

Effect of Root Substrate on Keeping Life

Joe J. Hanan

Four keeping trials on white carnation cut flowers were run on December 1, 8, and 29, 1967, and January 26, 1968. Twelve to 15 flowers of the variety White Sim or White Pikes Peak were in each treatment. Cut flowers in Treatment 1 were obtained from plants grown in Idealite in House No. 1 of the CSU main research range. Flowers for Treatment 2 were cut from plants grown in soil in the light houses, and Treatment 3 was obtained from plants grown in a mixture of Idealite, scoria and Terragreen in the south beds of the CSU temperature house. All plants were in their first year of production. During this period of the year, irrigation of the inert media was not more than once daily, skipping one or two days during periods of overcast skies. Plants in soil were irrigated on the basis of need. Cut flowers were placed in a Cornell solution at 33° F for one day and then moved to the keeping rooms, maintained at 70°

for the rest of the trial. Flowers were discarded when the petals began to shrivel, and one day subtracted to obtain total days of satisfactory keeping life.

Results are given in Table 1. There were no real differences in keeping life between the treatments. Statistical analysis was not made. During any one trial, the maximum variation in keeping life of any treatment from the shortest to the longest was 6 days. There did not appear to be any real differences in petal burning between treatments. One might expect, on the basis of Hanan and Jasper's work, that plants in inert media would have a shorter life. However, the dark weather prevailing during this period probably reduced differences in moisture levels between treatments. That is, the same amount of stress was given to both soil and inert treatments. The situation might be different during periods of high water demand (summer). A second possibility would have been a borderline case of aeration in Hanan and Jasper's wettest treatment, sufficient to reduce keeping life significantly but not yield.

Table 1. Effect of root substrate on keeping life of carnations (days).

Trial	Treatment		
	Idealite	Soil	Inert mixture
Dec. 1, 1967	10.3	10.4	10.5
Dec. 8, 1967	10.8	10.5	10.8
Dec. 29, 1967	9.0	9.2	9.7
Jan. 26, 1968	9.8	9.8	9.8
Mean	10.0	10.0	10.2