Bulbs as flowering potted plants—keys to increased longevity

**STORAGE TEMPERATURE AFFECTS BULB LONGEVITY**

<table>
<thead>
<tr>
<th>Bulb</th>
<th>Varieties evaluated</th>
<th>Interior longevity (days)</th>
<th>Recommended storage temperature (degrees F)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amaryllis</td>
<td>Summertime, Sundance</td>
<td>14 to 21</td>
<td>50</td>
<td>Flower color lighter at high interior temperatures. Excessive stem elongation, especially at high temperatures, may cause plants to topple.</td>
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<tr>
<td>Crocus</td>
<td>Pickwick, Remembrance</td>
<td>4 to 7</td>
<td>33 to 35</td>
<td>Remembrance lasted three to five days longer than Pickwick.</td>
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<tr>
<td>Daffodil (Narcissus)</td>
<td>Bridal Crown, Ice Follies</td>
<td>4 to 7</td>
<td>35 to 41</td>
<td>Bridal Crown lasted six to 10 days longer than Ice Follies.</td>
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<tr>
<td>Grape Hyacinth (Muscari)</td>
<td>Early Giant</td>
<td>14 to 21</td>
<td>32 to 35</td>
<td>Flower color lighter at high interior temperatures.</td>
</tr>
<tr>
<td>Hyacinth</td>
<td>Amsterdam, Ostara</td>
<td>7 to 14</td>
<td>32 to 35</td>
<td>Ostara lasted two to five days longer than Amsterdam, but had a greater incidence of stem topple.</td>
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<tr>
<td>Tulip</td>
<td>Capri, Monte Carlo</td>
<td>7 to 14</td>
<td>32 to 35</td>
<td>Flower color faded on Capri at high temperatures.</td>
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</tbody>
</table>

Maximum longevity of flowering potted bulbs at 70 F interior temperature following a minimum shipping time of three days at 42 F. Plants held at 50 to 100 foot-candles for 12 hours daily following shipping.

Bulbs sold as flowering potted plants are popular at Valentine’s Day and boost weekly floral sales in retail florists and supermarkets.

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By marketing potted flowering bulbs at the right stage of development and maintaining plants in cooler retail displays, you can improve quality and increase sales.
Throughout the spring season. They herald the beginning of spring in the Southern United States and offer a fragrant promise of spring to residents in the North who are still enduring winter chills.

Bulbous plants were sold in the past primarily as cut flowers or for garden plantings. Cut flower bulb sales still dominate European commercial sales. In the last 25 years, North American growers gained information, primarily through the Holland Bulb Forcers Guide, that permits successful potted bulb programming and forcing. Refining of bulbs’ cultural requirements is underway. Large quantities of potted bulbs are being sold through mass market outlets; over the past five to eight years this has stimulated the development of postproduction handling guidelines. These will enable growers and retailers to improve performance and extend longevity.

![Hyacinth stem topple can be avoided with applications of Ethephon.](image)

Cultural practices affect the longevity of most flowering plants, but production factors haven’t been shown to significantly affect flowering potted bulbs’ longevity. Quality in terms of aesthetic appearance is clearly related, however, to certain cultural practices. Application of Ethephon to hyacinths, for instance, reduces stem topple, a common disorder in this popular flower bulb.

Three factors—the cultivar, stage of floral development and storage and display temperatures—have the greatest influence on flowering potted bulb interior performance and longevity.

**Stage of development—a critical factor**

The stage of floral development at marketing time has a significant impact on flowering bulb longevity. Most bulbs should be sold before significant color is showing in the flower and prior to the first flower’s opening. Too often, flowering bulbs are sold when already fully open. While marketing at this stage enhances retail displays, it greatly compromises interior longevity.

Marketing flowering bulbs that are too open often results from improper timing, poor storage conditions or exposure to warm temperatures. Flowering bulbs can be stored for up to 14 days without affecting longevity, provided the temperature is accurately maintained at 33 F to 35 F for rooting room bulbs and no less than 50 F for amaryllis. Storing rooting room bulbs at warmer temperatures will hasten flowering and decrease longevity. Amaryllis, a tropical bulb, is more sensitive to cold and subject to chilling injury at temperatures below 50 F.

**Flowering bulbs require cooler display temperatures**

Temperature is the controlling factor in obtaining maximum shelf life for potted spring flowering bulbs. In our studies, Capri tulips lasted 18 days when displayed at 65 F and only eight days at 80 F. Similarly, hyacinths lasted approximately 13 days at 65 F and only five days at 80 F. Even greater reductions in longevity would have resulted if plants had been exposed to these evaluation temperatures with fully open flowers.

Display/consumer light levels between 50 and 100 foot-candles had little effect on these flowering potted bulbs’ longevity. Excessively low light levels, below 50 f.c., may result in excessive stem elongation and reduced longevity, however, especially at warmer temperatures.

**Three factors affect longevity—stage of development, the cultivar and temperature.**

**Marketing changes needed**

The importance of maintaining cool display temperatures poses a dilemma for the retailer. In most retail outlets, flowering bulbs are displayed together with potted chrysanthemums and other flowering plants with greater tolerance for warm interior temperatures and greater longevity under warmer conditions. It may be necessary for successful retailers to utilize refrigerated display coolers for flowering potted bulbs, just as for roses and other cold-requiring cut flower displays.

Retailers can also enhance flowering potted bulbs’ value by providing specific directions for maintenance in the home or office. Ideally, consumers should maintain potted bulbs at 68 F during the day and move the plants to a cool 55 to 60 F area in the evening to increase floral longevity.

Marketing bulbs at the proper stage of development and providing proper handling conditions can increase longevity to 14 days for most flowering potted bulbs, enhancing the appeal of these crops to consumers.

![Sell potted tulips (left) and potted hyacinths (right) in green-bud. The flowers will open in one to three days. Photo courtesy of International Bloembollencentrum, Hillegom, Holland.](image)