

Special Research Report #440: Postproduction

Evaluating the Vase Life of New Cut Flowers - Year 2 (2007)

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BACKGROUND

Each year a large number of new cultivars and species are released by plant breeders, propagators, and suppliers. They are evaluated in the National Annual and Perennial Cut Flower Trial Programs, administered by the Association of Specialty Cut Flower Growers (ASCFG) and N. C. State University. These new cultivars are tested at approximately 40 locations in the United States and Canada, providing valuable information on yield, stem length, and market appeal. However, a new cut flower must also have a long postharvest life. This study screened 15 new cut flower species/cultivars to determine which ones have a long vase life.

MATERIALS AND METHODS

Field grown flowers were harvested at the optimum stage

of flower development and immediately placed into tap water. Subsequently, stems were sorted and placed in the following treatments:

- Hydrator only
- Holding preservative only
- Hydrator followed by holding preservative
- Distilled water only (control)

Floralife Hydraflor 100 (hydrator) was used at 8 mL/L and Floralife Professional (holding) was used at 10 mL/L. After treatment, stems were placed at $68 \pm 4^\circ\text{F}$ under approximately 200 ftc light for 12 hrs/day. Minimum vase life for each cultivar was recorded when the vase life of the first stem was terminated.

RESULTS

Dianthus 'Bouquet Rose'

Vase life was unaffected by hydrating and holding solutions and averaged 11 days. Minimum vase life was 9 days.

Dianthus 'Fandango

Crimson' Vase life was 9-10 days regardless of treatment. Minimum vase life was 3 days.

Heptacodium miconioides

Vase life was 11.5 days when placed in a holding preservative, regardless if the

hydrator was used. This species was brittle and shattered readily. Minimum vase life was 10 days.

Larkspur 'Cannes Chrystal Pink'

Vase life was 9 days for all treatments, except for hydrator only, which was 7 days. This species shattered readily. Minimum vase life was 4 days.

Larkspur 'Cannes Purple

Picotee' Vase life was 7-9 days regardless of treatment. This species readily shattered. Minimum vase life was 4 days.

Leycesteria formosa (Photo 1)

Vase life was 11-13 days regardless of treatment. Significant spider mite damage made it unclear whether vase life decline was due to the spider mites or natural decline. Minimum vase life was 9 days.

Photo 1. *Leycesteria* inflorescences are more visible when most of the foliage is removed.



Lisianthus ‘ABC 1-3 White’

Flowers lasted 9-10 days regardless of treatment. Minimum vase life was 5 days.

Lisianthus ‘ABC Lavender’

Vase life was 9-10 days regardless of treatment. As with many lavender-colored lisianthus, buds that opened after harvest tended to be white or pale colored. Minimum vase life was 2 days.

Lisianthus ‘Fioretti Green’

Flowers lasted 15-17 days regardless of treatment. One stem lasted 33 days! Minimum vase life was 5 days.

Lisianthus ‘Ruffle Blue’

Vase life was 11-12 days regardless of treatment. Minimum vase life was 4 days.

Lisianthus ‘Wonderous Purple’

Vase life was longest, 16.5 days, when a holding preservative was *not* used. Holding solutions reduced vase life to 14 days. Minimum vase life was 7 days.

Pepper ‘Cappa Topfruit White/Red’

A vase life of 18 days occurred when a holding solution was used. Other treatments reduced vase life to 14 days. Growers should remove as much foliage as possible. Minimum vase life was 4 days.

Snapdragon ‘Chantilly Orange’

(Photo 2) A vase life of 7.5 days occurred using a holding preservative, regardless of hydrator use. Vase life dropped to 4-5 days

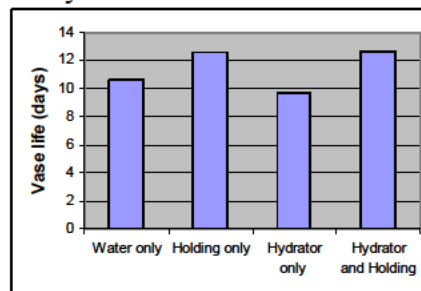
without a holding solution. This species wilted readily. Minimum vase life was 3 days.

Photo 2. Open faced snapdragons ‘Chantilly Orange’.



Sunflower ‘Orange Glory’ A vase life of 12.5 days was obtained with a holding solution (Fig. 1). Minimum vase life was 7 days.

Fig. 1. Sunflower ‘Orange Glory’



Sunflower ‘Tosca’ A vase life of 11-12 days occurred using a holding solution, regardless of hydrator use. Minimum vase life was 5 days.

CONCLUSIONS

Only a few species/cultivars from the 2007 trial year had a vase life over 14 days, which is optimum for marketing and consumer enjoyment. They included: Lisianthus ‘Fioretti Green’, Lisianthus ‘Wonderous Purple’, and Pepper ‘Cappa Topfruit White/Red’. All but three of the other species had a vase life of 10 days or more which is the minimum for wholesale production and handling.

IMPACT TO THE INDUSTRY

Cut flower growers, wholesalers, retailers, and consumers need to know the vase life of new cut flowers as they are made available in the marketplace. This research provides the basic postharvest information on 15 new cut flowers.

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