CCC Trials In Westchester County

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In 1961 a test trial of CCC was held at the Kensico Floral Company, Valhalla, N. Y. to watch its effects in a commercial range. Notes were taken on variety, date of propagation, date of treatment, date of panning, date of first pollen, height in inches, bract diameter in inches. Other visual observations were noted and a few of these will be incorporated in the following report.

Grower Evaluation

Many tests in commercial ranges fail to give accurate results due to grower practices. The two brothers working this range have won the large gold medal for poinsettias for the 4th year running. This year they won with the highest possible award of 10. This award is made by the New York Florist's Club to growers in the New York-Connecticut-New Jersey Metropolitan area. Judges this year included Dr. O. W. Davidson, Dept. of Floriculture, Rutgers University and Dr. Arthur Bing, Cornell Ornamentals Lab, Farmingdale, L. I. and others.

Cultural practices were strictly adhered to as prescribed by the Dept. of Floriculture, Cornell University, Ithaca, N. Y. This included steam sterilization and lighting from September 20 until October 3, and regular fertilization. Root rot was virtually absent in this range this season.

Test Procedure

Variety Barbara Ecke Supreme poinsettias were potted in 3" clay pots on July 26, 1961. No mist was used to help establish the plants. The plants were separated into 4 groups of 48 plants each on August 9 and treated with 4 concentrations of CCC (2-chloroethyl) trimethylammonium chloride. The chemical was mixed as prescribed by Dr. Henry M. Cathey, USDA Beltsville, Md.

The CCC was mixed in enough water to make 3 quarts of solution. The solutions at all 4 rates were applied with a one ounce measuring cup applying one ounce throughout each respective group of 48 three inch pots and immediately following with the second ounce of the material.

The first group was treated by applying no CCC to the 3 quarts of water. This was left as the check plot.

The second group was treated by adding ½ fluid ounce of 50% aqueous CCC to the 3 quarts of water. (.153 gm. of CCC/pot)

The third group was treated by adding 1 fluid ounce of 50% aqueous CCC to the 3 quarts of water. (.306 gm. of CCC/3" pot)

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The fourth group was treated by adding 1½ fluid ounces of 50% aqueous CCC to the 3 quarts of water. (.46 gm. CCC/3″ pot)

Deviation from Outlined Procedure

As the grower wanted to test this material under conditions he would be using such a chemical in the future, additional plants were panned 6 to a 9 inch pot. All plants in the test were panned in late September (Sept. 28) rather than the late October date suggested. No additional CCC was added after the original treatment.

Results

The check grew quite tall as would be expected with early panning and lights to keep the plants vegetative. The tallest plant grew to 45″ in height while the shortest was 30″ tall. The average height was 38″. Three plants were marked with the original height when treated on August 9.

Height 9 Aug.	Height 12 Dec.	Bract Size
7½″	45″	18″
7″	44″	14″
9″	44″	16″

Bract size was also excellent. Bracts were measured on an estimated average size, not from the widest point.

The bract sizes varied between 10″ and 18″ with an average spread of 14.8″.

Plot at ½ Oz. Rate

This low rate application gave a noticeable reduction in height. In 40 of the plants the height varied between 30 and 31 inches. The tallest plant in the entire plot was 31″ and the shortest was 17″. The average was slightly higher than 28 inches. Unfortunately all three plants marked at treatment date ended in the pot with the short plants. This does not give a true picture of growth but the readings follow.

Height 9 Aug.	Height 12 Dec.	Bract Size
9″	24″	14″
9″	20″	12″
6″	17″	14″

Bract size varied between 12″ and 14″ with an average spread of 13.7″.

Plot at 1 Oz. Rate

Again a definite height difference was noticed between the check, ½ oz. rate and this 1 oz. rate. The plants were quite even in all pots. The shortest plant was 18″ tall and the tallest in this series was 27″ tall. There was only one plant at either extreme. The average height was 22.4″.

Again the plants were marked at treatment date and recorded.

Height 9 Aug.	Height 12 Dec.	Bract Size
9″	20″	9″
10″	23″	10″
12″	24″	11″

Bract size varied between 9″ and 12″. The average spread was 11.8″.

Plot at 1½ Oz. Rate

The high rate again gave a decided reduction in growth. In this group there was death with typical indications of root rot. This plot was next to the other three and no reason can be given why not one plant was lost out of the previously reported plots and only 21 plants remained out of the original 48 at this high rate.

The shortest plant recorded was 11 inches and the tallest measured 21″. The average height was 16.7″.

Four plants were marked at the treatment date in this plot.

Height 9 Aug.	Height 12 Dec.	Bract Size
8″	13″	13″
8″	19″	12″
9½″	17″	9″
8½″	17″	9″

Bract size in this group varied between 9″ and 13″. The average bract size was 10.2.

Flower Blooming Date

The flowers developed at the same time. All treatments averaged ½ stamens per flower on December 12.

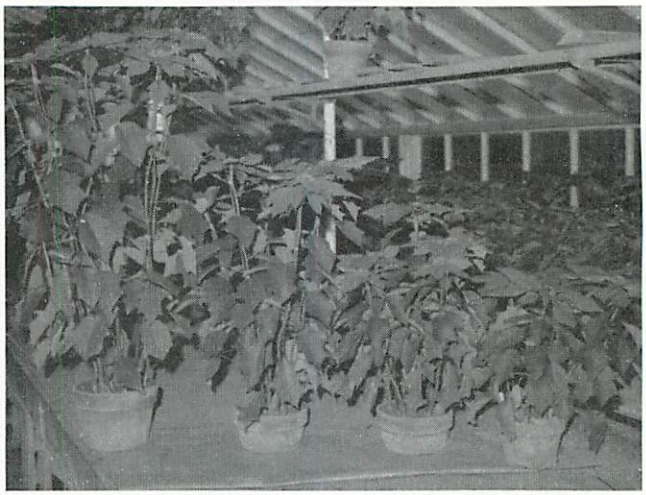

Figure 1. Poinsettias treated with CCC (left to right) check; ½ oz. rate; 1 oz. rate; 1½ oz. rate. The plants were treated August 9 and the photograph taken December 12.

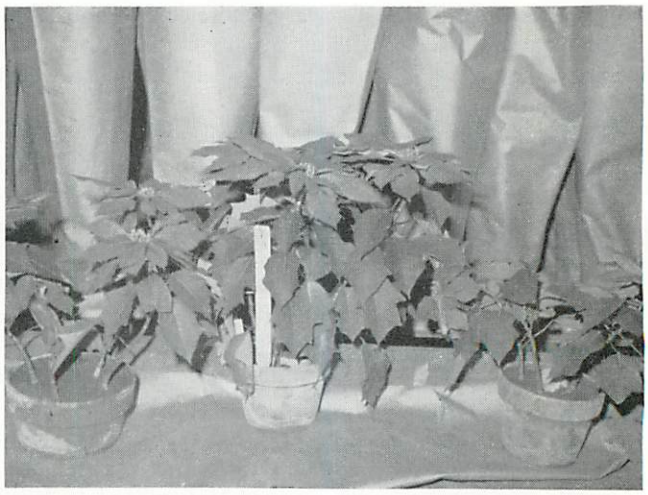

Figure 2. Poinsettias treated with 1½ oz. rate of CCC. More than 50% of the plants died.

Conclusions

CCC was very effectively used as a dwarfing compound on poinsettias. There was a significant height difference between all treatments. Bract size was reduced slightly with each concentration increase but was of a proportionate size for each treatment.

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Most important is the grower's viewpoint: the ½ ounce rate on the early cuttings seems desirable for his operation.

Extra

The grower saw some of his early crop growing too tall and tried to slow the growing rate with CCC. When treated, the plants had been panned for many weeks. The same rates were applied as in the original test and 2 ounces of the solutions was applied for each plant in the pan. There were three dates of application, September 21, October 9 and November 9.

Sept. 21 test—½ oz. of 50% CCC aqueous solution

	Av. Height when treated	Av. Height Dec. 12
Treated	32″	40″
Check	32″	56″

Oct .9 test—½ oz. of 50% CCC aqueous solution

Treated	38″	44″
Check	38″	56″

The November 9 treatment had little effect.

Figure 3. An example of treating with CCC at the wrong time. Plant on the left was treated on September 21 with a ½ oz. rate. Note crinkling and smallness of bracts. Plant on the right was grown normally, without CCC.

Bract Size

The bract was seriously effected in this last group of tests. Bract size were less than ½ normal size and crinkled severely. These treatments were of no value other than to show not to do it. It should in no way reflect against the treatment of August 9 which was prescribed by past tests.