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Evaluating the Vase Life of New Cut Flowers - Year 1 (2006)

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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 14 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±4°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

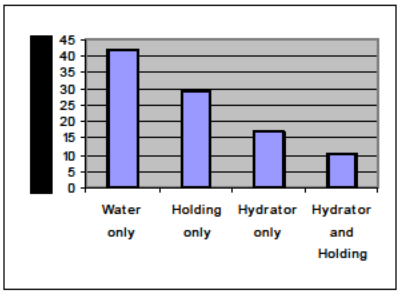
***Cleome* 'Sparkler Lavender'** Vase life averaged 5-6 days regardless of treatment. Flowers tended to shatter quickly. Minimum vase life was 1 day.

***Cleome* 'Sparkler White'** Vase life was 8-9 days regardless of treatment. Flowers tended to shatter quickly. Minimum vase life was 5 days.

***Echinacea* 'Comet'** Vase life was 18-21 days when only a holding preservative was used. Other treatments lasted 16-17 days. Minimum vase life was 8 days.

***Eucomis* 'Sparkling Burgundy'** When placed only in water, these striking, large flowers lasted for an incredible 42 days (Fig. 1). When a preservative was used, vase life decreased to 29 days. Minimum vase life was 6 days.

Fig. 1. *Eucomis* 'Sparkling Burgundy'



Hydrangea 'Limelight' This 2006 ASCFG Fresh Cut Flower of the Year can be harvested at three different stages: (1) When the youngest florets are still green in the center of the head, (2) When all florets are mature and bright white, and (3) When all florets are well past mature and are tinged with pink and/or green. Vase life averaged 11 days, when harvested at the youngest stage, regardless of treatment. Minimum vase life was 6 days.

Lisianthus 'ABC Lavender' A vase life of 12 days occurred when stems were treated with holding solutions. Hydrating solutions reduced vase life to 9-10 days. Minimum vase life was 5 days.

Lisianthus 'ABC White' Flowers last 14-16 days regardless of treatment. Minimum vase life was 7 days.

***Lobelia* 'Compliment Mix'** A vase life of 11 days was obtained with a holding solution. Hydrating solution had no effect. Minimum vase life was 7 days.

Pepper 'On Top Round Red' A vase life of 16 days was obtained when held in either water or a preservative. Hydrating solution reduced vase life to 14-15 days. Foliage should be stripped. Minimum vase life was 10 days.

Photo 1. Fruit of 'On the Top Round Red' are black until late in the season when they turn red.

***Physocarpus opulifolius* 'Diabolo'** (Photo 2) Stems of this plant were used for the bronze foliage. All treatments produced a vase life of 18-22 days. Minimum vase life was 12 days.

Photo 2. The bronzy foliage of 'Diabolo' makes a great cut with or without the fruit clusters.

Rose Kolster cultivars The large red rose hips were tested for vase life. Treatments had no effect and stems lasted 24-26 days. Minimum vase life was 16 days.

Sunflower 'Premium Lemon' A vase life of 10 days occurred when a combination of hydrating and holding solutions were used. Minimum vase life was 6 days.

Sunflower 'Solara' A vase life of 12 days was obtained when a combination of hydrating and holding solutions were used. Minimum vase life was 7 days.

Sunflower 'Sunrich Orange' As with the other two sunflower cultivars, the longest vase life, 10 days, occurred when a combination of hydrating and holding solutions were used. Minimum vase life was 7 days.

CONCLUSIONS

Several species/cultivars had a vase life over 14 days, which is optimum for marketing and consumer enjoyment. They included: *Echinacea* 'Comet', *Eucomis* 'Sparkling Burgundy', Lisianthus 'ABC White', Pepper 'On Top Round Red', *Physocarpus opulifolius* 'Diabolo', and Rose Kolster cultivars. Many other species had a vase life of 10 days or more which is the minimum for retail 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 14 new cut flowers.

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