

Special Research Report #419: Postproduction

Evaluating the Vase Life of New Cut Flowers - Year 1 (2002)

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BACKGROUND

Each year a large number of new cultivars and species made available from plant breeders, propagators, and suppliers are evaluated in the National Annual and Perennial Cut Flower Trial Programs, administered by N. C. State University and the Association of Specialty Cut Flower Growers (ASCFG). 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 22 new cut flower species/cultivars to determine which ones have a long postharvest life.

MATERIALS AND METHODS

Field grown flowers were harvested at the optimum stage

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

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

Chrysal Professional RVB Hydrating Solution (hydrator) was used at the 0.2% rate and Chrysal Professional #2 Processing Solution (holding) was used at the 1% rate. After treatment, stems were placed at 68±4°F under approximately 200 ftc light for 12 hrs/day.

RESULTS

Achillea 'Cassis' This flower should be placed directly into clean, high quality water to obtain a 12 day vase life. Hydrating and holding solutions decreased vase life.

Celosia 'Toreador Red' An amazingly long lasting flower. A vase life of 33 days was obtained by using a holding solution. Hydrating solution had no effect.

Dianthus 'Amazon Neon' (Photo 1) This brilliantly-colored flower had a vase life of 15 days when a

holding solution was used. Hydrating solution had no effect.

Photo 1. Dianthus 'Amazon Neon'.



Dianthus 'Bouquet Purple'

Another of the new heat tolerant dianthus which had a vase life of 18-19 days when placed in a holding solution. Hydrating solution had no effect.

Dahlia 'Naomi' Vase life averaged 5-6 days regardless of treatment.

Dahlia 'Thalia' Vase life averaged 5-6 days regardless of treatment.

Eupatorium cannabinum Flowers last 20-24 days regardless of treatment.

Eustoma 'Alice Pink' A vase life of 17-21 days was obtained with a holding solution. Hydrating solution had no effect.

Eustoma 'Malibu Purple' A vase life of 12 days was obtained with a holding solution. Hydrating solution had no effect.

Gladiolus callianthus (Acidanthera) This species, which is related to the common gladiolus, had a 10 day vase life when a holding solution was used. Hydrating solution had no effect.

Helenium 'Helena Gold' This daisy-like flower lasted 16 days in water only. It was able tolerate the use of either a holding or a hydrating solution, but not the use of hydrating plus holding solutions which reduced vase life.

Helenium 'Helena Red Shades' Same results as 'Helena Gold'.

Leucanthemum 'Polaris' This classic daisy lasted 12.5 days with a holding solution. Hydrating solution had no effect.

Physostegia 'Summer Spires' A vase life of 15 days was obtained with a holding solution. Hydrating solution had no effect.

Scabiosa 'QIS Deep Red' A holding solution had a slight effect and increased vase life only by one day compared to water only, which was 7 days.

Sunflower 'Lemon Éclair' Vase life averaged 8 days regardless of treatment.

Sunflower 'Stella Gold' A holding solution increased the vase life by only one day compared to water only, which was 7 days.

Trachelium 'Summer Purple' A vase life of 13 days was obtained using a holding solution. Hydrating solution had no effect.

Trachelium 'Summer White' A vase life of 12.5 days was obtained using a holding solution. Hydrating solution had no effect.

Zinnia 'Benary's Giant Lime' This flower should be placed directly into clean, high quality water to obtain a 23.5 day vase life. Hydrating and holding solutions decreased vase life; when both were used together the vase life was only 1.3 days.

Zinnia 'Sun Cherry' This flower should be placed directly into clean, high quality water to obtain a 12 day vase life. Holding solution decreased vase life.

Zinnia 'Sun Gold' This flower which was best handled by placing directly into clean, high quality water to obtain a 11 day vase life (Fig. 1). Hydrating and holding solutions decreased vase life.

CONCLUSIONS

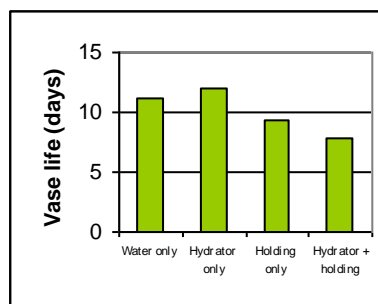
Several species/cultivars had a vase life over 14 days, which is optimum for marketing and consumer enjoyment, including: celosia 'Toreador Red', dianthus 'Amazon Neon' (Photo 1), dianthus 'Bouquet Purple', *Eupatorium cannabinum*, eustoma 'Alice Pink', and physostegia 'Summer Spires'. Many other species had a vase life of 10 days or more which is the minimum for wholesale production and handling.

IMPACT TO THE INDUSTRY

Cut flower producers, 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 industry with basic postharvest information on 22 new cut flowers.

For Additional Information
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Fig. 1. Zinnia 'Sun Gold'



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