

# How To Store Vinca Plugs

by ROYAL HEINS and THOMAS F. WALLACE, JR.

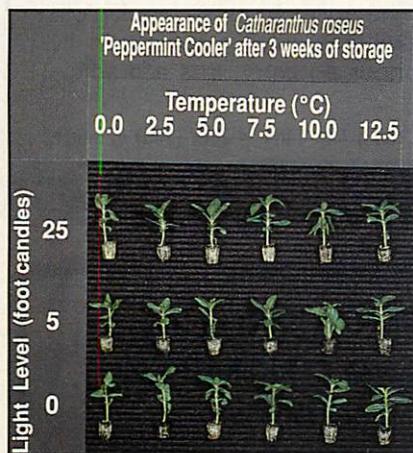


Figure 1: Appearance of vinca plugs immediately following 3 weeks of storage at 0-25 footcandles and 0°-12.5°C (32°-54.5°F).

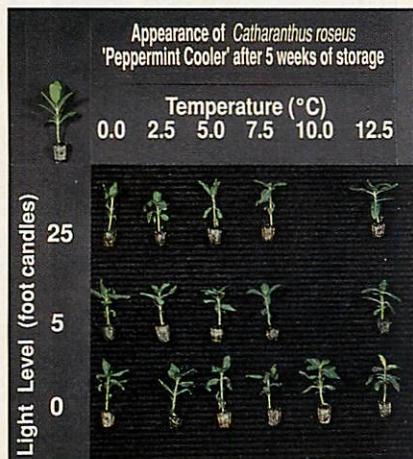


Figure 2: Appearance of vinca plugs immediately following 5 weeks of storage at 0-25 footcandles and 0°-12.5°C (32°-54.4°F).

**L**AST month we reviewed low-temperature storage of alyssum plugs to determine optimum storage conditions and durations that would not result in unacceptable extension of forcing and growth periods after transplanting. This month we continue that review with a look at optimum storage conditions for vinca plugs.

## How We Did It

We received plug sheets (size 406) of vinca 'Peppermint Cooler' from a commercial grower when the plugs were transplantable. Plants were kept in a glass greenhouse at 68°F for a week prior to experiment initiation to eliminate shipping effects.

One plug sheet was placed in storage at each of 18 different temperature and light-level combinations. Temperatures were 32°, 36.5°, 41°, 45.5°, 50°, or 54.5°F, and light levels were 0, 5, or 25 footcandles with cool white fluorescent bulbs burning constantly. Darkness, or 0 footcandles, was achieved by placing plug sheets in closed cardboard shipping boxes.

All plants were subirrigated with clear water as needed during storage. Irrigation frequency varied from 3 to 20 days, depending on the temperature and humidity in the coolers. Contact between water and foliage

was minimized to avoid fungal infection.

Ten representative plants were removed from each treatment once a week for 6 weeks, and one plant per treatment was photographed before the plants were potted in 4-inch containers. Plants were forced into flower in a glass greenhouse with a minimum temperature of 68°F.

We recorded the date of first flower for each plant that survived storage, determined the average number of days from the start of forcing to first flower, and calculated percent plant survival for each treatment.

Storage treatments were rated satisfactory or unsatisfactory. Satisfactory meant no more than one of 10 plants died after storage, and flowering was not delayed more than 5 days compared to that of control plants (unstored).

## Results

Plants were susceptible to chilling injury at 41°F or lower (Figures 1 and 2).

As temperature and storage duration increased, percent mortality of plants stored in darkness increased (Figures 3 and 4). No plants survived dark storage for 6 weeks because of *Botrytis* infection. Adding light eliminated plant death at 45°F and above (Figure 4).

Flowering of plants surviving temperatures that caused chilling injury (32°-41°F) was slightly delayed com-

Vinca Plugs Stored in Darkness

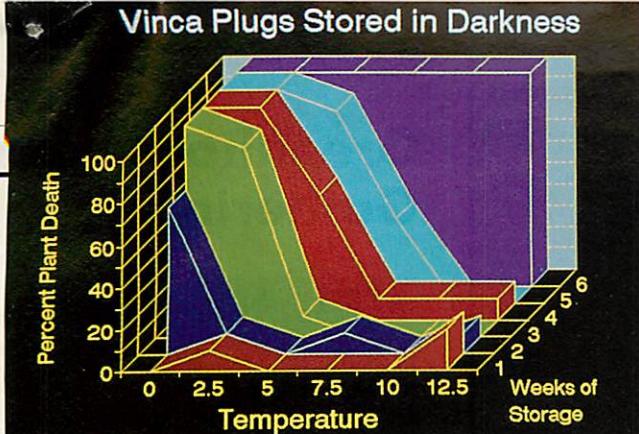


Figure 3: Percent plant death of vinca after 0-6 weeks of dark storage at 0°-12.5°C (32°-54.5°F).

Vinca Plugs Stored in Light

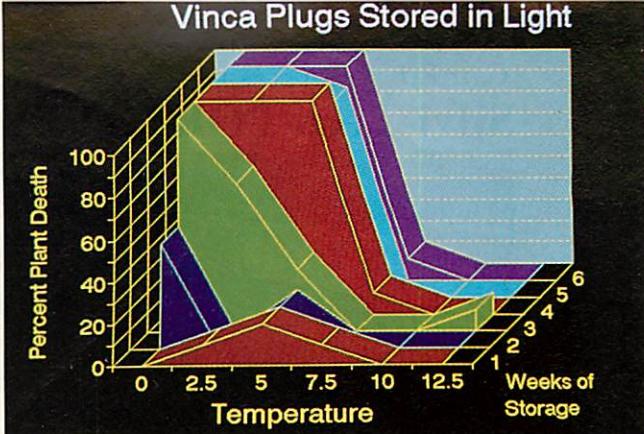


Figure 4: Percent plant death of vinca after 0-6 weeks of light storage at 0°-12.5°C (32°-54.5°F).

pared to flowering of plants stored at warmer temperatures. No flowering delay was observed on those plants stored at temperatures above 41°F.

Plant size at flower was not consistent, but plants surviving chilling injury were smaller at flower than those exposed to temperatures above 41°F. In addition, plants stored above 41°F were slightly smaller 6 weeks after the start of forcing than those held in the greenhouse in a plug sheet for 1 week; however, there was no

plant size difference after 5 weeks of storage.

#### Optimum Storage Conditions

The best storage temperature range for vinca plugs is 45°-54°F. Plants are susceptible to chilling injury at 41°F or lower.

At warmer temperatures (45°F or higher), acceptable storage duration significantly increased when a small amount of light (5 footcandles) was added. Etiolation, elongation, and

percent death were all reduced.

A rule of thumb: Add light to plug storage chambers whenever possible; you'll be pleased with the results. **GG**

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This research was funded in part by the Bedding Plant Foundation, Inc., the Fred C. Gloeckner Foundation, and the American Floral Endowment. Vinca plugs were supplied by Four Star Greenhouses, Carleton, MI.

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