Poinsettias: *Early PGR Drench?*

Just when you're getting comfortable with late drenches, a new technique from the University of florida suggests new drench timing.

By Jim Barrett

Are you ready for another twist to growth regulator applications for poinsettias? Many growers become very structured and resistant to change when it comes to how to grow poinsettias. Poinsettias are such a big crop with a long crop time and many pitfalls. So, most growers do not want to take too many chances. Obviously, I feel we are ready for a new height control concept or I would not be writing this.

This new concept is an early growth regulator drench. Over the past 10 years or so, the industry has become more comfortable with applying a growth regulator drench to poinsettias late in the crop as the bracts are expanding. We call this a late drench, and it is designed to stop elongation at the desired finish height. This can be done with a drench because drench applications have much less effect on bract development compared to sprays.

So, why apply a drench early in a poinsettia crop?

1. Even early, for a given amount of height control, a drench will have less effect on bract development than will a spray. If possible, it would be best to avoid sprays of any chemical after initiation.

2. There is not a cut-off date for early drenches, as there is with sprays.

3. Drenches can provide better control than sprays.

4. Drenches may be easier to apply. This will depend on an individual grower's situation.

Drench applications in the United States are only done with the PGRs that have strong activity through the media. These include A-Rest, Sumagic, Topflor and the paclobutrazol (paclo.) products Bonzi, Piccolo and Paczol. Topflor and Paczol are currently awaiting EPA approval.

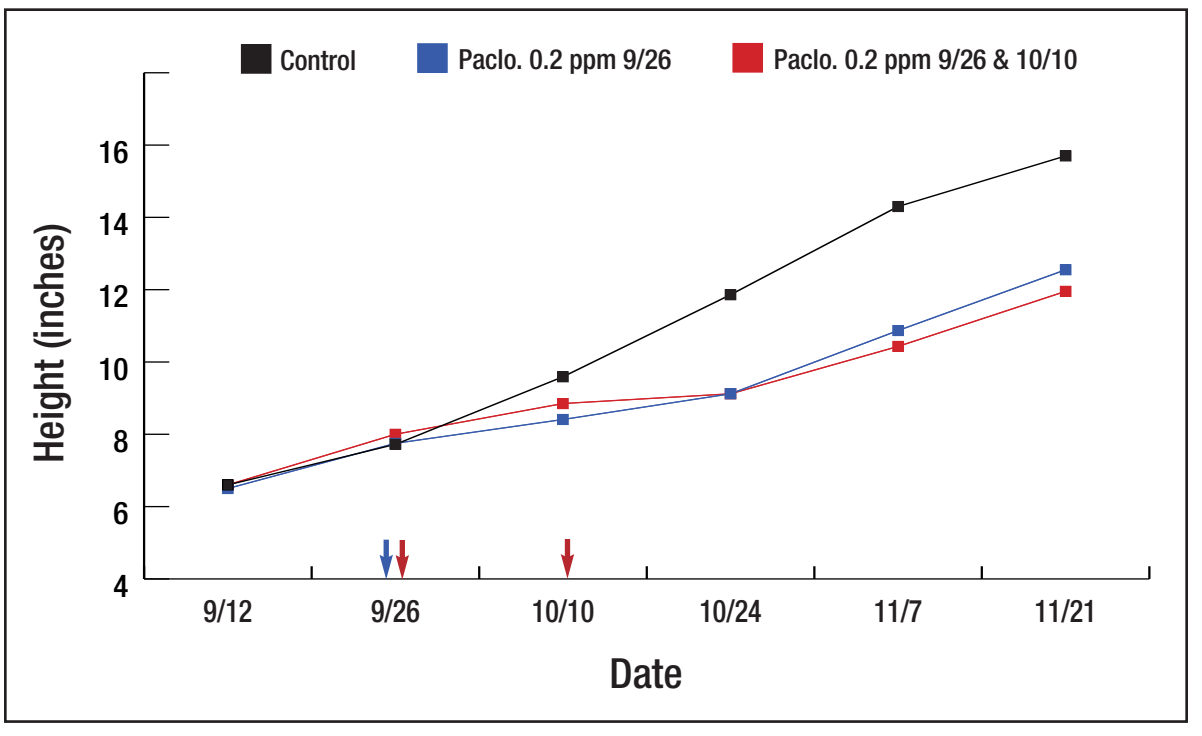
EARLY DRENCH EXAMPLES

The accompanying graphs and pictures provide three examples, from demonstrations shown at our Poinsettia Open House the past couple of years, of an early drench. For the Freedom and Prestige examples, the plants were in 6-inch pots and pinched on September 12. There were no PGRs applied to the control plants. One group received a paclo. drench two weeks after pinching at a rate of 0.2 ppm, and another group of plants received the drench at two and four weeks after pinching. The drench was applied in 4 fl.oz. of water, and the media was a peat-based mix that did not contain pine bark.

The Freedom and Prestige graphs (see ➧

Freedom control (left) and with one drench applied 9/26 (right).

Figure 1. Early drench on Freedom.



Figures 1 and 2, pages 42 and 44) show the amount of height control achieved with the drench at two weeks after pinching. The treated plants are 2½-3 inches shorter than the control plants at finish. The second drench at four weeks resulted in plants ½-¾ inches shorter than the plants that received only the first drench.

Generally, I do not recommend using a single PGR treatment on poinsettias to provide all of the height control with one application. So, the 0.2 ppm rate is too high in most situations for these two varieties. It would be better to use a lower concentration and multiple applications. This provides more flexibility with changes in weather and other factors that can affect growth rates.

The 'Monet Twilight' example shows the strategy of using a drench as needed throughout the crop. These plants are in 6½-inch pots and were grown with a desired finished height of 15-16 inches. The plants were delayed with lights until October 10. Graphical tracking lines are not shown in the graph but were used to make decisions as to when to apply a drench, just as they would be used in making decisions for sprays. The heights of the treated plants stayed within the desired heights throughout the crop.

Monet Twilight is a very vigorous grower, and the delayed schedule was set up to produce a crop that would be difficult to keep at the desired height. This crop was drenched six times using rates between 0.2 ppm and 1.0 ppm. The last drench on November 26 was the same as doing a late drench. The four 0.2-ppm drenches between October 3 and November 3 provided good control and are appropriate in this situation where strong control is needed.

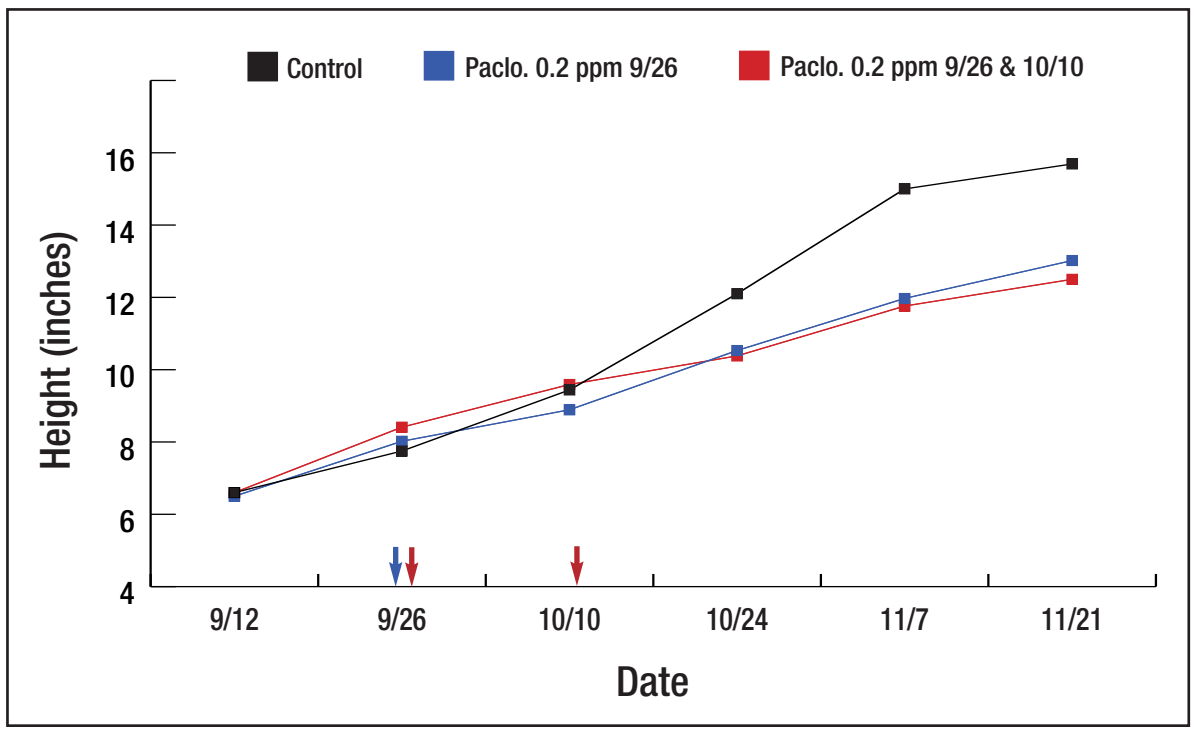
These examples illustrate how the optimum rate varies for different varieties and times of application. It is very important to note that the rate used in early drench applications is much lower than the rates used for late drenches. I describe the late drench rates as "stopper rates," and those rates will also stop growth early in the crop, resulting in the plants finishing too short.

A FORWARD LOOK

In a couple of years, I anticipate we will divide the poinsettia crop into four segments for the purpose of drench applications. These will ➧

Prestige control (left) and with one drench applied 9/26 (right).

Figure 2. Early drench on Prestige.



be: 1) before pinch, 2) early drench, 3) middle drench and 4) late drench. Optimum rates for each might be different.

The late drench will be the base rate for different varieties and regions of the country. The early drench rate will be between 10 and 20 percent of the base rate. The early drench will be applied as needed from pinch to about 14 days prior to time for the late drench. The before-pinch option is good for more vigorous varieties, and the rates will be similar to the early drench rates.

The middle drench will cover the 14 days prior to the late drench, and the rates will be about 25-50 percent of the base rate. This middle drench is the fifth drench, applied November 14, to the Monet Twilight example. This application time can be very important because crops can be elongating rapidly or already too tall, and considerable control is needed. However, a stopper rate at this time will affect bract size too much. The past couple of years, we have used this middle drench procedure successfully on Freedom, Prestige and 'Enduring Pink' crops that were started using sprays and then finished with drench treatments after the spray cut-off dates.

LATE DRENCH GUIDELINES

Since the timing and rates for early and middle drenches are based on the late-drench rate, it is important to review the late-drench guidelines, which are designed to control elongation and protect against reduced bract size. The protection comes from making sure there is adequate bract development before the drench is applied and from using the correct PGR rate.

Stage of development: The crop should meet both of these criteria.

In cool climates:

- Plants should be within ½ inch of final desired height.
- There should be at least two bracts in full color.

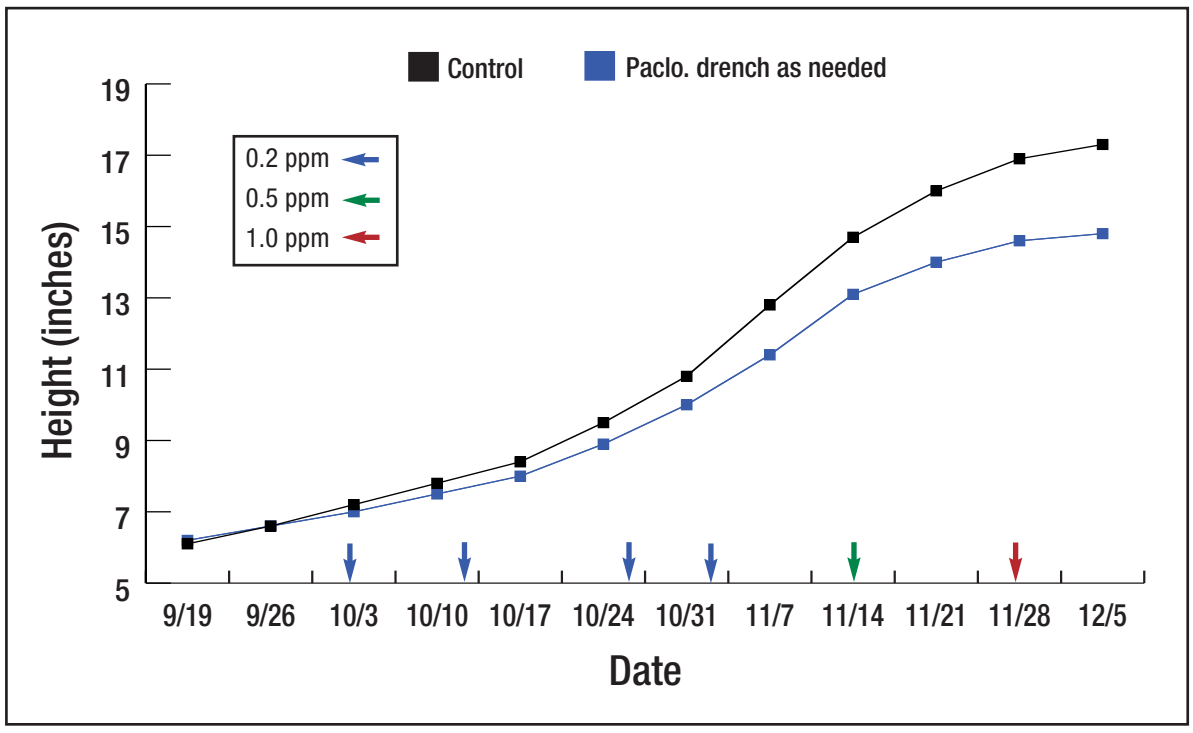
In warm climates:

- Plants should be within 1 inch of final desired height.
- There should be at least one bract in full color.

Application rate: These are suggested paclo. starting rates for the late drench if plants meet the stage of development criteria. There is much more experience using paclo. products for the late drench than other products, but ➧

Monet Twilight control (left) and drench (right).

Figure 3. Multiple drenches on Monet Twilight.



other products will work well. For A-Rest start trials at these rates or 50 percent higher. For Sumagic start trials at about 25 percent of these rates. Suggested paclo. rates are:

In cool climates:

- Medium vigor varieties like 'Freedom Red' start at ½ ppm.
- Higher vigor varieties like Monet start at 1 ppm.

In warm climates:

- Medium vigor varieties like Freedom Red start at 1 ppm.
- Higher vigor varieties like Monet start at 2-3 ppm.

Using the correct application rates will be a key component to using drenches for controlling poinsettia height, just as it is with spray procedures. If there are no cultural or disease problems, plant growth rates are influenced by three factors: temperature, how much previous growth regulator was applied and the variety's vigor. Plants that are elongating slowly (½ inch or less per week) are easier to control, and lower PGR rates are needed. Plants with faster growth rates require more PGR to control elongation.

As one can see in the rate suggestions for the late drench, there are large regional differences in optimum rate. Note that the examples depicted in this article were done in Florida. Growers in cool climates should think of 25-50 percent of these rates for a similar effect (as indicated in the above rate suggestions).

The idea of using early drench applications on poinsettias is not a new one. Back in the poinsettia dark ages when the good varieties in the South were C-1 and V-14, the growers who could best control these varieties were using A-Rest or even Cycocel drenches from the start. When Sumagic and Bonzi first came along in the '80s most of the studies in the South were aimed at drench applications. Then Freedom became important and introduced us to the late stretch. The experiences with drenches in the South led to the late drench that has been adopted in both warm and cool climates. In the mean time, there has been a small handful of growers in the United States, mostly in the South but some in cooler climates, who have continued with early drenches on poinsettias using either A-Rest or Bonzi. Then, there are Canadian growers who continue using Cycocel drenches.

So, the practice of early PGR drenches on poinsettias is another old concept whose time has come again. Many growers understand and are comfortable with PGR drench procedures on poinsettias and other crops. Now, we can make poinsettia growth regulator decisions a little more complicated with some new wrinkles. The early drenches are easiest and safest on the more vigorous varieties, where they are also the most useful. For growers who can do drench treatments easily, a little practice will led to very good success on the less vigorous varieties also.

For many growers, it may be easiest to combine sprays and drenches, which should not be a problem. Up to a certain point it may be easiest to do spray applications. Then, when the crops are moved, spaced out, put on tubes, baskets hung up, etc., it might be easier to apply drenches. GPN

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