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MINI POT POINSETTIAS PART I: POT SIZES AND WATERING METHODS¹

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Studies conducted in 1975 (2) showed that four poinsettia cultivars can be grown equally well in both 11°C (53°F) or 16°C (61°F) night temperature and under reduced light. However, environments with lower light intensities or temperatures may require 7-15 days longer to reach a marketable stage when other cultivars are used.

Plants used in the 1975 studies were grown in 10 cm (4 inch) plastic azalea pots containing a media of equal volume of Fort Collins clay loam, sphagnum peat and number 6 perlite. The combination of small pots and watering by hand proved to contribute to increased labor.

This study was undertaken to compare five methods of watering pinched poinsettias grown in 10 cm plastic azalea and standard pots. Observations were also made on the effects of plant density and application of Cycocel® growth retardant.

Methods and Materials

Rooted poinsettia cuttings (Rootcubes®) of the cultivar 'Dark Red Annette Hegg' were potted in an equal number of 10 cm plastic azalea and standard pots on September 1, 1978. An equal volume of Fort Collins clay loam, Canadian sphagnum peat and no. 6 perlite, with 113.2 gms (2.5 lbs.) of treble super phosphate per .76 m² (cu. yard) of mix, was used as the growing media.

Plants were grown under natural photoperiod in a glass house, shaded until September 14, and maintained at a

minimum of 16°C day and night throughout the growing period. CO₂ levels ranged from 500 to 600 ppm during daylight hours. A constant feed program of 230 ppm N, 16 ppm P₂O₅ and 260 ppm K₂O was supplemented with once per week application of 400 ppm 20-20-20. They were pinched on September 11, leaving four breaks above the soil live. Dexon-Benlate drenches were applied at the time of potting and periodically until sale (1).

Five different watering methods were evaluated, one per bench.

- 1) Troy® capillary mat - watered three times per day (reduced to 2X, 11/13)
- 2) Troy® capillary mat - watered two times per day (reduced to 1X, 11/13).
- 3) Troy® capillary mat - watered when growing media was dry to the touch.
- 4) Spaghetti tube system, as needed.
- 5) Handwatered by hose, as needed.

The treatments on each bench included:

- a. An equal number of 10 cm azalea and standard pots.
- b. Both types of pots spaced at 37.8 and 43.2/m² (3.0 and 4.0 per ft.²).
- c. Application of 2000 ppm Cycocel® to one half of each pot treatment as a foliar spray.

The plants were ready for sale during the week of December 4-8. Plant height data were taken on December 7, measuring from the pot bottom to tallest flower and statistically analyzed.

Results and Discussion

Watering Treatments

The height of the plants were directly related to the amount of water they received (Fig. 1 and 2). The hand

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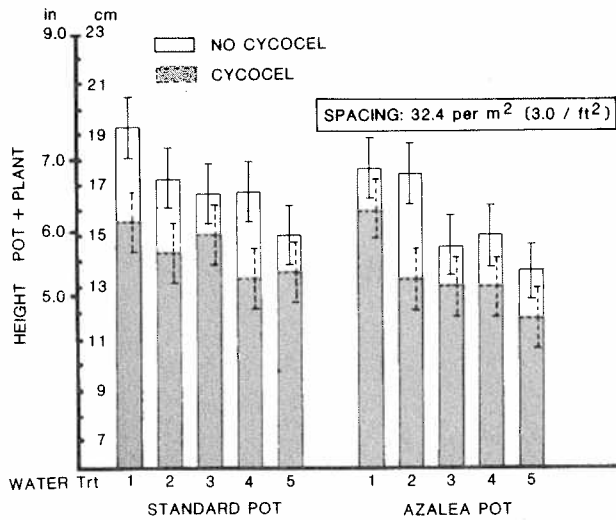


Figure 1. The height response of the poinsettia cultivar 'Dark Red Annette Hegg' grown 32.4 pots per m² (3.0 per ft²) to pot type, cycocel and watering treatments 1) Mat, 3 times daily, 2) Mat, 2 times daily, 3) Mat plus hose to pot application when dry to touch, 4) Spaghetti tube when dry to touch and 5) Hose to pot application when dry to touch.

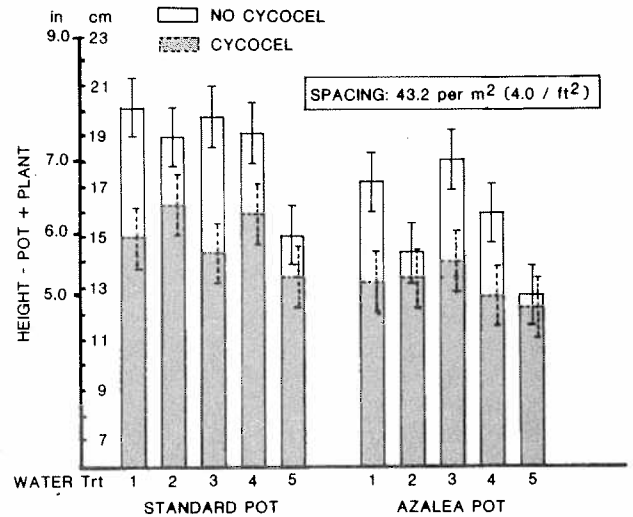


Figure 2. The height response of the poinsettia cultivar 'Dark Red Annette Hegg' grown 43.2 pots per m² (4.0 per ft²) to pot type, cycocel and watering treatments 1) Mat, 3 times daily, 2) Mat, 2 times daily, 3) Mat plus hose to pot application when dry to touch, 4) Spaghetti tube when dry to touch and 5) Hose to pot application when dry to touch.

watered plants were significantly shorter than the plants grown on mats watered 2 or 3 times per day. The use of capillary mats presented a major problem if the plants were allowed to dry out too much or were lifted from the mat; the capillarity between the mat and plant was lost and the pots had to be hand watered.

Pot Size

The azalea pot contained 15% less volume than the standard type, thus there was a decrease in soil volume and ultimately water holding capacity. In most watering treatments, the plants grown in the azalea pots were significantly shorter than those grown in standard pots (Fig. 1 and 2).

Spacing

In general there were no significant differences, within the watering treatments, on the height of the plants due to spacing. The non-cycocel plants grown in a spacing of 43.2 per m² were taller and not as symmetrical as those grown at 32.4 per m², however most of them were marketable.

Cycocel

The addition of a growth retardant was the "leveling agent" for the interaction of spacing, watering and pot type. All of the cycocel treated plants were the same height except the standard pots watered with spaghetti tubes and azalea pots watered 3 times per day (Figure 1 and 2).

Conclusions

The proverbial phrase "the water boy (person) controls the crop" continued to be apparent in this study. It appears that the combination of watering mat, overhead watering when plants are dry to the touch and use of cycocel can be an effective way of producing mini pot poinsettias at a spacing of 43.2 plants per M², regardless of pot type. Plants that are of equal quality can be grown in 10 cm azalea pots without the expense of installing watering mats or tubes and applying a growth retardant.

The use of a soilless media for mini pot poinsettia production will require different cultural procedures. The plants will stay "wetter" and tend to stretch, therefore the addition of a growth retardant is recommended as a standard procedure.

In order to overcome the expense of hand watering the small pots, the installation of an overhead irrigation system is suggested. Care must be taken to insure even and adequate distribution of water in order to obtain uniform plants. Remember — water when the growing media is dry to the touch — it might be twice a day in some instances.

Literature Cited

1. Ecke P. and Matkin, A.O. 1976. The Poinsettia Manual. Paul Ecke Poinsettias, Encinitas, California.
2. Goldsberry, K.L. and Schmidt, D. 1978. "Minipot Poinsettias". Colorado Flower Grower's Association, Inc., Bul. 338.