

# INCREASED ROSE PRODUCTION IN CONTAINERS

T. G. Byrne\*

Many experiments have been conducted at the San Jose floriculture greenhouses with rose plants grown in 5-gallon cans rather than in ground beds. During our first year of production, a group of 'Forever Yours' plants grown in cans

out-produced a similar group grown in ground beds. The bed production was relatively high and there was no evidence of poor growth due to impaired drainage or other adverse soil conditions. To confirm these observations, a trial was

begun with another cultivar in another planting established to study spacing effects and cane renewal.

### METHOD

Plants of the cultivar 'Town Crier'<sup>1</sup> were planted in the greenhouse in 5-gallon cans and in ground beds in mid-February 1971. The latter were spaced four across a 42-inch bed at a density of 1.14 per square foot of growing area. Each planting treatment consisted of two rows replicated three times for a total of 24 plants for each of the two types of planting. The number, fresh weight, and stem length of all salable blooms and the fresh weight of all prunings and disbuds were recorded for seven successive crops harvested from July 1971 through June 1972.

### RESULTS

The can-grown roses out-produced those grown in the ground by approximately 15 percent. Production for the seven crops was 29.96 blooms per square foot for the bed-grown plants and 34.57 for those grown in cans. In addition, the stem length of the blooms from the canned plants was greater, on the average, with nearly 50 percent more falling in the grade designated "fancy" (26 inches and over). The plants in cans also yielded nearly one-quarter more total fresh weight. Differences in average fresh weight per flower and stem, however, were not significant nor were there differences in average days to bloom.

<sup>1</sup>Plants donated by DeVor Nurseries, Livermore, California.

### DISCUSSION

The roses in both treatments received similar management. The obvious differences were soil temperature (higher in the cans); soil volume and internal drainage characteristics; soil mix (more organic matter in the cans); and the frequency and amount of water applied (slightly more frequent but 3½ times more gallonage for the cans). The roses in both treatments were what growers might term "wet-grown" roses. Although keeping life comparisons were not made, the longevity of the blooms from both plantings appeared similar and typical of the cultivar.

### CONCLUSION

'Town Crier' greenhouse roses produced significantly more blooms of greater average stem length when grown in 5-gallon cans rather than in the ground. Although the data are not conclusive, it appears that the differences were due to better root-soil-moisture relationships in the cans. This is likely even though the ground beds were considered to have excellent drainage characteristics.

The practical implications of this study lie in the possible use of can-grown roses in a crop rotation program. As a means of increasing late winter and spring production, it may be feasible to exchange a planting cropped in late fall to early winter with another set of plants that have been outdoors "recuperating" during the same period. An experiment is in progress to determine if this is so.

\* Associate Specialist, Department of Environmental Horticulture, Deciduous Fruit Field Station, San Jose.

#### WARNING ON THE USE OF CHEMICALS

Pesticides are poisonous. Always read and carefully follow all precautions and safety recommendations given on the container label. Store all chemicals in their original labeled containers in a locked cabinet or shed, away from food or feeds, and out of the reach of children, unauthorized persons, pets, and livestock.

Recommendations are based on the best information currently available, and treatments based on them should not leave residues exceeding the tolerance established for any particular chemical. Confine chemicals to the area being treated. **THE GROWER IS LEGALLY RESPONSIBLE** for residues on his crops as well as for problems caused by drift from his property to other properties or crops.

Consult your County Agricultural Commissioner for correct methods of disposing of leftover spray material and empty containers. **Never burn pesticide containers.**

**PHYTOTOXICITY:** Certain chemicals may cause plant injury if used at the wrong stage of plant development or when temperatures are too high. Injury may also result from excessive amounts or the wrong formulation or from mixing incompatible materials. Inert ingredients, such as wetters, spreaders, emulsifiers, diluents, and solvents, can cause plant injury. Since formulations are often changed by manufacturers, it is possible that plant injury may occur, even though no injury was noted in previous seasons.