

POINSETTIA CULTURE, 1964

By

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Every year we come to a time when certain growers begin to age a little bit more than usual, and sleep a little less. These aging, insomniac people are called poinsettia growers.

One of the problems of some poinsettia growers is that they actually don't start worrying soon enough about their crop. They jam their #1 or Jumbo stock plants into small containers, crowd them on the bench or outside, forget to water and fertilize them, and then claim they are contented if they only average 30 cuttings per stock plant. They do not take adequate precautions to eliminate root rot pathogens from their propagation and/or potting media. They are careless about the night temperatures during the forcing of the plants. Should the plants accidentally flower in time for sale at Christmas, the grower doesn't wrap the plants properly, allows them to dry out, or damages them in his own unique way. Then, and only then, do some poinsettia growers begin to worry about their crop.

This article is not addressed to the careless poinsettia grower for two reasons:

1. A careless grower generally avoids short courses, recent publications, and grower associations, so chances are good he would not receive this bulletin.
2. Should the careless grower attend a short course, he probably wouldn't listen. Should the careless grower get the latest publications, he probably wouldn't read them.

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This article is intended for the earnest, progressive poinsettia grower. Fortunately, the majority of the poinsettia growers in North Carolina belong to the latter category. However, even the most progressive, careful grower is occasionally bothered with a serious problem.

What are some of the latest items in poinsettia culture?

Stock plants: It is too late now to say much about the stock plants. Adequate space, fertilizer and water should be applied, to realize the best return from your investment in stock plants.

I would like to make a couple of comments about our Paul Mikkelsen stock plants (Fig. 1) we have at N. C. State this year. They were "field-run grade," so we have considerable variation in size. The amount of breaks we have from our early pinches on the stock plants is really amazing. There is a tendency for the shoots to bunch up in the center of the plant, so light intensity in the center is more reduced than on other poinsettia varieties. There were four canes per stock plant, on the average; these four canes were close together, and any breaks coming from these canes will also be close. However, we still expect to get a large yield of good-quality cuttings from these plants.

We are using the new Chapin watering system for large containers, with satisfactory results.



Figure 1. Poinsettia stock plant, variety Paul Mikkelsen. Photographed July 22, 1964.

Propagation: There is very little new information that can be stated about poinsettia propagation at this time. The established recommendations can be repeated....go all-out for a disease-free propagation program. Nothing beats soil sterilization, bench sterilization, and sanitary conditions in the greenhouse to lessen the chances for recontamination. We do have some effective chemicals for root rot control....Dexon for Pythium, Terraclor for Rhizoctonia, but these chemicals should be looked upon as added insurance rather than cure-alls. They do nothing to control Thielaviopsis or bacterial soft rot.

There have been some recent comments on dipping poinsettia cuttings in several fungicides, before the cuttings are stuck in the propagation medium. This was a practice a few years ago, until it was shown that generally the dip did more harm than good. The fungicides will do absolutely nothing to control bacterial soft rot. This bacterium can spread so rapidly in a propagation bench that it makes Pythium seem mild, by comparison. Cuttings which have been dipped, and are then immediately placed under mist, will be in a wet, succulent condition, ideal for bacterial soft rot. Jim Mikkelsen, while speaking at our short course in May, stated that he drenches the peat pots and the propagation medium with Dexon, Terraclor, and Fermate, prior to sticking. Some growers have interpreted this to be a dip, but it is a drench, and the cuttings have not yet been placed in the propagation medium when the drenching is done. The principles behind this procedure are to eliminate the pathogens with steam sterilization, and then help keep them out or at least under control with the drenching materials.

There is still a tendency for a grower to wait too long before he fertilizes poinsettia cuttings under mist. Considerable leaching of nutrients does take place, and frequent fertilization is necessary. We start fertilizing with a weak strength of fertilizer ten days after the cuttings have been removed from the stock plants, and we continue to fertilize every three days until the cuttings are removed from the mist.

This year we are using the Gloeckner Super Mist Clock, which enables us to use six frequencies of mist application, ranging from 3.75 minutes to every two hours. The duration can be adjusted to two to 220 seconds. We are maintaining a 6-second duration, but are decreasing the frequency as the cuttings callous and eventually root. With this procedure, we leach less nutrients from the foliage, and the cuttings are in better condition when removed from the mist. The multiple timer also enables one to easily handle cuttings from different propagation dates, as six different frequencies can be used.

Finishing plants: A text book could be devoted to this phase of poinsettia culture, so only a few highlights will be mentioned here.

Height control: This is still a major problem for the poinsettia grower, even with the advent of growth retardants.. However, good results were obtained last year at commercial ranges, when the recommendations of the manufacturers were followed. Difficulties were encountered when excessive material was applied, or applied too late.

There is a lot of interest in the use of Cycocel as a spray. Negative results have been obtained in many instances, but Dick Widmer at the University of Minnesota reported positive results in the June, 1964 issue of the Minnesota State Florists' Bulletin. He obtained good height control when he applied

6,000 ppm Cycocel, as a foliar spray (2 quarts Cycocel/10 gallons of water). The cuttings were propagated July 25 and sprayed August 20. Much of the Cycocel-spray work has been done at concentrations of one-half to one quart of Cycocel/10 gallons of water, and apparently the rate has been inadequate. Widmer had no height control at 1000, 2000, or 3000 ppm. He also effectively reduced plant height with B-9 at 10,000 or 15,000 ppm.

The Cycocel spray treatments for poinsettia height control are strictly experimental at this time. Any grower wishing to try Cycocel as a spray should realize that the results cannot be guaranteed at this time.

We successfully controlled plant height with Cycocel as a soil drench in 1961, 1962, and 1963. (See Report on Poinsettia Height Control Studies by Larson and McIntyre in the August, 1963 issue of the bulletin.) An item of possible interest was the effect we had with Cycocel on Eckes' White in 1963. Many growers had failed to chemically control the height of this variety. Our results on single-stem plants are shown in Table 1.

TABLE 1. Effects of Cycocel soil drench on plant height, bract diameter, and date of flower in 1963. (Single-stem plants, 3 plants/6" pot, var. Eckes' White)

	Treatment	Average height, date of flower	Bract diameter	Date of Flower
Prop. August 1	Cycocel (2 qts./ 10 gals.)	22.0"	9"	12/17
Panned Sept. 3				
Treated Sept. 17	Cycocel (2 qts./ 15 gals.)	24.0	8	12/16
	Check	a	a	a
Prop. Aug. 15	Cycocel (2 qts./10 gals. water)	13.4	9	12/20
Pan Sept. 16	Cycocel (2 qts./15 gals. water)	15.9	9	12/19
Treat Sept. 30	Check	31.2	10	12/20

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Plants discarded on October 17, because of excessive height.

Pinched plants were also included in the 1963 studies. The results for the varieties Barbara Ecke Supreme and Indianapolis Red were similar to those obtained in 1962. Eckes' White was also included in the 1963 study, and these results are shown in Table 2 and Figure 2.

TABLE 2. Effects of Cycocel as a soil drench on pinched poinsettia plants, variety Eckes' White.

	Treatment	Average height, date of flower	Bract diameter	Date of flower
Prop. August 1	Cycocel (2 qts./10 gals.)	19.5"	7"	12/10
Pan & Pinch Sept. 3	Cycocel (2 qts./15 gals.)	20.6	8	12/10
Treated Sept. 17	Check	27.7	10	12/15
Prop. Aug. 15	Cycocel (2 qts./10 gals.)	10.3	7	12/10
Pan & Pinch Sept. 16	Cycocel (2 qts./15 gals.)	12.0	8	12/10
Treat Oct. 8	Check	22.7	10	12/15

We had satisfactory results with these high rates of Cycocel on Eckes' White plants, propagated August 1 and 15. Rosenau, at the Waltham Field Station in Massachusetts, has advised growers to use Cycocel on Eckes' White at one-fourth to one-half of the rate recommended for the red varieties, to avoid bract deformities. We noted no bract deformities on Eckes' White plants treated with twice the rate recommended for Barbara Ecke Supreme and Indianapolis Red. Bract size was reduced, but the plants were of good quality and considered salable.



Figure 2. Eckes' White, propagated August 1, potted and pinched September 3, and treated with Cycocel September 20. A=check; B=2 qts., Cycocel/15 gallons water; C=2 qts. Cycocel/10 gallons water. Photo taken December 20, 1963.

Root rot: The need for clean culture should again be emphasized. Each grower should closely survey his whole poinsettia operation, and observe the possible ways for recontamination to occur in his range. He should then eliminate or correct these sore spots.

Splitting: At the moment, there are only guesses as to why "splitting" occurs on the Paul Mikkelsen poinsettia. This "splitting" has been likened to a crown bud on mums (Figure 3). Some work has indicated that splitting is more apt to occur if the cuttings have been removed from older shoots, with a certain number of leaves on the shoot. Temperature, day length, light intensity, and nutrients have all been blamed for causing or promoting splitting.

Selling the plants: Last year we saw some truly beautiful poinsettia plants, 10-14 days prior to the time when the majority of the plants were sold. The plants had large bracts, good foliage color, and foliage all the way to the soil line. Yet many customers complained that their poinsettia plants only lasted three days in the home, with good care in the home. Some plants were losing their foliage at the time delivery was made. What happened in this

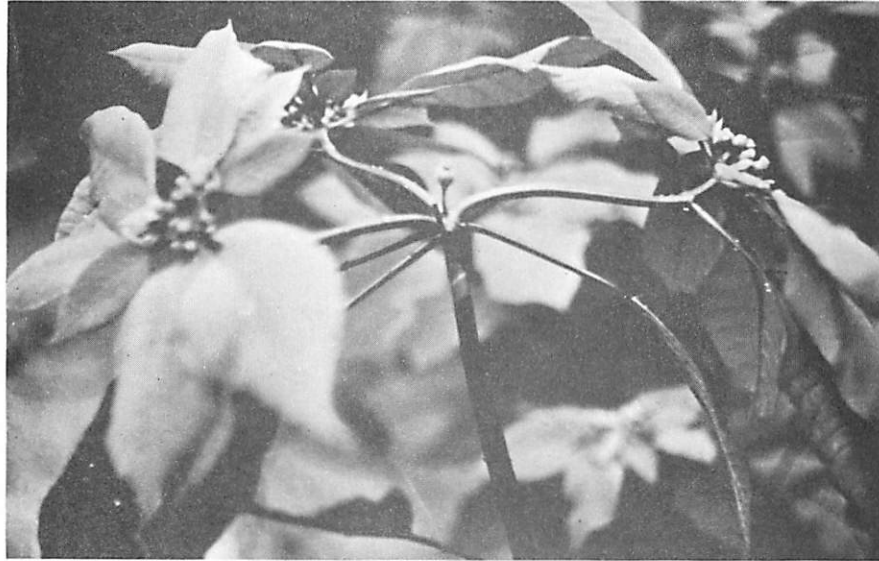


Figure 3. "Splitting" on the poinsettia variety, Paul Mikkelsen. It can occur on plants in either the vegetative or flowering stages.

two-week period that caused high-quality poinsettia plants to be unsatisfactory to the ultimate consumer? There are undoubtedly several probable explanations, but two stand out:

1. The grower, in the rush of Christmas orders, was careless in wrapping and delivery to the shops.
2. The florists in the shops neglected the plants.

Whoever is to blame, the situation should be corrected, as it is ridiculous to start raising poinsettia stock plants in April, propagate cuttings from late July to late September, carefully force some high-quality plants from mid-September to mid-December, and then neglect or ruin the plants from December 15 to December 25.

The grower can make certain his plants are properly watered and wrapped when they leave his premises; he has less control over the action or lack of action of the florist. It might benefit the grower if he gave some diplomatic advice to the florist on his route, and sent care cards with the orders.