

Greenhouse Pest Message April 28, 2023
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Greenhouses are full of plants and with the tight spacing and projected periods of cloudy rainy weather for the coming weekend and next week, many of the growers I visited were applying preventive applications of biological fungicides such as Cease (*Bacillus subtilis*) to help **prevent Botrytis Blight**.



Figure 1 & 2: Botrytis blight on petunia and geranium blooms. Photos by L. Pundt

When ornamental crops are in flower, **extra care** is needed to select fungicides or biological fungicides to avoid damaging the tender sensitive flowers.



Figure 3 & 4: Damage to tender blooms when a fungicide and another product was applied that stated to be apply to open blooms! Photos by L. Pundt

Always read all labels carefully before applications!

It is helpful to write with a sharpie pen, precautions on the bottle of the label, such as *Do not apply to open blooms* or *Do not use on geraniums*. Some growers save the PDF files of the specimen labels of the products that they use regularly on their cell phone where it is easier to read them before applications.

Some possible late season ornamental fungicides for *Botrytis*

- Affirm WDG (polyoxin D zinc salt) (FRAC 19) has shown excellent flower safety over a large range of plants.
- Astun (isofetamid) (FRAC 7) is reported to be safe on open blooms, according to the company, with the use of a spreader sticker.
- Pageant Intrinsic fungicide (boscalid & pyraclostrobin) (FRAC 7 & 11) has also shown excellent plant safety.

Note on sensitive flowers: Impatiens flowers and other plants with thin blooms can be discolored with just water! This occurs when the water or spray sits for a longer period under cloudy, cool conditions and the water does not evaporate quickly. To help reduce the chance of injury:

- Check and or replace your spray nozzles so you are applying an even distribution of fine spray droplets.
- Apply treatments early enough in the day so you do not extend the wetness period into the night.
- If possible, increase air movement by turning on horizontal fans

For more see:

Tips on Preventing Botrytis Blight During Cool, Cloudy Weather Periods on Greenhouse Ornamentals: <https://ipm.cahnr.uconn.edu/wp-content/uploads/sites/3216/2022/12/2019ipsonpreventingbotrytisblight2-2.pdf>

If you are growing herb bedding plants, here is a listing of fungicides labeled on herbs: <https://ipm.cahnr.uconn.edu/wp-content/uploads/sites/3216/2022/12/2020herbfungicidesfinalNovember10.pdf>

If you are growing vegetable transplants, see <https://nevegetable.org/>

Cold, Cloudy Weather Can Also Lead to Ammonium Toxicity

During cool growing conditions, (less than 60°F), with wet growing media and low pH, nitrifying bacteria are suppressed so that ammonium may build up to toxic levels in the growing media. **Tomato, eggplant, and pepper** transplants are particularly sensitive to high levels of ammonium, but other vegetable transplants can also be damaged. Coleus, pansy, salvia, and zinnia are also sensitive.

Symptoms of ammonium toxicity include yellowing or chlorosis between the veins and scattered necrotic spots. Plants may be stunted. At first, young leaves are affected, but later, older leaves show symptoms. Root tips are also damaged.

UMass Extension Greenhouse Crops Update

<https://ag.umass.edu/greenhouse-floriculture/greenhouse-updates-april-25-2023>

Powdery Mildew on Calibrachoa

When powdery mildew first develops on calibrachoa, it can be very hard to detect. Lower leaves may turn brown and dry and sometimes there is also leaf drop. This could be confused with Botrytis stem canker, which also develops on calibrachoa. Be aware that that dead and/or shriveled lower leaves, or a sparse-looking plant from dropped leaves, can be symptoms of powdery mildew. The powdery mildew fungus growth is also very sparse at first, so inspecting the leaves under a dissecting microscope can help.

In later stages, you may see the typical white powdery like fungal growth. On some varieties, flower blooms can also become infected.



Figure 5 & 6: Powdery mildew on lower leaves and flower of calibrachoa. Photos by L. Pundt

Varieties also vary in terms of how susceptible they are. Often, one variety is more affected than another. So, consider substitutes next season. The fungus that causes this powdery mildew is also reported to infect cucurbit crops such as cucumber and squash.

For more: Update and Review: Powdery Mildew on Calibrachoa https://e-gro.org/pdf/2020_912.pdf

Powdery Mildew on Calibrachoa https://www.e-gro.org/pdf/2015_436.pdf

In the April 6th, pest message, I mentioned the use of **SuffOil X** applications to tropical plants.

Be sure to follow all safety precautions listed on the label. If you are unsure about a particular species, spot treat first and start at the lower rate of 1% and if that looks good, you may be able to increase the rate. It is critical to make sure the plants are dry in 2 hours and avoid high temps/humidity/light conditions.

Mandevilla and other Tropicals

For more photos of damage of from *Thrips parvispinus* to Mandevilla and Tropical Hibiscus see Onfloriculture blog post by Sarah Jandricic <https://onfloriculture.com/2023/04/18/thrips-parvispinus-pepper-thrips-the-importance-of-inspecting-plants-and-dipping-cuttings-from-florida/#more-11664>

Save the Date: June 29, 2023

For an all-day in person educational program focusing on diseases and disorders at the CAES in New Haven, CT. *Details coming soon.*

The information is for educational purposes only. All references to commercial products and trade names are for informational purposes only. No endorsement or approval of commercially available products is intended.

See: New England Greenhouse Floriculture Guide: <https://greenhouseguide.cahn.uconn.edu/>

Funding provided by USDA NIFA CPPM grant 2021-70006-35582.

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