

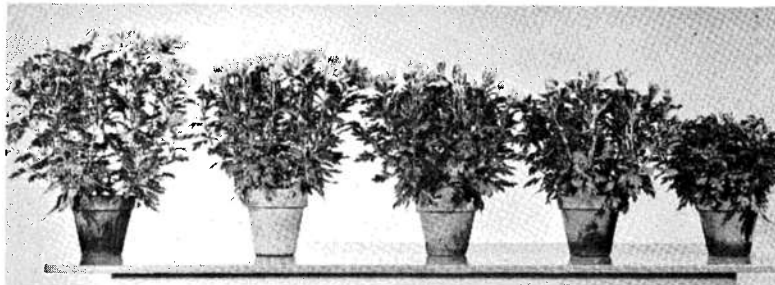
# Phosphon D Tests on Pot Chrysanthemums

by L. David Engholm

Phosphon D, a 10% dust formulation of tributyl-2-4 dichlorobenzylphosphonium chloride, has shown exceptional dwarfing effects on chrysanthemums. Since the amount needed to produce desired effects varies with varieties and time of the year, the first test was initiated on 5 normally tall varieties grown during the spring months.

To a soil mixture of equal parts of heavy loam, coarse sand, and sphagnum peat was added Phosphon D at rates of 0,  $\frac{1}{2}$ , 1,  $1\frac{1}{2}$ , and 2 teaspoons per cubic foot of soil. The soil was mixed thoroughly in a concrete mixer. Rooted cuttings of the varieties Vulcan, Ice Follies, Rosamund, Golden Yellow Princess Anne, and Blue Ridge were planted 5 cuttings per 6-inch pot on January 28, 1961, lighted for one week, and pinched on February 10. Four pots of each variety were included in each Phosphon D level. Plants were grown at 60°F night temperature and approximately 70° day temperature, and watered with nutrient solution.

Table 1 shows the dwarfing effects of Phosphon D on the five varieties. Reduced height, shorter internodes, and thicker stems and leaves were characteristic of the treated plants. Phosphon also increased brittleness and handling breakage of the plants. The number and size of flowers and their color were not affected. The number of leaves on all treatments were approximately the same.



Chrysanthemum var. Blue Ridge grown in soils containing 0,  $\frac{1}{2}$ , 1,  $1\frac{1}{2}$ , and 2 teaspoons of Phosphon D per cu. ft. Pots are 6-inch standard size.

Golden Yellow Princess Anne and Blue Ridge were dwarfed more by the higher treatments than were the other three varieties. The  $\frac{1}{2}$  teaspoon rate is probably adequate for these varieties at all times.

The delay in flowering accompanying Phosphon treatments was very little for the variety Ice Follies. For the other four varieties it averaged around 5 days for  $\frac{1}{2}$ , 6-10 days for 1, 9-13 days for  $1\frac{1}{2}$ , and 12 to 18 days for the 2 teaspoon/cu. ft. treatment.

One-half to one teaspoon of Phosphon D per cubic foot of soil mixture, thoroughly mixed in the medium, should give adequate dwarfing for the tall varieties of chrysanthemum pot plants during the spring months in climates such as Colorado. The one-half teaspoon level would be favored for winter use and the one teaspoon level should be about right for summer growing conditions.

Table 1. Effects of Phosphon D on height of 5 chrysanthemum varieties<sup>a</sup>.

Variety	Phosphon D per cu ft of soil mixture				
	0	$\frac{1}{2}$	1	$1\frac{1}{2}$	2
Vulcan	16.8	16.1	14.7	12.3	11.6
Rosamund	20.5	16.0	16.0	14.8	13.6
G. Y. Prin. Anne	18.0	13.7	11.6	9.5	8.5
Ice Follies	17.1	13.2	13.1	11.2	10.7
Blue Ridge	15.3	12.8	11.8	10.7	9.1

<sup>a</sup> Height in inches average for 4 pots.

Table 2. Days delay in flowering due to Phosphon D treatments.  
Phosphon D/cu ft of soil mixture

Variety	0	$\frac{1}{2}$	1	$1\frac{1}{2}$	2
Vulcan	0	5	7	10	13
Rosamund	0	4	8	9	12
G. Y. Prin. Anne	0	5	10	13	18
Ice Follies	0	0	0	3	5
Blue Ridge	0	4	6	9	12

1. L. David Engholm completed this work as a special problem while a senior in horticulture at Colorado State University. Yoder Bros., Inc. generously donated the cuttings for this test.

*Your editor,  
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