

GROWERTALKS

Growing With Griffin

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Good to the Last Raindrop

Virginia Brubaker

In many parts of the country, last spring was so wet that you had to laugh to keep despair from setting in. Some growers only had two rainstorms last season. The first one lasted for 52 days and the second one only lasted for 40 days.

We kid, but of course, we know soggy spring weather is no joke. A greenhouse filled to capacity with pot-to-pot mature plants in full bloom isn't a good place to ride out a long spell of cool, damp weather. Such persistent conditions can provide a launchpad for Botrytis and aerial Rhizoctonia.

There's no time like the present to prepare for soaking spring rains. Since we can't control the weather, the best we can do is limit the associated risks. When cloudy, wet weather sets in, disease scouting and control become top priorities.

Understanding Botrytis and aerial Rhizoctonia

Botrytis and aerial Rhizoctonia share two favorite things—the first is full greenhouses, where air movement is limited or, at worst, inadequate. The second is free moisture on leaf surfaces.

Botrytis symptoms can vary in appearance due to several factors, including where on the plant it occurs and the current environmental conditions. Symptoms can occur on leaves, stems, fruit, buds and blooms. Expanding brown lesions of decaying plant material are sometimes covered with white/grey spores when environmental conditions are favorable for disease development.

Aerial Rhizoctonia is considered a web blight, although the webbing is often not visible. Most often, it appears as an expanding circle of rapidly collapsing plant tissue under crowded conditions, including stem cankers that girdle stems.

Effective fungicides are available, but if the greenhouse environment isn't also carefully managed, those products may fall short. What follows are best practices to mitigate foliar disease risk in your greenhouses.

Controlling variables in the greenhouse

It's inevitable that—even during long, wet spells—the crops will eventually need to be irrigated. The opportune time to irrigate is in the morning, giving foliage the best chance of drying by nightfall. Under these conditions, drip irrigation and sub-irrigation are greatly beneficial, as they minimize wet foliage. When you're considering irrigation equipment for the future, remember these weather patterns; the upfront cost can be a wise investment in the long run.

Similarly, it may be tempting to turn the heaters off at this time of year to save fuel. However, the increased disease

risk may cost more than the fuel. The cooler the air is, the less moisture it can hold. If there's more moisture in the air than it can hold, condensation begins to form on the cooler leaf surfaces.

It's best to maximize air movement with HAF (horizontal air flow) fans and adequate crop spacing. Doing so makes temperatures more even throughout the crops, reducing cool spots where condensation may form.



Pictured top: A marigold in bloom showing Botrytis disease.

Bottom: Vinca minor with aerial Rhizoctonia disease.

Conversely, heating the air allows it to hold more moisture and reduce condensation. Leaf wetness is the enemy when it comes to many foliar diseases. The expense of running some heat in the greenhouse is dwarfed by the potential of losing crops that are so close to the finish line.

Should you ventilate when it's raining? If it's raining, misting or foggy outside, it's best to keep the greenhouse closed up and run some heat to dry the air a bit. If daytime conditions are overcast, but not raining, ventilate the house to expel airborne disease spores and reduce relative humidity.

As old blooms begin to decay, they're quickly colonized by Botrytis, which turns them into spore-making machines. Taking the time to deadhead spent blooms and disposing of them properly by removing them from the growing area is cheap insurance.

Preventive and curative fungicide options

Even with the best cultural controls, fungicides sprays are often still necessary. Having optimized the growing environment to every extent possible, it's time to consider fungicide spray options.

Any fungicides used at this stage will need to have a good record of bloom safety and leave little or no residue. Using CapSil or another high-quality surfactant will help reduce the visible residue that can be left behind. Not all fungicides should be used with surfactants; consult the label.

Wet sprays contribute to leaf wetness, which can be slow to dry. For short-duration rainy spells, it may be best to withhold treatment until the sun shines again. When the forecast calls for three or more consecutive rainy days, it may be best to treat anyway.

Products that have shown good

efficacy on both Botrytis and aerial Rhizoctonia, either as a preventative or curative spray, include: Affirm WDG (MOA 19), Broadform (MOA 7&11), Cease (MOA 44), Medallion WDG (MOA 12), Mural WG (MOA 7&11), Orkestra Intrinsic (MOA 7&11), Pageant Intrinsic (7&11), Palladium WDG (MOA 9&12), Spirato GHN (MOA 12) and Triathlon BA (MOA 44). The products that are labeled for Botrytis: Astun (MOA 7), BotryStop (MOA UC) and Decree 50 WDG (MOA 17). Consult the newly updated GGSPRO Technical Reference Guide for a comprehensive list, including rates and use patterns.

Not all products are registered in all states. It's the responsibility of the applicator to read and follow all label directions, remembering that labels may change. Other products than those listed here may also be safe and effective. Rates, application methods and edible status are detailed in the product label. **GT**

ggsprotech@griffinmail.com.