

Spacing for Direct-Benched Carnation Cuttings

by

W. D. Holley

The optimum number of carnation plants per square foot of bench area is always a good subject for discussion among carnation growers. Although spacing differs with varieties, it has become nearly standard in the Colorado area for the variety William Sim and Sim sports. Plants that have been grown in a nursery bed are usually benched three or four plants to the square foot.

With the advent of direct-benching of rooted cuttings there is some tendency to use more plants. In seeking more information on spacing, rooted cuttings of Crowley's Pink Sim were benched 3, 4 and 6 plants per square foot. The spacing treatments were replicated three times and all plots were separated by buffer rows of Sim Gayety at the same spacing. In this way a close spacing could not crowd a wider spacing.

The cuttings were benched in May, pinched once in June and allowed to produce until May of the following year. Production from each spacing, grade of blooms cut and average quality (Q.I.) for the treatment are shown in the accompanying table.

Plants per square foot	Q.I.	Split	Short	Standard	Fancy	Total	Prod. per square foot
3	4.33	13	119	363	467	962	38.5
4	4.31	17	134	371	474	996	39.8
6	4.28	18	153	417	487	1075	43.0

Average production from these spacings was 38.5, 39.8, and 43 flowers per square foot. This difference is not great when the fact is considered that three more plants per square foot increased the production $4\frac{1}{2}$ blooms.

The average quality was slightly less on the closest spacing but the difference was not significant. The first crop on the closest spacing could be cut with

longer stems, hence was a better grade. The second crop on this close spacing graded considerably lower to more than balance the advantage of the first crop.

Space for One Crop but Not for Two

When only one crop is taken from direct-benched cuttings there is an advantage to close spacing. No return crop is expected and entire stems are cut with the blooms. However, spacing can be too close even for one crop. Four healthy cuttings per square foot will produce about all the flowers that can mature at one time. Four plants per square foot is a spacing of 6x6 or $4\frac{1}{2} \times 8$.

The following Production and Timing results were obtained at Colorado A&M in one crop systems:

Rooted cuttings of White Sim that were benched August 19, pinched beginning September 20, cut heavily March 8 through Easter, 1953. Spacing was 3 plants to the square foot and production 18.0 flowers per square foot.

Rooted cutting of White Sim benched October 3, pinched beginning November 3, cut heavily April 19 to June 15. Spacing was 4 plants to the square foot and production 20.67 flowers.

Rooted cuttings of Crowley's Pink Sim that were benched November 13, pinched beginning December 13, cut heavily May 17 to June 21. Spaced at 4 plants to the square foot the production was slightly over 17 flowers per square foot. Not quite all the flowers were cut off these plants by June 21.

Production Costs

At the Illinois fall meeting of florists, 1952, C. R. (Ted) Vance of Princeton, Ill., gave the following figures on cost of growing various crops in relation to the 1945 costs:

Overall costs	145%
Iris	94%
Daffs	102%
Roses	125%
Carnations	109%
Chrysanthemums	124%

He stated that in no instance did returns keep up with rising costs. He offered several suggestions for cutting costs of production and producing slightly more to offset these costs. However, before we can cut corners we have to know which corners are the most important from a cost standpoint. I wonder how much costs have increased in growing hydrangeas, for example. I think we all know how little they have increased in price since 1945.

Your editor,

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