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**Flower School:**

This is the third in a five-part series on extending flower life and maintaining flower quality.

## PROPER FLOWER CARE FROM BEGINNING TO END

> How flowers are handled as they move from farm to consumer largely determines whether your customers get a good return on their investment in fresh flowers. Flower care protocols assure water absorption, which is necessary for both bud opening and flower longevity.

### Get Everything Ready

Clean and sanitize buckets and clippers. Fill buckets with 4 to 5 inches of the proper solution (more about this soon). Some companies perform this step the night before processing and place prepared buckets in the cooler overnight. Although warm water has been recommended in the past, recent research has shown that cold water is best for water absorption when using commercial hydration and flower foods. The primary exceptions are (1) if you want flowers to open rapidly and (2) you are working with woody stems, which hydrate best in warm water.

### Inspect Flowers

Inspect for insects and diseases on flowers, leaves and foliage. Generally, if insects are present, they will be on the underside of leaves or on the petals. Diseases most often appear on the petals or leaves as a discoloration or blackening that will generally become worse after processing. In severe cases, some diseases will exhibit white blemishes. If you see this, you should report the problem

to your supplier immediately because the damage will likely reduce the vase life or result in flowers that are not marketable. Also, look for leaves that are yellow or beginning to yellow. Color will not be restored to yellow leaves once processed.

### Hydration and Food

Flowers lose 4 to 8 percent or more of the water in the stem, leaves and petals as they are transported from farms to their final destination. Since water is critical to flower life and opening, the lost water must be restored.

Commercial hydration solutions and flower foods are designed to extend flower longevity and to promote flower opening. And they work! So, what is the difference in these solutions and when should they be used?

Hydration solutions and flower foods contain many of the same ingredients (possibly at different ratios and concentrations). The difference is that flower foods contain sugar and hydration solutions do not. Hydration solutions are used generally by wholesale florists to provide quick absorption of water. Once hydrated for two to four hours (according to label directions), flowers can be moved to a solution with flower food to provide energy needed to move water up the stem and to expand petals as the flower opens.

Each solution lowers the water pH, which reduces growth of microbes that may block the flow of water up the stem.

The pH of the final solution should be 3.5 to 5. Suppliers of hydration and flower foods can analyze your water and assist in getting the optimum pH.

Some consider these professional products to be too expensive, despite the fact that the price breaks down to less than a penny per stem. We do not hesitate to spend a dollar or more to buy a soda or bottled water to quench our thirst. Shouldn't the costs to rehydrate flowers be equally important?

Finally, remove the leaves that will be below the solution when cut and remove 1 to 1.5 inches from the stems with a sharp, clean knife or cutter, unless you are using one of the newest hydration and flower food solutions, which do not require stem cutting.

### Keep Flowers Cold

Cold temperatures reduce respiration (use of stored sugars), minimize the sensitivity of flowers to ethylene and lower the internal production of ethylene. Storing flowers in a cooler maintained at 34 to 36 F will extend flower life. Once flowers have been placed in a properly mixed solution, move them to the cooler, unless flowers need to be opened promptly.

**Terril A. Nell, Ph.D., AAF**, is professor emeritus at the University of Florida, a consultant to the floral industry and the research coordinator for the American Floral Endowment. [terrinell@gmail.com](mailto:terrinell@gmail.com).