

Special Research Report #401: Postproduction

Postproduction Evaluation of Rooting Room Bulbs

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BACKGROUND

The use of forced bulbs as indoor flowering potted plants has increased markedly over the past 20 years. Proper postproduction handling of these plants is imperative to maximize quality and longevity for the consumer. Our research identified the proper stages of development to market and optimum transport conditions for several species and cultivars of forced bulbs. Research was also conducted to determine optimal light and temperature conditions in the consumer environment to maximize postproduction quality and longevity.

MATERIALS AND METHODS

Bulbs were planted and forced in Raleigh, NC using the procedures described in the Holland Bulbs Forcer's Guide (De Hertogh, 1996). At marketable stage (see photo's), plants were sleeved, boxed and

shipped to Gainesville, FL at 37- 41°F (3 - 5°C). The shipping period was approximately 3 days. Plants were placed into simulated consumer conditions providing light levels of 50 or 100 ftc. and temperatures of 65, 70, and 75°F (18, 21, or 24°C).

RESULTS

The range in longevity at all the consumer conditions tested is reported and the optimal conditions are summarized.

Allium karataviense Marketable Stage



Umbel expands from sheath.

Transport Conditions
Ship at 35°F (2°C).

Consumer Conditions
65°F and 100 ftc.

Expected Longevity
11-16 days.

Crocuses Marketable Stage



“Sprout” stage of development.

Transport Conditions
Ship at 35°F (2°C).

Consumer Conditions
65°F and 100 ftc.

Expected Longevity
6-9 days

Daffodils (Narcissus) Marketable Stage



“Pencil” stage of development.

Transport Conditions
Ship at 33 to 35°F (0.5-2°C).

Consumer Conditions
65°F and 100 ftc.

Expected Longevity
7-18 days

Hyacinths

Marketable Stage



“Green bud” stage.

Transport Conditions

Ship at 33 to 35°F (0.5-2°C).

Consumer Conditions

65-70°F and 50 or 100 ftc.

Expected Longevity

7 to 17 days

Iris Species

Marketable Stage



“Sprout” stage of development.

Transport Conditions

Ship at 35°F (2°C).

Consumer Conditions

65°F and 50 or 100 ftc.

Expected Longevity

4 to 6 days

Leucojum aestivum

Marketable Stage



First floret shows color.

Transport Conditions

Ship at 35°F (2°C).

Consumer Conditions

65°F and 100 ftc.

Expected Longevity

13-20 days

Muscari (Grape Hyacinth)

Marketable Stage



First floret shows color.

Transport Conditions

Ship at 35°F (2°C).

Consumer Conditions

65°F and 50 or 100 ftc.

Expected Longevity

15-27 days

Scilla tubergeniana

Marketable Stage



First floret shows color.

Transport Conditions

Ship at 35°F (2°C).

Consumer Conditions

65°F and 100 ftc.

Expected Longevity

9 to 17 days

Tulips

Marketable Stage



“Green bud” stage.

Transport Conditions

Ship at 33 to 35°F (0.5-2°C).

Consumer Conditions

65°F and 100 ftc.

Expected Longevity

9 to 17 days

CONCLUSIONS

Rooting Room bulbs should be sold prior to flower opening. Temperature is the controlling factor in obtaining maximum shelf life under retail and consumer conditions. These bulbs need to be transported at cool temperatures (33-35°F). Longevity is maximized at consumer conditions maintained at 65°F and 100 ftc.

IMPACT TO INDUSTRY

The development of postproduction handling guidelines will enable growers, retailers, and consumers to improve performance and extend longevity.

For further information:

Refer to: A.A. De Hertogh, 1996. Holland Bulbs Forcer's Guide, 5th Edition.

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