

Finishing Poinsettias In The South

By Jim Barrett and Terril A. Nell, University of Florida



Most of the problems that Southern growers encounter with poinsettias are the same as growers in cooler regions; however, they often occur more rapidly in warmer climates due to the faster pace of crop development from October through shipping. The following are suggestions that Southern growers can use during the last half of the crop to avoid some of the most common problems.

Lateral stem breakage during shipping is a common and often serious problem. The causes are complex and not clearly understood. The most important contributing factors in stem strength appear to be associated with cutting quality, but there are protection measures to be used at the end of the crop.

First, do not allow the plants to become stretched with long, thin stems. Also manage culture to avoid development of very large and heavy bracts on plants with long laterals. Shorter plants appear to have less breakage than taller ones. We have not found that calcium sprays prevent breakage, but they may be beneficial if small cuttings were used and plants are grown soft. Some growers only have problems with the outer plants on a bench, where laterals may grow out sideways and be broken off in sleeving. In this situation, it may be worth rotating the outer plants during October and November or staking those plants for support.

There are differences in varieties. 'Supjibi' and 'Petoy' should not be spaced out too soon to prevent horizontal stem growth; it is best to use a multiple spacing system to keep the plants close through October. 'Monet' and 'Celebrate 2' can have serious breakage problems and should not be grown too soft or too large. 'Red Splendor,' 'Success,' and 'Sonora' are the strongest varieties currently grown.

Understanding varieties and differences in their growth habits and shipping performance is more important now with so many different varieties being produced. We know that 'Freedom' will stretch during November and that it will finish early under natural days. Also, it is the best variety during shipping. Other varieties that can stretch at the end of the crop, especially if crowded, are 'Cortez,' 'Festival,' and 'Monet.' 'Pepride' has less vigor than 'Freedom' and should require very little growth regulator, but it will show the same type of stretching if given warm temperatures or is crowded.

In general, the dark-leaf varieties such as 'Freedom,' 'Sonora,' 'Festival,' 'Spotlight,' and 'Pepride' hold up best in shipping trials and are better varieties to use for orders that require

boxing. They have less facing of leaf and bract color and are less sensitive to diseases. Several of the new varieties with light green leaves perform poorly in shipping trials. These are the Peterstar series; the Nutcracker series, 'Bonita,' 'Picacho,' 'Maren,' 'Flirt,' 'Silverstar,' 'Noblestar,' 'Marblestar,' and 'Puebla.'

'Success' is developing into an important variety for some growers in warm climates, but bract development is different in 'Success.' Most varieties develop like 'Freedom' in which the transition bracts that first develop are larger than the true bracts developing later. In 'Success,' the transition bracts are smaller, and the plants do not look good until the true bracts expand just before finishing. This situation causes 'Success' to appear to be later than it really is, and some people mistakenly judge it to be a poor variety based on its early appearance.

Poinsettia height control can be a challenge in warm climates, and the use of growth regulators is often very important. Prior to October 1, the B-Nine/Cycocel spray is very effective for most growers. In the deep South, many growers are using Bonzi spray during this period. In cooler regions of the South, Cycocel alone is best after October 1. In the deep South, Cycocel may not be adequate, and Bonzi sprays are becoming more common. Some deep South growers will use Cycocel with a low rate of B-Nine until about October 15.

After about October 25, the best height control procedure is a drench of A-Rest or Bonzi. The drench should be applied when plants are about one inch below the desired size. If earlier drenches are used, the rates will need to be reduced to prevent plants from being too short with small bracts. For late drench applications, 2 to 3 ppm are best for A-Rest. On 'Freedom,' use 1 to 2 ppm of Bonzi. The 2 ppm rate should be used when plants are elongating rapidly and temperatures are warmer than normal. On more vigorous varieties like V-14, use 2 to 3 ppm of Bonzi. Note: If you are not a Southern grower, these rates are too high in cool climates.

The activity of A-Rest and Bonzi drenches is reduced by pine bark in the growing media. If drenches are used, the rates will need to be increased by about 50 percent to ensure effectiveness. The rates given here are for media without bark.

Managing temperatures at the end of production is important for Southern growers for several reasons. Rate of development after the start of short days is controlled by both day and night greenhouse temperatures. If the fall weather is cooler than expected with cloudy days, the average greenhouse temperature (if not managed correctly) can be much below normal and result in delayed finishing.

Temperatures during bract expansion greatly influence bract size. Southern poinsettias normally have relatively large bracts, and a slight reduction in size can be beneficial. However, if the temperature is reduced early for 'Freedom' in houses with mixed varieties, it can greatly affect later varieties like 'Success' or 'Jolly Red.'

Also, managing temperatures late in the crop for *Botrytis* control is important. In addition, many Southern growers can utilize the DIF concepts to aid in height control. By October in most of the South, the outside air temperature is cooler than the greenhouse and a temperature dip can be used. In many situations, Southern growers cannot obtain a negative DIF, but they can aid height control by minimizing the difference between day and night temperatures.

Botrytis (bract edge burn) can occur in two different situations in the South. First, it can develop during shipping while plants are boxed. In the deep South, *Botrytis* can also develop in bracts prior to shipping. This occurs during mild temperature and high humidity conditions. The worst problems can occur on mild nights when little if any heating is needed to maintain greenhouse temperatures.

It is very important for Southern growers to practice good humidity control in late November and December. Growers

should time crops so plants are shipped when they become ready. In addition, the crops should be managed to reduce the level of *Botrytis* inoculum around the greenhouse at the end of the crop.

High levels of fertilizer in general or high ammoniacal nitrogen increase poinsettia sensitivity to *Botrytis*. Decrease fertilizer levels during November so plants finish with one-fourth or less of the fertilizer given at the beginning of the crop. Also, very little ammoniacal nitrogen should be used in November. These recommendations apply to crops that have had adequate fertilization. Growers should exercise caution with the light green-leaf varieties, because they require higher levels of fertilizer than the dark-leaf varieties.

Varieties differ in sensitivity to *Botrytis*, and many of the current varieties are grouped into four sensitivity levels in Table 1. Growers should also consider their level of risk for *Botrytis*. High-risk situations include shipping in boxes or production in a high-humidity environment. Growers in high-risk situations should try to grow only varieties in sensitivity levels 1 or 2. In high-risk situations, growers should apply calcium sprays to any variety in levels 2, 3 or 4. For this, spray calcium at 400 ppm weekly starting at the first sign of color using calcium chloride, calcium nitrate, or chelated calcium.

Table 1. Poinsettia varieties differ in their level of sensitivity to *Botrytis* (bract edge burn). Varieties not included have not been evaluated adequately to rate in this table.

Level 4. Most Sensitive:	Level 3. Highly Sensitive:	Level 2. Sensitive:	Level 1. Least Sensitive:
'Red Delight' 'Supjibi' grown in cool climates V-14 Glory series V-17 Angelika series	'Bonita' Celebrate 2 series 'Flirt' 'Maren' Nutcracker series 'Picacho' Peterstar series	'Cortez' Freedom series 'Sonora' 'Spotlight' 'Success' 'Pepride'	'Dynasty' 'Hegg Types' 'Jolly Red' 'Supjibi' in warm climates 'Petoy'