AGRICULTURAL EXTENSION SERVICE **STABY - OSU** UNIVERSITY OF CALIFORNIA

FLOWER AND NURSERY REPORT

FOR COMMERCIAL GROWERS

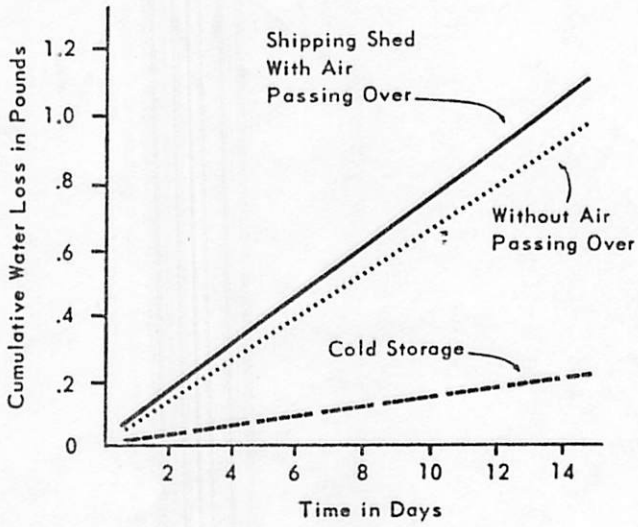
# CUT FLOWER STORAGE

Richard L. Baldwin and H. B. Richardson*.

The storage life of cut flowers appears to be governed, at least in part, by the rate of water use (intake and transpiration). Conditions that impose a high rate of water use on cut flowers can be expected to cause rapid deterioration of the flowers.

To determine the rate of water use by flowers over a period of time an experiment was conducted with Marguerite daisies. Three bunches of 25 daisies each were placed in buckets containing enough water to immerse the lower part of the flower stems. One bunch of daisies was placed in a cold storage room. The second set was stored in a packing shed used for shipping cut flowers. The third set was exposed to shipping shed conditions, but with the addition of a small blower set up to pass air over the flowers at a constant rate. Water loss from each bucket of daisies was determined by changes in weight. Water use was constant in each treatment over the 15-day exposure period. Water use was greatest when the flowers were exposed to air movement at room temperatures. Flowers stored at room temperatures but not in the path of the blower used slightly less water. Flowers kept in cold storage used by far the least amount of water.

The following graph shows the relative water use by flowers in the various treatments.




The effects of saturated atmosphere on the storage life of various flowers were also

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tested. Flowers stored in saturated atmospheres were compared to those stored in conventional cold storage atmospheres and under identical temperature conditions. In each instance, the flowers were further divided into two groups: 1) stems immersed in water; 2) stems not immersed in water but exposed to storage atmospheres.

Marguerite daisies stored in a saturated atmosphere were superior to those stored in the conventional cold room. Marguerites normally developed undesirable side buds on elongated peduncles during storage. Marguerites stored in saturated atmospheres did not develop these bud shoots. Those daisies stored with their stems in water developed a blackening of the foliage starting at a point where the foliage touched the container. No foliar discoloration occurred when stems were not immersed in water.

Majestic daisies kept equally well with stems in water in conventional cold storage conditions and with or without stem immersion under saturated atmosphere conditions. Under conventional storage conditions, wilting occurred quickly when stems were not immersed in water.

Pompon chrysanthemums with stems in water kept equally well in normal cold storage or in saturated atmosphere. Without stem immersion wilting occurred in both instances although it was less pronounced in saturated atmosphere.

Carnations, red and white Sims, kept equally well if stems were immersed in water under normal cold storage conditions or if the flowers were in saturated atmosphere with stems out of water.

Dutch Iris, Blue Ribbon variety, stored best in saturated atmosphere without stems in water. Opening of flowers was delayed and stem turgidity was judged ideal for shipping.

Column stock stored best with stems in water. Saturated atmosphere did not seem to be of any benefit.

All of the stored flowers mentioned above were closely examined for incidence of disease and shipping quality. Of the flowers under test, Marguerite daisies and Dutch Iris were most benefited by saturated atmosphere storage.

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## SOIL TEMPERATURES IN CLAY AND PLASTIC POTS

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Clay-colored plastic pots are being widely used in the production of potted ornamentals because they cost less, are lighter in weight and store more easily than conventional clay pots. During a routine examination of poinsettia roots growing in a fiber-glass greenhouse at the San Jose floriculture facility during September, it was noticed that the soil in the plastic pots was quite warm to the touch. A spot check with the thermometer inserted into the soil ball midway between the soil surface and the bottom of the pot and $1\frac{1}{2}$ inches from the wall of the pot showed a reading of 101 F. At a similar location in a clay pot the temperature was only 90 F.