

Special Research Report #411: Postproduction

The Three C's of Success with Fresh Cut Flowers (3) – “Care”

T.A. Nell, Professor and Chairman, University of Florida, Gainesville, 32611

M.S. Reid, Professor, University of California, Davis, 95616



FUNDING INDUSTRY SOLUTIONS
TODAY & TOMORROW

Phone: 618/692-0045

Fax: 618/692-4045

E-mail: afe@endowment.org

Website: www.endowment.org

BACKGROUND

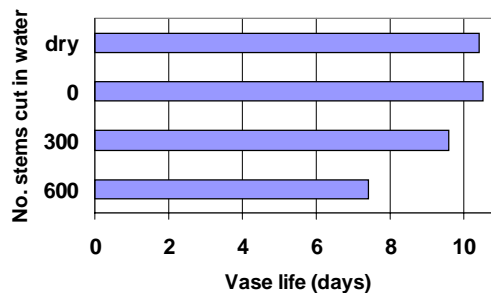
The concept of fresh cut flower care appears simple, i.e., care for your flowers and they will perform well for customers. But floral care is not that easy to quantify. Hidden pitfalls and misinformation can result in poor quality flowers. Thus, every florist should know how to provide the necessary care that results in beautiful, long-lasting cut flowers.

CARE UPON ARRIVAL

Flowers should be processed immediately upon arrival at the shop. If flowers must be stored before processing begins. Handle the boxes with care and store for only a short period at the proper temperature. (See Special Research Report #409). For every day of storage, valuable vase life and quality is lost. Never toss boxes and always stack them neatly in the coolers.

To process flowers, cut off the lowest 1 to 2 inches of the stem. This portion of the stem is likely to be clogged with debris, microorganisms or air bubbles. It is okay to cut stems in air, but cutting underwater can increase initial hydration. You must, however, be certain to use **clean water!** Re-used water contains dirt, sap, and microorganisms that can get taken up by the stems and block water uptake. This greatly negates the positive effect of underwater cutting and can result in flowers that die prematurely.

Fig. 1. Vase life of cut roses when cut dry or cut in clean (0) versus dirty (300 or 600 times) water.



REHYDRATION

In most cases, flowers need to be hydrated upon arrival. Many commercial hydration solutions are available. Be certain to follow mixing directions and maintain the

flowers in the solution for the recommended time.

Many florists believe that warmer air helps flowers absorb water more quickly and, thus, place flowers outside the cooler after processing. In reality, flowers should be rehydrated in the cooler. Flowers rapidly absorb water in a cooler and, in addition, they lose less water to transpiration. The result is a quicker net gain of water for flowers hydrated in the cooler.

Some florists burn, boil, or smash stems in the belief that this assists rehydration. In reality, none of these practices work. Although hot, even boiling water can increase initial water uptake, research shows that it has no significant effect on vase life.

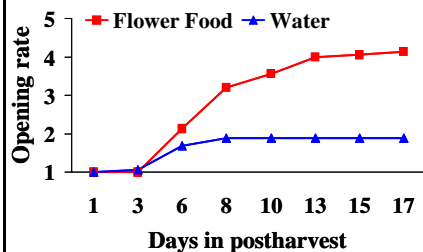
Furthermore, hot water kills stem tissue, providing a source for microbial organisms. Thus, what is the bottom line? For best results, use a cool rehydration solution and place the flowers in the cooler.

FLOWER FOOD

After flowers are cut and rehydrated, they should be placed in flower food until sold. Flowers placed in

flower foods open better and last longer than those stored in plain water. An injection system should be used to properly mix the flower food.

Fig. 2. Flower opening of the cut rose 'Valentino' is in floral food as compared to water.



Maintaining flowers in flower food is one of the most important steps for a florist. It maximizes quality and longevity.



Water Flower Food

ETHYLENE

Ethylene is a colorless, odorless gas that can negatively affect fresh cut flowers. Wilted petals, dropped buds and yellowing leaves are symptoms of ethylene damage.

Some sources of ethylene are: dead and decaying flowers, vehicle exhaust, and ripening

fruit. To prevent ethylene damage, idling delivery trucks must not be near open doors. Also, keep all areas free of dead flower parts and keep fruit out of coolers and away from flowers. All ethylene sensitive flowers should be treated with anti-ethylene materials, preferably, by the grower or wholesaler.

Ethylene causes premature flower death in delphiniums and other sensitive species.



Ethylene No ethylene

KEEP IT CLEAN AND COOL

Cleanliness and temperature are important aspects of floral care. Reduce stem blockage and microbial infection by keeping all buckets, tools, cutting tanks, and coolers clean. Also, always monitor cooler temperatures. All, but tropical flowers, should be stored between 33° and 35° F. High temperatures will decrease vase life and reduce quality. Storage time should be kept to a minimum.

CONCLUSIONS

Proper care will maximize fresh cut flower quality and longevity.

Care Guidelines Are:

- * Process upon arrival
- * Re-cut stems and hydration
- * Maintain proper cooler temperatures
- * Use flower food
- * Keep away from ethylene
- * Maintain clean and sterile conditions
- * Keep storage time short

IMPACT TO THE INDUSTRY

Proper floral care takes time and dedication. However, in the end, well cared for flowers produce satisfied consumers.

For Additional Information Contact:

tnell@mail.ifas.ufl.edu
msreid@ucdavis.edu

2004 January © Copyright
 The American Floral
 Endowment. All Rights
 Reserved.