

# The Checking in Plant Growth Caused by Holding in Peat Pots or a Nursery Bed

By Kenneth L. Goldsberry

Under winter conditions, carnation transplants held in peat pots or a nursery bed for 4 weeks decreased growth of carnations by 20 per cent when compared to the growth obtained from the same cuttings benched directly from the propagating bench. Each additional week the cuttings were held before transplanting decreased growth further, with cuttings held for 11 weeks causing a decrease of 40 percent in growth as measured by oven dried weight (CFG A Bul. 101). Plants were 18 weeks old when dried and weighed. The delay caused by peat pots and nursery bed growing was essentially the same during this period of the year.

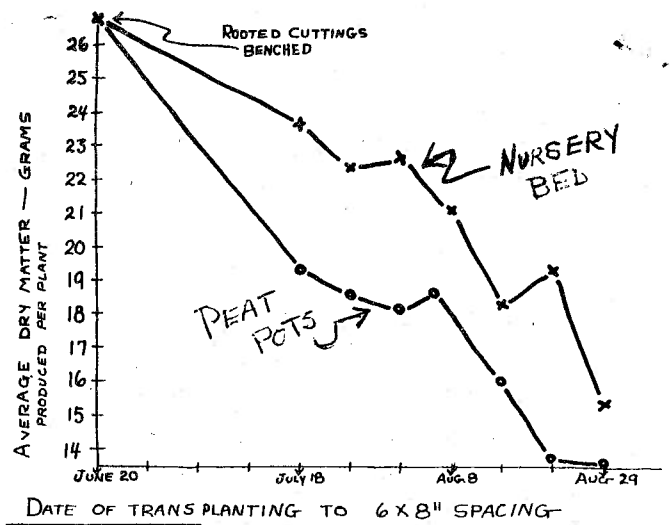
Since growth is about half as fast during winter, a second experiment was started June 20, 1958. Sixty-three rooted cuttings were planted at 6 by 8" spacing at the same time that cuttings were planted in 3" peat pots setting pot to pot on a wooden bench and in a nursery bed at 3 by 4" spacing. Four weeks later, on July 18, 21 transplants in peat pots and 21 nursery bed plants were set at 6 by 8" spacing in this same bench. The planting was repeated each week through August 29.

On September 26, all plants were pulled from the bench, their roots washed free of soil, the plants weighed, oven

dried, and weighed again. The accompanying chart shows the check in growth caused by these handling procedures when compared to the growth made by cuttings benched directly. One month in a nursery bed decreased growth (final dry matter) by 11 per cent, while the same period in peat pots reduced the final yield by 27 per cent. The decrease by 3 additional weeks in either location was an additional 10 per cent for nursery bed and only 3 per cent for peat pots. The delay caused by 10 weeks in the nursery bed was 42 per cent and 10 weeks in peat pots decreased growth by 49 per cent.

The delay caused by transplanting from nursery bed or peat pots actually increased the percentage of dry matter in the plants at the end of the experiment - from 16.2% for dry matter for direct benched cuttings to 17.3% for either method of transplanting.

The only advantages which can be justly claimed for peat pots over nursery bed growing of transplants are: 1) ease of handling at planting time, 2) slightly more plants can be grown in the same area, and 3) selection against poor plants and disease is facilitated.



Ed. note: While the delay shown by these results is highly significant, it should be understood that the decrease in growth caused by transplanting is a maximum on young plants weighed at this stage. This delay can be expected to carry over to the crop harvested at any time, but the differences between the methods of handling (direct benching vs. transplanting) would decrease steadily as the crop is grown for a longer period.

*Your editor, W.D. Holley*

COLORADO FLOWER GROWERS ASSOCIATION, INC  
 OFFICE OF EDITOR  
 W. D. HOLLEY  
 Colorado State University  
 Fort Collins, Colorado

FIRST CLASS

*A. E. Root*