

THE SPACING OF CARNATIONS AS IT AFFECTS YIELD

by
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There is some difference of opinion regarding the amount of space that should be given each carnation plant. This space should probably vary with the variety and the size of the young plant.

To determine how much spacing affects yield and quality of carnations, a sparse growing variety, Scarlet King, was planted in rows of from 5 to 9 plants across a $3\frac{1}{2}$ foot bench with 8 inches between rows. White Patrician, a heavy grower, was planted in rows of from 5 to 8 plants across. The plots were bordered on the outside and between plots with a color sport of the variety, - Pelargonium for Scarlet King and Pink Pat for White Pat. In this way all records were kept on inside plants only and any border effects between plots were eliminated. Each spacing treatment was replicated three times. All plots contained four rows between the border rows.

The young plants used for this planting were propagated in March and grown on in sand with nutrient solution supplied as needed. They were single pinched, well-branched plants when benched June 21, 1949. As soon as they were established they were pinched as necessary until August then allowed to flower. Flowers were cut from late October until June 15.

The flowers were graded by weighing on a dietary scale. Any weak stemmed flowers were broken down to the proper length before weighing. The quality of the blooms cut from Scarlet King was not greatly affected by spacing. There was a steady increase in quality as the spacing became greater, but this is more than nullified by decreased production. Due to erratic splitting of some of the plots of White Patrician, no conclusions can be made other than with yield. The yields as influenced by spacing follow:

Table 1. The Effect of Spacing on Yield of Carnations*

Spacing Plants per sq. ft.	Scarlet King			White Patrician		
	Flowers per sq.ft.	Flowers per plant	Total cut per plot	Flowers per sq.ft.	Flowers per plant	Total cut per plot
2.25	14.19	6.31	75.7	20.80	9.25	111.0
2.70	16.57	5.83	93.3	23.25	8.18	131.0
3.15	18.12	5.32	106.3	23.18	6.80	136.0
3.60	19.83	4.95	119.7	24.36	6.12	147.0
4.05	20.62	4.54	127.0			

*All figures are the average for three replications.

Each step in spacing employs four more plants to produce the total cut. An increase of 20 blooms between the first two spacings used on White Pat means each of these additional plants produced five blooms. The eight plants used to change the spacing from 2.7 to 3.6 plants per square foot produced 16 or only two blooms per plant.

If plants are available at benching time and quality will not be decreased appreciably, it would probably be economically worth while to add plants so long

as they produce three or more blooms. This was the case with Scarlet King in changing the spacing from 2.7 to 3.6 plants per square foot.

From these figures plants optimum size for benching should be spaced about as follows:

White Patrician -- Six plants across a $3\frac{1}{2}$ foot bench or 2.7 plants per square foot.

Scarlet King -- Eight plants across a $3\frac{1}{2}$ foot bench or 3.6 plants per square foot.