

Title Influence of frozen storage duration and forcing temperature on flowering of Oriental hybrid lilies.
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Citation HortScience Vol: 36 (2001); 1053-1056

Abstract

The effect of long-term storage of lily bulbs at -2 deg C (frozen storage) and of high forcing temperatures on plant height and floral abnormalities was investigated using Oriental hybrid lilies from 1998 to 2000. Cultivars Acapulco and Simplon bulbs were stored frozen at -2 deg C for various lengths of time, and were forced in fan- and pad-cooled greenhouses with temperatures ranging from 11 to 31 deg C, depending on the season. The same cultivars were also forced in greenhouses and maintained year-round under refrigerated air conditioning with day/night temperatures of 16/15.5 deg C or 18.5/18 deg C. Floral development immediately after storage and at different intervals thereafter was observed by scanning electron microscopy. The prolonged frozen storage reduced the number of flowers. High greenhouse forcing temperatures during summer significantly accelerated flowering, resulted in short plants and increased the number of abnormal flowers. Forcing at a low temperature (15.5 deg C) after planting the frozen stored bulbs resulted in longer cut stems than those forced at 25 deg C for 30 days after potting. Bulbs can be stored up to 9 months and still produce high-quality Oriental hybrid lilies.