



Cooking Up a Masterpiece: The Recipe to Keep Botrytis at Bay

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Botrytis can express in a variety of ways including cyathia infection (left), stem cankers (middle) and stem lesions (right).

Late fall and early winter conditions provide three main ingredients for *Botrytis*: high relative humidity, at least four hours of free moisture and temperatures between 55-75°F. What can a grower add to this recipe to conjure up something that results in a masterpiece?

Botrytis is the most common problem for which growers seek advice from the GGSPRO team. If you're fortunate enough to have rain, the resulting damp conditions can continue to plague your operation from one crop to the next. For some growers, the issue has now moved on to poinsettias.

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Damp, rainy weather increases relative humidity in the greenhouse. With greenhouses filled to capacity, plants in full bloom and the onset of shorter days, the greenhouse environment can serve as a launch pad for *Botrytis*. *Botrytis* attacks all above-ground portions of the plant. Symptoms range from leaf spots to stem cankers and/or cyathia infections, all of which can cause significant crop losses.

Begin your *Botrytis* management plan by evaluating the greenhouse environment. The following actions will help to reduce favorable conditions:

- Vent greenhouses to reduce the relative humidity.
- Avoid venting on damp, foggy or rainy days. Instead, use heat to reduce relative humidity.
- Allow as much spacing between plants as is economically feasible; overcrowding favors disease development.
- Promptly remove infected tissue from the greenhouse to reduce disease pressure.
- If drip irrigation is not available, limit overhead watering to the morning to allow the leaves to dry during the day.

- Avoid rapid temperature changes that may increase relative humidity.
- Limit condensation on the leaf surfaces by avoiding leaf temperatures that are lower than air temperature.
- Employ **horizontal air flow (HAF) fans** to reduce humidity in the crop canopy.
- Avoid low light intensities and shading caused by overhead hanging baskets.

The use of properly sized and spaced HAF fans will greatly improve the greenhouse environment in several ways. Pockets of high humidity easily form in the plant canopy. The gentle tumbling action of air flow from HAF fans breaks up these air pockets. This reduces the amount of condensation occurring on plant surfaces and, therefore, also lessens the incidence of foliar diseases. HAF fans promote more uniform heat distribution throughout the house as well, contributing to a more uniform crop.

Even with the best cultural controls, fungicides are still needed. Examples of effective fungicide sprays for *Botrytis* on poinsettias and other crops include **Affirm™**, **Cease®**, **Pageant®** and **Palladium™**. Consult the GGSPRO Technical Reference Guide for a comprehensive list including rates and use pattern.

Featured Products

Product	Description	Item No.
Affirm WDG	0.5 lb.	71-1129
Cease	1 gal.	71-13301
Pageant Intrinsic WG	1 lb.	71-26801
Palladium WDG	2 lbs.	71-2685
Acme HAF Fan	12"	23-4020
GreenTek HAF Fan	12"	23-5040
Schaefer HAF Fan	12"	23-5025