



Singing the Botrytis Blues:

Tips to Help Growers Change Their Tune

May 2016

Several risk factors can converge in the month of May to make *Botrytis* a potential problem. Crops are at or approaching saleable size, making plant canopies dense and tight. With shipping and selling in high gear, it can be a scramble to keep everything irrigated properly. Then, there's the weather... everybody talks about it, but nobody does anything about it! Extended cool and rainy spells can occur almost anywhere, but this year, the East Coast took it on the chin.

Several methods, both cultural and chemical, can be used to help keep *Botrytis* at bay. Whether this spring has been naughty or nice where you are, you'll surely find this information helpful now or in the future.

Managing the nighttime environment

Botrytis can germinate and make penetration into healthy tissue with as little as four hours of free moisture on plant surfaces. With this in mind, keeping the foliage as dry as possible is a key factor in fending off *Botrytis*.

Warm air holds more moisture than cool air; therefore, warming the air results in less condensation on plant surfaces. In many parts of the country, May can be warm enough that growers may decide to shut off the heat. Resist the temptation to do this! During periods of damp weather, set the thermostats so that the heat runs occasionally throughout the night. Reduced *Botrytis* pressure can quickly pay back the energy costs.

Horizontal air flow (HAF) fans mix the air effectively, which helps to eliminate pockets of high humidity that develop in the plant canopy, further reducing condensation. Heating and ventilating can be utilized when disease risk is very high to further reduce the relative humidity. Most environmental control systems have this option built in.

Managing the daytime environment

If it's cloudy but no mist or rain is falling, utilize some passive or minimal power ventilation. The outside air is humid, but a few air exchanges exhausts the airborne *Botrytis* spores to the outside and replenishes the carbon dioxide. If it is precipitating, keep the greenhouses closed up and set the heat high enough that the heat cycles on occasionally.

Irrigation strategies

When bad weather lingers for several days, growers can end up with the majority of the crop being very dry, a problem for when the sun finally comes out. For crops on drip irrigation, irrigate as needed but avoid watering to the point of leach to help keep floors and crops beneath the baskets dry. Where overhead irrigation is a necessity, time irrigations to provide the best chance of the foliage drying by nightfall.

Nutrition

Excess nitrogen can make tissue more prone to foliar disease, so back off of the fertilizer during prolonged cloudy spells and plan to catch it up later.

Fungicides

Several fungicide options are available, and can be very helpful. *Botrytis* has become resistant to many fungicides but rotating between modes of action while following the cultural steps above will improve success.

Rotating between modes of action while following cultural best practices will improve success against Botrytis.

Dense foliage in the center of hanging baskets, combos and even bedding flats can provide a breeding ground for *Botrytis*. With high moisture and limited air movement under the thick foliage canopy, disease can get a foothold. Good fungicide coverage can be difficult to achieve with foliar sprays under those conditions. Growers have had great success srenching **Medallion®** or **Emblem™** by running it through the injector and using overhead irrigation to coat the crown area of the plant. **Pageant® Intrinsic®** and **Mural™** have labels that allow for similar treatments. Where srench treatments aren't needed, growers have reported good results and excellent bloom safety with foliar sprays of **Affirm™** and **Palladium®**.

Treating vegetable transplants poses unique challenges since not all fungicides are labeled for that use. **Affirm**, **Emblem** and **Mural** have curative and preventative activity against *Botrytis*, and have many edible crops on their labels. **ZeroTol® 2.0** can be used for a quick knockdown of spores. **Actinovate® SP**, **Cease®** and **Triathlon® BA** are examples of biofungicides with preventative activity against *Botrytis*.

Always read and follow all label directions. Some of the product mentioned are not labeled in every state, Griffin can assist you in determining which products are labeled in your state. Some labels contain phytotoxicity cautions. Products other than those mentioned here may also be safe and effective.

Featured Products

Product	Description	Item No.
Actinovate SP	18 oz	31007318
Affirm WDG	0.5 lb	71-1129
Cease	1 gal	71-13301
Emblem	1 pt	71-1570
Medallion WDG	8 oz	71-16502
Mural WDG	1 lb	71-1690
Pageant Intrinsic WG	1 lb	71-26801
Palladium WDG	2 lbs	71-2685
Triathlon BA	1 gal	71-3040
ZeroTol 2.0	2.5 gal	71-35501