**Greenhouse Pest Message, Aug 27, 2025**

**Charles Krasnow, UConn Extension**

Downy mildew diseases are a concern to the greenhouse industry. Spread is rapid causing serious losses to many susceptible crops. Downy mildews are difficult to control once established. The pathogen is referred to as a water mold (oomycetes) that are more closely related to Pythium and Phytophthora than to true fungi. Downy mildews must be managed preventively with different classes of fungicides.

Symptoms vary depending upon the specific downy mildew pathogen, the host plant, and environmental conditions. Some of the more common symptoms of downy mildew include yellow, red, or brown patches on the leaves that may be bound by leaf veins. With downy mildew infections, a coating of sporulation may be seen on the leaf undersides, especially during humid conditions. Diseased plants may be stunted with systemic infections.

Downy mildews are obligate parasites that need a living host to grow and reproduce. Pathogens such as Peronospora and Plasmopara may cause downy mildews on ornamental plants. Most of the downy mildews are host specific and infect only closely related plants. Some ornamentals prone to infection include snapdragon, salvia, alyssum, pansy, rose, primula, Osteospermum, coleus, statice, and cleome. Herbaceous perennials such as Aster, Agastache, Buddleia, Coreopsis, Digitalis, Geum, hardy geranium or cranesbill, Lamium, Papaver, Rudbeckia, Veronica and Viola are also susceptible to different downy mildews.

Do not carry over plants from one season to the next because they may be carrying the disease without showing obvious symptoms. Choosing less susceptible varieties is an important management tool. Downy mildews develop during cool (50-75° F), wet conditions with high relative humidity above 85% at the leaf surface. Prolonged periods of leaf wetness favor downy mildew sporulation, spread and infection. Look on underside of leaves, early in the day. Scout routinely, at least once a week. Use a hand lens to look for blooms of sporangia.

Management

• Inspect incoming plugs or plants carefully for signs of downy mildew upon arrival.

• Select less susceptible cultivars, if available.

• Monitor susceptible plants at least once a week.

• Promptly remove diseased plants and debris.

• Reduce humidity levels in the greenhouse by using proper plant spacing.

• In the greenhouse, proper environmental management with the use of computerized controls, HAF fans, heating and venting to reduce humidity levels is necessary

• Water early in the day.

• Avoid overhead irrigation and use drip irrigation whenever possible.

Plan on using preventive fungicide programs for highly susceptible crops. Top available fungicides listed below:

| | Product | Active ingredient | FRAC code |
|---|---|---|---|
| Class A | Segovis | oxathiapiprolin | 49 |
| | Subdue MAXX | mefenoxam | 4 |
| | Adorn | fluopicolide | 43 |
| | Fenstop | fenamidone | 11 |
| | Micora | mandipropamid | 40 |
| | Orvego | ametoctradin/ dimethomorph | 45/40 |
| | Stature SC | dimethomorph | 40 |
| | Alude | phosphorous acid salts | 33 |
| Class B | Heritage | azoxystrobin | 11 |
| | Segway | cyazofamid | 21 |
| | Aliette | aluminum tris | 33 |

**2025 UCONN Sentinel Plots**

This year there were sentinel plots at the UConn PSLA Research Farm. These plots are planted trials to monitor for local downy mildew outbreaks as a way to monitor and alert growers if new downy mildews are observed. **Note** that this is only representative of local infection sources. Downy mildew spreads in air currents, but local epidemics may also occur if the pathogen is brought in on plant material.
The plants were planted in the shade house. The shade house is covered with 40% shade cloth and pots contained ProMix BX potting mix. The plants received Osmocote per the label, and no supplemental feed. Transplants were planted on 21-May. All plants received a spray of Conserve and Flagship to limit insect damage on 15-Jun. The trials will run till completion, ~October 20th.

The crops planted in 2025 included: Basil Genovese, Coleus Wizard Golden, Impatiens Accent White, Rudbeckia Goldstrum, Salvia Fairy Queen, and Cucumber Speedway.

| Crop | Date DM Detected (Summer 2025)[1] |
|---|---|
| Coleus Wizard Golden | July 15 |
| Impatiens Accent White | ND[2] |
| Rudbeckia Goldstrum | ND |
| Salvia Fairy Queen | Aug 24 |
| Basil Genovese | ND |
| Cucumber Speedway | Aug 1 |

[1] As of August 27th 2025
[2] ND=not detected