

# Growth Retardant Practices to Avoid Effects on Poinsettia Bract Size

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Controlling poinsettia height with growth retardants can be a difficult challenge without affecting bract development. Our research at the University of Florida has demonstrated that applying growth retardants as a drench provides excellent height control and is safer than sprays. We have also found that bract development is affected less by Bonzi sprays than by the B-Nine/Cycocel tank mix.

Cycocel sprays have been the traditional growth retardant used on poinsettias. However, Cycocel frequently causes leaf spotting and requires several applications. Cycocel is also less active under warmer conditions of the Southeast than other growth regulators. Many growers have started using the B-Nine/Cycocel tank mix or Bonzi sprays to obtain greater control than Cycocel. Sumagic, recently introduced to the floriculture market, is effective on poinsettias also.

The problem with the more-active growth regulators is that they can not be used late in the crop because of the potential reductions in bract size. Difficulties occur when poinsettias become too tall late in the production period and the weather is too warm to control growth with temperatures. Under these climatic conditions, growers are faced with the option of using large amounts of Cycocel or a stronger chemical that will potentially reduce bract development.

We have conducted a series of studies to compare the effects of several growth regulators on a number of poinsettia varieties. Plants were grown in 6-inch pots, pinched, and provided night lighting until October 7. Each plant was treated once with B-Nine/Cycocel sprays (2,500 ppm B-Nine and 1,500 ppm Cycocel), Bonzi sprays (45 ppm) and Bonzi drenches (2 ppm). Treatments were initiated at the start of the short days, October 7, and were continued weekly until November 11 (Table 1). Then, plant height and bract size were determined at the finish.

All of the growth retardant treatments provided good height control. The heights for treated plants were 16 and 18 inches compared to 20 inches for nontreated plants. B-Nine/Cycocel had the greatest effects on bract development. The degree of bract size reduction became greater with later application times with B-Nine/Cycocel. Bonzi spray did not affect bract size until the fourth week, October 28th. However, Bonzi as a drench treatment did not reduce bract size, even when applied in early November after the bract color started to develop. In our

research over the past four years, B-Nine/Cycocel sprays had a greater effect on bract size than Bonzi sprays or Bonzi drench applications. It should be noted that these results are for treatments that provide desired height control and that any growth retardant treatment applied at a rate that causes excessive stunting will also reduce bract development. Our trials and grower experiences in the Southeast indicate that Bonzi drenches at 1 to 2.5 ppm for 6-inch pots provide desired height control depending on variety, temperatures, and stage of development.

Drenches of A-Rest, Bonzi, Cycocel and Sumagic are effective on poinsettias, and growers should follow label directions for use of each chemical depending on climatic conditions and geographical locations. Drench applications should be safer than spray applications late in production. Cycocel drenches have been used by some growers for years, but it is not as active as the others and is considerably more costly than other options. Table 2 shows the approximate chemical cost per 6-inch pot for drench treatments of each chemical. Bonzi and Sumagic are the least expensive drench options.

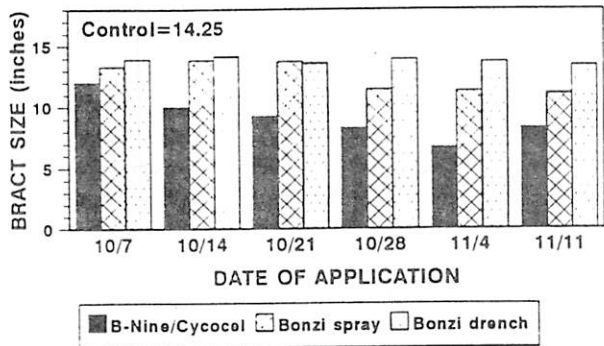
Drench applications should be applied to moist media to insure even distribution throughout the media. Growth regulators concentration must be increased 25% in bark containing media since growth regulators are "tied up" by pine bark media. Plants should be watered one day and have the drench applied the next day. The amount of solution applied should allow for good distribution of the solution. Four fluid ounces is good for 6-inch pots and is recommended on the A-Rest, Bonzi and Sumagic labels. The Cycocel label recommends 6 fluid ounces for 6-inch pots. For larger size containers, the amount of drench solution should be increased proportionally to the container volume. For example, mix 0.7 fluid ounces (20 milliliters) of Bonzi per 10 gallons of water to make a 2 ppm solution. By applying 4 fluid ounces (1/2 cup), each pot receives 0.25 mg of active chemical.

Poinsettia growers should consider using drenches for growth retardant applications. Drenches provide greater activity, greater uniformity and one application is effective compared to multiple spray applications. Also, drenches do not reduce bract size as much as sprays.

*(Tables on next page)*

Table 1

Effect of growth regulators on 'V-14 Glory' bract size



First day of short days was Oct 7. Bract coloration started first week of November.

Table 2

Chemical costs for drench applications

Chemical	Estimated container price	Rate	Cents per container
A-Rest	\$50/quart	0.25 mg	5
Bonzi	\$90/quart	0.25 mg	0.6
Cycocel	\$180/gallon	365 mg*	15
Sumagic	\$60/quart	0.10 mg	1.2

\*365 mg of Cycocel is 1:60 dilution



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