

COLD STORAGE OF 'GEORGIA' EASTER LILIES

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Many potted plants are grown for sale on a specific holiday, such as lilies for Easter and poinsettias for Christmas. Timing of bloom is critical.

The volume of plants that must be packed, transported, and retailed places heavy demands on labor, carriers, and facilities. It would be advantageous to the industry if the plants could be packed in containers, cooled, and stored for several days or weeks before the target marketing date.

'Japanese Georgia' Easter lily plants of uniform development were selected from a commercial greenhouse. Buds on the plants were fully developed but were cooled before they opened. Three boxes containing a total of 18 plants were used per treatment. The soil in the pots was watered, after which the plants were packed in standard vented containers and promptly cooled to 32° or 36° F. (0° or 2° C.). In tests conducted the second year, only 32° F. was used, and an ethylene absorber was placed in half the containers.

Plants were removed from storage at 2-week intervals in both years and performance was evaluated in a greenhouse at Davis.

At 32°, plants remained in excellent condition for 4 weeks and the buds opened to good-quality flowers when moved to a greenhouse. At 36°, plants were acceptable after 4 weeks but were of slightly lower quality (as evidenced by failure to open fully or by malformed flowers) than those held at 32°. At both temperatures when plants were held beyond 5 weeks, small buds turned yellow and dropped from plants. Large buds either failed to open, or were malformed. Ethylene concentrations in the containers were very low—about 8 to 9 parts per billion (ppb); thus, an absorber did not materially reduce the ethylene concentration or improve flower opening and quality.

A few plants developed a wilted appearance when first placed at 32°, as well as when first placed in the greenhouse. This wilting was temporary and the plants recovered without ill effect.

It was concluded that Easter lilies can be successfully stored for 4 weeks at 32° to 36° F. (32° is preferable), provided the containers are promptly cooled and the temperature is maintained continuously at the desired level. Lilies should not be stored in the same room with fruits until the compatibility of the plants and the particular fruit has been established. Vehicles fueled by gasoline, kerosene, or diesel fuels should not be operated in the storage areas.

ACKNOWLEDGMENT

The authors gratefully acknowledge the cooperation of Sunnyside Nurseries, Salinas, California, which provided the plants, and the assistance of Sho Yoshida, of that organization, in setting up the tests.

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