 30, 2006 report ...

### Thrips and Whitefly Control Using *Amblyseius swirskii* Predators

Swirskii-mite is a voracious predatory mite which controls both thrips and whitefly. It has also demonstrated the ability to provide added control with spider mite infestations in conjunction with other predatory mites. It controls both greenhouse and tobacco whitefly species. It preys on the eggs and 1<sup>st</sup> larval stages of whiteflies, and on the 1<sup>st</sup> larval stages of thrips. It has a very high rate of reproduction. Swirskii-mite is not susceptible to diapause, and can be introduced in winter months. It also may be introduced in high temperatures. Without prey it can establish on pollen.

**Mode of Action/ Life Cycle:** Predatory mites pierce their prey and suck out the body contents, resulting in immediate control. Their eggs are deposited on the underside of leaves, often on the leaf hairs near the veins. Total development from egg to adult takes 5 to 6 days depending on temperature and humidity.

**Release Technique:** Rates vary with plant size and infestation level. From 2 to 5 mites are recommended per square foot. Two release methods are available. Loose mites are suspended in media that is placed directly on the plant. Sachets with 250 mites are hung on the plant and the sachets release mites for about 4-6 weeks.

You can view Swirskii mite attacking a spider mite at the Koppert Biological Systems at <http://www.allaboutswirskii.com> and a Swirskii mite attacking thrips at [www.whitefly.org](http://www.whitefly.org)

### Fuchsia Rust (caused by *Pucciniastrum epilobii*)

Rich Anacker, Maryland Department of Agriculture reported that this pathogen was found in a Maryland greenhouse last week by an MDA nursery inspector. Plants will be destroyed for quality purposes. Photos are by Rich Anacker.



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## Symptoms on foliage

## Signs of rust on foliage

### Downy Mildew

At the March 8<sup>th</sup> IPM Scout training, Bob Mulrooney from the University of Delaware, mentioned that downy mildew was first reported on impatiens in the US in 1942, but has not been too common. However, report of downy mildew on impatiens has been increasing in recent years. Downy mildew sporulates heavily on the undersides of leaves. If the plant is severely damaged, discard it. Coleus can also be infected with downy mildew in the greenhouse and then seen after it is planted in the landscape. Symptoms on coleus vary considerably and include angular leaf spotting, stippling, and leaf curling. Some symptoms resemble foliar nematode damage. If damage is severe, leaves will drop.

**Control:** Be sure to alternate between chemical classes. Fungicides include Subdue Maxx, Alette, Cygnus, Fore, Phyton 27, Stature DM, Compass and Heritage. Efficacy can vary.

### Rusts

When covering rust diseases at the conference, Bob Mulrooney mentioned that he has posted a rating for susceptibility of asters to *Coleosporium asterum* (rust found on goldenrod and aster). The alternate host is three needle pines. You can find the rating report, *1998 Aster Demonstration Results – Reaction of Aster Cultivars to Powdery Mildew and Rust*, by Bob Mulrooney, Susan Barton and Theresa Holton, Department of Plant and Soil Sciences, University of Delaware at (<http://ag.udel.edu/extension/horticulture/pdf/pp/pp-44.pdf>).

### Interiorscape Conference

May 18, 2007

Brookside Gardens, Wheaton, Maryland

For more information: 410-823-8684