

GROWERTALKS

Columns

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Singing the Botrytis Blues?

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Several risk factors can converge to make Botrytis a potential problem. Crops at or approaching saleable size make 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; if your region didn't face such challenges this year, you know it's only a matter of time before your number comes up again.

Pictured: Zinnia with stem canker caused by Botrytis.

Several methods, both cultural and chemical, can be used to help keep Botrytis at bay. Whether this spring was 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. When disease risk is especially high, heating and ventilating can be utilized 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's 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 in order 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 up on it 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.

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 sprenching Medallion or Emblem by running it through the injector and using overhead irrigation to coat the crown area of the plant. Pageant Intrinisc, Orkestra and Mural have labels that allow for similar treatments. Where sprench 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 products mentioned are not labeled for use in every state; your supplier 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. **GT**

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