

# SHAKING CHRYSANTHEMUMS TO REDUCE HEIGHT

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Certain floriculture crops grown in the greenhouse require reduction in height to produce a more attractive and marketable plant. The most popular potted plant grown in the greenhouse is the chrysanthemum which requires height control for most cultivars. During the past few years there have been a number of articles indicating that plant height can be reduced by application of mechanical stress. Beyl and Mitchell (1977a) demonstrated height reduction of standard chrysanthemums through vibration of tops.

A demonstration was undertaken to determine the effectiveness of a circular (rotary) shaker to reduce the height of chrysanthemums. Three cultivars were used, Paragon, Yellow Paragon, and Illini Trophy. Cuttings were potted December 12, 1977. The 3 treatments were 1) shaking for 4 minutes per day at ca 11:00 a.m., 2) pots drenched with 8 ounces of Phosphon solution (1 tsp. per 6 qts. water), 3) control. Four uniform pots were selected for each treatment; Paragon, two Yellow Paragon, and Illini Trophy.

## Schedule

Dec. 12	Plant rooted cuttings
Dec. 30	Select pots, shake 30 seconds/day
Jan. 2	Pinch plants
Jan. 4	Begin shaking 4 minutes/day
Jan. 10	Apply Phosfon-L
Jan. 13	Stop lighting
Mar. 3	Final measurement

Beginning in late January, measurements were taken every 7-10 days until the buds showed color. Length measurements were taken for the branches on each plant, with an average length being recorded for each pot. The final measurements are as follows:

Length of breaks in centimeters at bud color

<u>Cultivar</u>	<u>Shaker</u>	<u>Control</u>	<u>Phosfon</u>
Paragon	21 (8.3")	22 (8.7")	10 (3.9")
Yellow Paragon	23 (9.1")	26 (10.2")	12 (4.7")
Illini Trophy	26 (10.2")	24 (9.4")	12 (4.7")

The "Shaker" and "Control" pots finished a bit taller than desired while the "Phosfon" plants were short but commercially acceptable. Possible reasons why the shaker treatments were not effective are: 1) the shaker mechanism was a laboratory shaker that rotated the pots in a circular fashion and apparently did not shake the plants enough to induce much height reduction. However, the action was vigorous enough to require attention so that the pots did not fall off the pad on the shaker, 2) the type of shaking that Beyl and Mitchell (1977b) gave the plants was a horizontal movement, rather than a rotating one. The plant tops were moved with contact stress which may be more effective than pot shaking.

This demonstration suggests that there may be some height reduction from shaking but, under these conditions, would not substitute for a growth regulator.

Beyl, C.A. and C.A. Mitchell. 1977a. Characterization of Mechanical Stress Dwarfing in Chrysanthemum. J. Amer. Soc. Hort. Science 102(5):591-594.

Beyl, C.A. and C.A. Mitchell. 1977b. Automated Mechanical Stress Application for Height Control of Greenhouse Chrysanthemum. HortScience 12(6): 575-577.