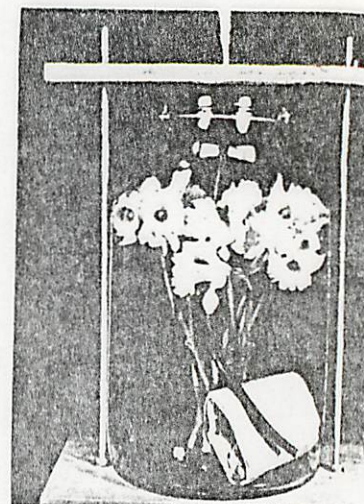
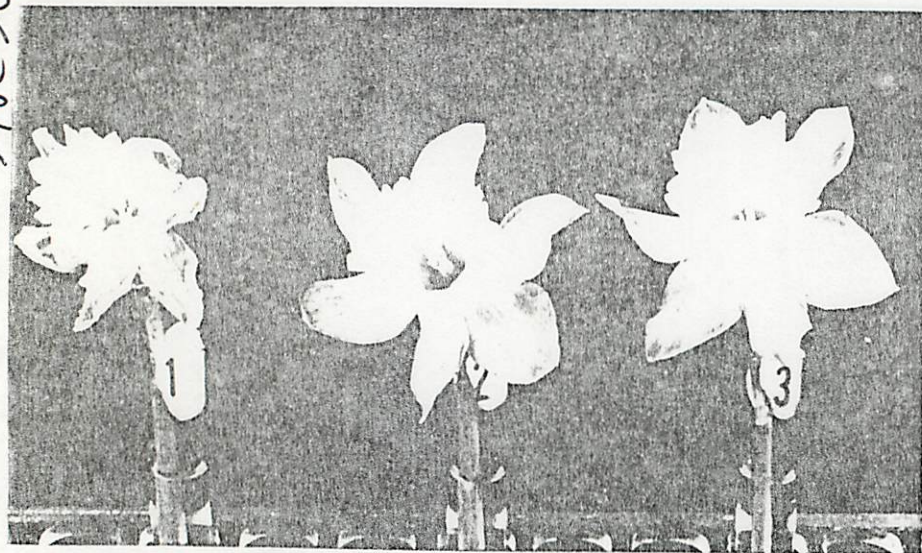


Added life for Cut Flowers (13)

STADY - OSU

largest refe.

Flowers last longer when stored first
in nitrogen, tests show



Daffodils held in nitrogen atmospheres (blooms 2 and 3) had longer display life than those held in air (bloom 1).

■ How do you extend the display life of cut flowers?

The answer, which florists and consumers alike would welcome, may come out of ARS research at Beltsville, Md. In recent tests, scientists prolonged the display life of cut daffodils by storing them in 100-percent nitrogen prior to display.

Plant physiologists Sam Asen and N. W. Stuart and horticulturist C. S. Parsons used King Alfred daffodils in the research.

How much the nitrogen extended display life depended on the storage temperature and the length of the storage period. Daffodils stored in nitrogen for 3 weeks at 32° F., the usual commercial storage temperature, had a display life of 125 hours against

35 hours for those stored in air under similar conditions.

Even at high storage temperatures, nitrogen increased the display life if the storage time was shortened: daffodils kept 2½ days in nitrogen at 70° lasted 33 hours after removal, while those kept in air lasted only 21 additional hours.

Display temperatures were maintained at an average of 72-75°, and display life was measured from the time the flowers were removed from storage to the first sign of deterioration of the daffodil trumpets. In the nitrogen atmosphere, oxygen was eliminated and carbon dioxide accumulation was minimized. Thus, carbon dioxide, which is known to have a beneficial effect on preserving

some perishables, was not a factor.

In effect, the researchers say, nitrogen "anesthetizes" the cut daffodil, a process that has been effective for periods exceeding 3 weeks. Daffodils stored at 40° in nitrogen for as long as 3 weeks had a display life of 100 hours—equal to that of fresh cut flowers.

Much more research must be done to determine what commercial application can be made of the gas storage method. So far, daffodils are the only flowers that have responded favorably to the nitrogen atmosphere; however, roses responded to ethylene oxide in previous tests (AGR. RES., Jan. 1964, p. 11). Controlled atmospheres have been used in the storage of fruits and vegetables for some time.

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