

# Holding Carnations In Peat-Pots

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The use of pots for holding carnation plants in a nursery bed is an old practice. Before direct benching became general practice, many growers followed the cultural pattern of propagating carnations in December, transplanting to 2¼-inch clay pots, then as the plants developed transplanting to 4-inch clay pots and finally into the bench location in May or June. This was a long period of production of a carnation plant that would be prohibitive under today's high costs.

Although direct benching of rooted cuttings is a widespread practice there are many retail-growers who prefer not to sacrifice production space when the crop is still bringing good returns. With no area for field growing they will resort to nursery bed techniques to develop the young plants. For this purpose, peat fibre pots are frequently used. Rooted cuttings can be planted in early spring, given a single pinch and developed to a suitable size for planting in the bench while flowers are being picked from the production area.

In addition to the heavy demands of the spring, annual flower rush which may result in neglect of the potted carnations, some growers find that their supply of top soil may run short when more is available.

Cornell peat-lite mixes and new sources of slowly available fertilizers were deemed worthy of a small study to see if satisfactory carnation plants could be produced. For these trials, White Sim Carnation cuttings were propagated February 5, 1963. On March 8, the rooted cuttings were transplanted to 3-inch round peat pots in the following treatments:

Treatment	Media	Fert. Particle Size	Rate of Applic.
1	Mix A	8-40-0 Medium	2 oz./bushel
2	Mix A	8-40-0 Fine	2 oz./bushel
3	Mix B	8-40-0 Medium	2 oz./bushel
4	Mix B	8-40-0 Fine	2 oz./bushel
5	9-6-4-2	8-40-0 Medium	2 oz./bushel
6	9-6-4-2	8-40-0 Fine	2 oz./bushel

Mix A is composed of 50% #2 vermiculite and 50% german sphagnum peat moss with 10 pounds of dolomitic limestone per cubic yard of mix. Mix B is the same as Mix A except horticultural perlite is substituted for the vermiculite.

The 9-6-4-2 is the standard pot plant soil mix used in the Department of Floriculture. The components, all measured by volume, are 9 parts soil, 6 parts german sphagnum peat moss, 4 parts horticultural perlite and 2 parts coarse sand.

The fertilizer selected was an 8-40-0<sup>a</sup> slowly available nutrient material in a medium and fine particle size. Since the availability of the nutrients is partially a function of particle size the fine material, having greater surface area

for equal volumes of fertilizer, would supply a greater amount of nutrients for plant growth.

This material was incorporated into the three media at the rate of 2 ounces per bushel of mix which is equivalent to 5 pounds per 100 square feet of 6 inch depth bench area. Other than the limestone added to the two peat-lite mixes no other fertilizers were used. The fertilizers were incorporated into the media before planting.

Ten rooted cuttings were transplanted to each media treatment. The potted plants were placed in a 60°N.T., 70° D.T. greenhouse. The plants were watered as needed. The plants were given a single pinch to induce lateral breaks on April 10.

June 5, 1963 the plants were evaluated and photographed. (Fig. 1). The number of lateral shoots, overall length and fresh weight were data obtained.



Fig. 1. White Sim carnations grown in various treatments. Propagated February 5, 1963, potted March 8, pinched April 10 and photographed June 5.

The results show that Mix B, peat and perlite was poor for lateral shoot growth and fresh weight. The plants in this medium were lacking in good color and substance. The heaviest plants were produced in Mix A that had received the fine particle size fertilizer. The greatest number of lateral shoots were produced on plants in the 9-6-4-2. There were only slight differences in the height of the plants in all media.

Table 1. Number of lateral shoots, length and fresh weight of White Sim Carnations. Figures are averages of 10 plants.

Treatment	Lateral Shoots	Length (in.)	F. W. (gms)
1	4.9	13.3	45.4
2	4.5	13.5	49.6
3	4.1	13.4	40.2
4	4.1	14.4	38.5
5	4.8	14.4	47.0
6	5.1	14.4	47.0
Avg.	4.6	13.8	44.4

(Continued on page 4)

<sup>a</sup>Magamp—W. R. Grace Company

## Holding Carnations

*(Continued from page 3)*

This study shows that peat-lite mix A with limestone and 8-40-0 was capable of producing carnation plants that were equal in quality to those produced in soil with 8-40-0 fertilizer added. This method of nurse bed techniques would enable a commercial flower grower to produce satisfactory carnation plants for benching purposes with a minimum of attention. The use of mix A eliminates the problem of an unavailable supply of suitable soil for potting purposes.

Mix B is not recommended for use in this particular cultural practice with 3-inch pots. If larger size pots are used, the results may be satisfactory, but more trials are needed.