Greenhouse Pest Message, June 29, 2022
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Poinsettia Cuttings – watch for bacterial soft rot during warm temperatures, such as those expected later this week.

Garden Mums
Garden mums are heavy feeders during their first few weeks. Some growers may use 100% water soluble fertilizer with drip irrigation, some may use 100% controlled-release fertilizer and many others use a combination of water soluble and controlled-release fertilizer for added flexibility and to provide protection from leaching with heavy rains.

Get young plants off to a good start and prevent premature buds by using moistened soil when potting up plants, and then water-in newly planted cuttings with a fertilizer solution such as 20-20-20 or 20-10-20 and continue this during the first 2 to 3 weeks of production.

With several cool June nights in a row, garden mums can initiate buds prematurely which results in early flowering of the plants. If premature budding occurs, buds should be pinched off, and adequate moisture and fertilizer supplied to encourage soft growth. The plants will almost always continue to grow and develop into a quality fall crop for you.

For more: Feed me, Seymour by Virginia Brubaker:
https://www.growertalks.com/Article/?articleid=24220

Downy Mildews on Herbaceous Perennials
Downy Mildews should not be confused with powdery mildews, for all "mildews" are not the same. Some crops, such as coreopsis, are susceptible to both powdery mildew and downy mildews, and it is important to know which mildew disease you are dealing with.

Downy mildews are caused by many different species of water molds ("oomycetes") that are more closely related to *Pythium* and *Phytophthora* or algae than to true fungi. In many cases**,** downy mildew infections are systemic whereas powdery mildew infections are not. Downy mildews must be managed preventively with different classes of fungicides than powdery mildews.

Symptoms

Symptoms vary depending upon the specific downy mildew pathogen, the host plant, and environmental conditions. Some of the more common symptoms of downy mildew infection include yellow, red, or brown patches on the leaves that may be bounded by leaf veins. At first glance, these angular lesions may be confused with bacterial leaf spots. However, with downy mildew infections, a coating of sporulation (either white, gray, or violet) may be seen on the leaf undersides, especially during humid conditions. Diseased plants or their new growth may be stunted with systemic infections.

Figures 1 & 2: Downy mildew on rudbeckia. Photos by L. Pundt

Causal Organisms and Host Ranges

Downy mildews are obligate parasites that need a living host to grow and reproduce. Most of the downy mildews are host specific and infect only closely related plants.

Herbaceous perennials such as **aster, agastache, butterfly bush, coreopsis, hardy geranium or cranesbill, foxglove, poppy, rudbeckia, geum, lamium, veronica** and **viola** are also susceptible to different downy mildews.

Figures 3 & 4: Downy mildew on coreopsis. Photos by L. Pundt

Conditions Favoring Downy Mildew

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.

Monitoring

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 (they may resemble branched trees with lemons.)

Management

Plan on preventive programs for highly susceptible plants or varieties that you have had a problem within the past.

Rotate among different FRAC (mode of action) codes to slow down the development of resistance. Over-reliance on systemic fungicides leads to the development of resistant populations and many of the systemic fungicides have specific resistant management guidelines on their labels.

Some of the fungicides that are rated very good to excellent against downy mildews on ornamentals by Mary Hausbeck include:

- Subdue MAXX (mefenoxam (4)
- Adorn (fluopicolide) (43)
- Segovis (oxathiapiprolin) (U15)

- Stature SC (dimethomorph) (40)
- Micora (mandipropamid) (40)
- Orvego (ametoctradin + dimethomprph) (45 & 50)
- Segway (cyazofamid) (21)
- Fenstop (fenamidone) (11)

Consult the most recent edition of *New England Greenhouse Floriculture Guide: A Management Guide for Insects, Diseases, Weeds and Growth Regulators* for up-to-date recommendations available online at: https://greenhouseguide.cahnr.uconn.edu/

Consult and follow pesticide labels for registered uses. Many pesticides are labeled for only a limited number of perennial species. To avoid potential phytotoxicity problems, spot test before widespread use. No discrimination is intended for any products not listed.

Basil Downy Mildew has been reported in MA, VT, RI, and NY. This spring, ass a home gardener, it was harder for me to find the basil downy mildew resistant varieties, which tend to provide an extra 2 or more weeks of protection.


Figures 5 & 6: Basil Downy mildew. Photos by L. Pundt

Advice for home gardeners for retailers regarding Basil Downy Mildew

Inform customers about this disease, especially that it starts from spores that can be wind dispersed long distances, so it is difficult to avoid on plants grown outdoors. Dr. Meg McGrath, Cornell University suggests encouraging home gardeners to grow some plants in containers that can be brought inside when humidity outside is high (overnight and on rainy days). The pathogen needs at least 85% humidity to be able to infect. Basil downy mildew is not soil-borne so it will not overwinter in the soil.

Susceptible basil varieties planted outdoors in the ground should be planted and harvested early. Meg McGrath at Cornell University maintains the Basil Ag Pest Monitor. https://basil.agpestmonitor.org/

For more: Basil Downy Mildew Fact sheet by Meg McGrath: https://www.vegetables.cornell.edu/pest-management/disease-factsheets/basil-downy-mildew/

Online registration is now open for the **Greenhouse Biological Control Conference on August 16th** at the Jones Auditorium in New Haven, CT. See: https://greenhouse.uconn.edu/biocontrol-2/
Featured speakers include:

- Ron Valentin, Director of Technical Business, Anatis BioProtection
- Suzanne Wainwright Evans, Buglady Consulting
- Elwood Roberts, Plant Products
- Michael Brownbridge, Bioworks

Registration includes boxed lunch and five pesticide credits. Preregistration is required, no walk ins.

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