Plug Storage

One Temp Can Fit All

The trick is to find a temperature that is collectively acceptable, although not individually optimal.

by ROYAL HEINS and NATHAN LANGE

For the last 2 years, we’ve conducted low-temperature storage experiments on plugs of eight species: ageratum, begonia, geranium, impatiens, marigold, pansy, petunia, and salvia. (The results of this research have been published in GREENHOUSE GROWER in January and February, 1991 and February and March, 1992.)

Short-term storage of those species is possible, but the optimal storage temperatures vary significantly. Acceptable temperatures for one species may cause chilling injury and death in another. For example, the optimal range for storing pansies is 32°F to 36.5°F — temperatures which would significantly injure ageratum, begonias, impatiens, marigolds, and salvia.

Growers who only have one or two coolers may want to store plugs of several species at one time. How can they find one temperature that is right for all of them? The answer is to use a compromise temperature — one that is collectively acceptable, although maybe not individually optimal.

The following figures depict the range of acceptable plug-storage temperatures for each species we’ve studied. Find the graph that most accurately describes your coolers (light versus dark storage) and then find the period of time you plan to store your plugs (up to 6 weeks). Finally, locate the temperature range that is common to the species you wish to store and use it as the compromise temperature.

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Tip: All eight species can be stored in a lighted cooler for up to 4 weeks at an acceptable "compromise" temperature range of 45.5°-50°F.
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Tip: Plugs store better in the light than in the dark. Adding as little as 5 footcandles of light increases the temperature range for five species — petunia, begonia, marigold, ageratum, and impatiens — by as much as 10°.

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Plug Storage continued

Tip: You can store all eight species in the dark for up to 3 weeks by using an acceptable “compromise” temperature range of 41°-45°F.