

Special Research Report #441: Postproduction

Evaluating the Vase Life of New Cut Flowers - Year 3 (2008)

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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 16 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

Eucomis 'Sparkling

Burgundy' leaves (Photo 1) All treatments had a vase life of at least 35 days. The study was terminated at that time.

Photo 1. *Eucomis* 'Sparkling Burgundy' leaves can be used as cut foliage.



Geranium 'Citrus Spice'

(Photo 2) Vase life was 17-23 days and unaffected by hydrating and holding solutions. Minimum vase life was 8 days.

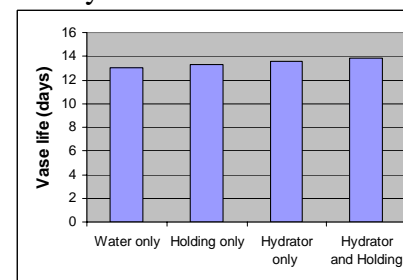
Photo 2. *Geranium* 'Citrus Spice' can be used for fragrant cut foliage.



Lisianthus 'Advantage

Cherry Sorbet' Vase life was 13-14 days regardless of treatment (Fig. 1). Minimum vase life was 8 days.

Fig. 1. *Lisianthus* 'Advantage Cherry Sorbet'



Lisianthus 'Arena White'

Vase life was 15-16 days regardless of treatment.

Minimum vase life was 11 days.

Lisianthus ‘Cadence Yellow’

Vase life was unaffected by hydrating and holding solutions and ranged from 13 to 15 days. Minimum vase life was 10 days.

Lisianthus ‘Twinkle Pink Improved’

Vase life was 10-12 days regardless of treatment. Minimum vase life was 7 days.

Lisianthus ‘Vulcan Yellow’

A vase life of 16-17 days occurred when a holding solution was *not* used. Vase life decreased to 14-15 days when a preservative was used. Minimum vase life was 7 days.

Snapdragon ‘Calima Deep Rose’

Flowers lasted 8 days when a preservative was used, regardless of hydrator use. Minimum vase life was 4 days.

Sunflower #565 (Photo 2)

Vase life was 10-11 days regardless of treatment. Minimum vase life was 8 days.

Photo 2. Sunflower #565.



Sunflower ‘Arbel’ Flowers lasted 12 days when a holding solution was used without a hydrator.

Minimum vase life was 7 days.

Sunflower ‘Carmel’ Vase life was 14-15 days regardless of treatment. Minimum vase life was 9 days.

Sunflower ‘Galilee Adami’

Vase life was longest, 12 days, when a holding preservative was used without a hydrator. Overall, holding solutions extended vase life while hydrating solutions shortened vase life. Minimum vase life was 3 days.

Sunflower ‘Sun4U Bicolor’

Vase life was unaffected by hydrating and holding solutions and ranged from 10 to 11 days. Minimum vase life was 7 days.

Sunflower ‘Sun4U Lemon Yellow’

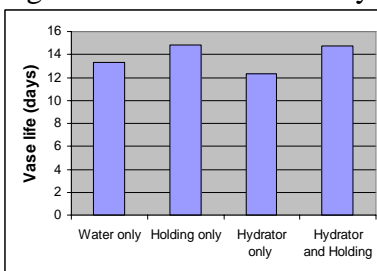
A vase life of 12.5 days occurred when a holding preservative was used, regardless of hydrator use. Minimum vase life was 7 days.

Sunflower ‘Sun4U Orange’

Vase life was 11-12 days regardless of treatment. Minimum vase life was 8 days.

Sunflower ‘Tavor Joy’ A vase life of 15 days occurred when a holding solution was used, regardless of hydrator use (Fig. 2). Minimum vase life was 9 days.

Fig. 2. Sunflower ‘Tavor Joy’



CONCLUSIONS

Many species/cultivars had a vase life over 14 days, which is optimum for marketing and consumer enjoyment. They included Eucomis ‘Sparkling Burgundy’ leaves, Geranium ‘Citrus Spice’, Lisianthus ‘Arena White’, Lisianthus ‘Cadence Yellow’, Lisianthus ‘Vulcan Yellow’, Sunflower ‘Carmel’ and Sunflower ‘Tavor Joy’. All but one 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 16 new cut flowers.

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