



Department of Horticulture

Purdue University Cooperative Extension Service • West Lafayette, IN

Add Hours to Your Flowers

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The addition of cut flowers is an excellent way to bring color into your home any time of the year. Whether the blooms have come from the florist or from your own garden, you will want them to remain attractive for as long as possible.

All flowers have three important characteristics that determine how long they will remain attractive and useful. Certain methods and practices optimize these three characteristics; they are described in this bulletin. Attending to these methods should significantly extend the useful life of your cut flowers.

The first important characteristic of a healthy flower is abundant internal water, or high water content. Cut flowers take up large amounts of water from the vase (see procedures 1 through 5 and 7). The loss of water through the leaves, stem, and flower parts must be kept to a minimum (see procedures 6, 8, and 9).

Secondly, because a flower is a living organism even after it is cut, its need for food to carry on life processes is a critical characteristic (see procedures 1 through 5 and 7). Conversely, some metabolic activities of a cut flower are degenerative, so slowing down those processes will extend flower life (see procedures 8 and 9).

Finally, flowers are sensitive to toxic substances, so it is advisable to avoid both gaseous pollutants in the air and toxic materials in the water (see procedures 5 and 10).

Ten Procedures for Longer Lasting Flowers

1. **Re-cut the flower stems using a sharp knife or shears.** Remove at least one-half inch of stem to expose a fresh surface. Stems, especially rose stems, should be re-cut under water. A freshly cut stem absorbs water freely, so it is important to cut at a slant to avoid crushing the stem and to prevent a flat-cut end from resting on the bottom of the vase. The slant cut facilitates stem insertion into florists' foam. Place all re-cut flowers in water immediately.
2. **Use special methods to treat cut stems in special cases.** A milky fluid flows from the stems of some flowers such as poinsettia, heliotrope, hollyhock, euphorbia, and poppy. This fluid plugs the water conducting tubes of the stem. However, this problem can be avoided by placing about 1/2 inch of the stem in boiling water for 30 seconds, or by charring the end of the stem in a flame. Protect the flower tops from the heat by wrapping them with paper while you char or immerse the stems.
3. **Remove excess foliage.** Excess foliage exposed to the air increases water loss. Submerged leaves decay and hasten the decline of cut flowers by encouraging microbial growth.
4. **Use warm, uncontaminated water.** Place stems in 100-110°F (38-40°C) water, because warm water moves into the stem more quickly and easily than cold water. Allow flowers to stand in tepid water for at least 20 minutes prior to arranging. Contaminated water, or water that is high in fluorides or salts, hastens the death of cut flowers. If this is the situation, the use of a water filter or distilled water should be considered.
5. **Use a flower preservative in the water.** Besides providing food, preservatives inhibit bacteria and fungi. They promote water and nutrient uptake. When the solution begins to get cloudy, which indicates the presence of microorganisms, it is time to provide fresh solution.

Preservatives are available as preformulated powders, or they can be mixed from common household ingredients. Many "home remedies" such as aspirin or copper pennies in the vase water do not prolong the life of cut flowers. However, you can make your own floral preservative solution with one of the following recipes.

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- 2 cups lemon-lime carbonated beverage
 - 2 cups water
 - 1/2 teaspoon household chlorine bleach
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- 2 tablespoons fresh lemon juice
 - 1 tablespoon sugar
 - 1/2 teaspoon household chlorine bleach, mixed with 1 quart water
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- 2 tablespoons white vinegar
 - 2 tablespoons sugar
 - 1/2 teaspoon household chlorine bleach, mixed with 1 quart water
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6. **Wrap the flowers until they are crisp.** After the flowers have been placed in warm water, wrap a piece of paper or plastic around them. This cover prevents the rapid air movement over the flowers and reduces water loss. Then, after the flowers become crisp (in about 2 hours), you may arrange them. They will continue to take up water. If the flowers wilt, repeat treatments 1 through 6.
7. **Wash the container with soap and water.** To remove bacteria, wash containers after each use. Bacteria can multiply and clog the water conducting tubes of the flower stems; this will cause wilting.

8. **Avoid excessive heat or moving air.** Do not place flowers in direct sunlight, over a radiator, or on a television set. Heat reduces flower life since flower aging occurs more rapidly in high temperature conditions. It is important to avoid all drafty locations because warm or moving air removes water from flowers faster than it can be absorbed through the stems.
9. **Keep flowers cold when not in use.** It is possible to double the life of your flowers by placing them in a cold room or in the refrigerator at night, or when not in use. Any temperature below normal room temperature, but above 35° F, will prolong flower life. However, orchids should not be subjected to temperatures below 50°F.
10. **Do not mix fresh flowers with old or damaged flowers or with fruits or vegetables.** This rule applies whether the flowers are in the refrigerator or in an arrangement. Damaged, aging flowers and many fresh fruits and vegetables produce ethylene gas that shortens fresh flower life. Carnations will close, and snapdragons will drop florets prematurely when exposed to ethylene.

For more information on the subject discussed in this publication, consult your local office of the Purdue University Cooperative Extension Service.
