Many people enjoy cutting plants from their garden to use in bouquets and floral arrangements. To get the most out of your cut plant material and make it last for the longest possible time, condition it properly using a few tried and true techniques.

Conditioning plant material simply means making sure it is as full of water as possible. Conditioning methods vary with different plants types. The guidelines that follow will help you get the most out of your plants.

**Cutting:** Choose flowers that are not quite fully developed as they will continue to mature after they are cut. When to cut sometimes depends on the season or time of day. Generally speaking, cut when plants are already as full of water as possible. For many southern gardeners, especially in the summer, this means in early morning when dew still dampens the leaves. For others it means late afternoon or early evening after the plants have spent the day making food. Always water plants well a few hours before cutting to increase turgidity.

We have all seen pictures of people with fancy baskets in the garden cutting flowers and laying them in the basket. A better idea, for the flowers, at least, is to take a bucket of water into the garden when cutting flowers. Place the cut stem immediately in water. A stem out of water forms an air lock that prevents the uptake of water and significantly shortens its life.

Cut each stem at an angle with a sharp implement and remove any leaves that will be under water. Recut the stems under water at a sharp angle to expose more surface area. Cutting under water prevents the formation of an air bubble that inhibits the uptake of water. Place the newly cut stems in tepid water and let them stay for two or three hours or overnight.

Generally speaking, the conditioning bucket should be about a quarter full of warm water to which a floral preservative has been added. Warm water is taken up by the stem more quickly than cold water. Throughout the process, all tools, including the conditioning bucket, should be kept clean and as free of bacteria as possible.

Floral preservative extends the life of most cut flowers by giving them a source of food and inhibiting the growth of bacteria. While commercial products work well, it is easy to make your own. Simply add a tablespoon of vinegar, a teaspoon of sugar, and three to five drops of household bleach to a quart of water. **NOTE: Per tests at UNCG, the best home floral preservative is a 50/50 solution of 7Up & water. While the vinegar/sugar/bleach solution worked for some flowers it actually shortened the life of others. More below.**

What are some conditioning techniques for different types of plants?

**Woody stems,** such as azalea, rose, pittosporum, lilac, viburnum, eucalyptus, and podocarpus, should be cut at a sharp angle and then split up from the bottom about half an inch. Never hammer or crush the stem as this damages the stem tissue and inhibits uptake of water. **Hellebore flowers benefit from this treatment also.**
Semi-woody stems such as chrysanthemum, lily, zinnia, and ferns, should be cut at a sharp angle and lower foliage that would be under water removed immediately. Leaves left under water begin to deteriorate quickly and cause a buildup of bacteria that can clog the cut stem. Furthermore, they will make the water cloudy and fetid if left for an extended time.

Soft stems of gerbera, freesia, and tulip should be conditioned with water up to their necks. They will be ready for arranging after an overnight drink.

Hollow stems on such flowers as amaryllis, delphinium, and lupine should be cut at an angle, turned upside down, and filled with tepid water. Plug the stem with cotton wool to hold the water inside the stem before placing it in the conditioning bucket. To keep the end of the stem from curling, put a rubber band around it or encircle it three or four times with floral tape.

Plants that exude a milky substance when cut, such as poppy, euphorbia, and poinsettia require special treatment. Stems of these plants should be burnt in a flame to seal the stem before conditioning. This milky sap can cloud the water and clog stems of other flowers in your design. In addition, it may irritate your skin. This sealing process should be done each time a stem is cut. The nature of this type of stem makes it unsuitable for use with sharp needle type holders.

Notes for certain plants:

Caladium: Cut stems as long as possible and place in water. Stems will wilt for the first day, but they will perk up thereafter. Do not refrigerate. Leaves will last for about two weeks, but the color will fade over time.

Hydrangea: Cut when flowers are fully mature and turning a bit papery as very young flowers do not condition well. Hydrangea benefits from a boiling water treatment. Pour boiling water in a jar and place the stem ends in the boiling water for a minute or so. Remove the stems, recut, and place them in the conditioning bucket up to their necks or immerse them completely overnight. If blooms still wilt, dip the end in alum powder and return to the conditioning water. An easier method: Completely immerse fresh cut hydrangeas in a sink of tepid water for 30 minutes. Then recut stems and place in a full vase of very warm tap water with floral preservative.

Foliage: Single leaves, palm fronds, or branches of foliage with thick substance and a waxy surface such as camellia, and evergreen
branches such as juniper can be completely immersed in water for conditioning. However, gray or wooly foliage (eg., lambs ear) should never be immersed as the leaves absorb water and spoil the color. Very new growth should be avoided as it does not condition well.

Carnations: Cut between nodes or joints. Water will not be taken up if cut on the joint.

Tulips and gerberas: Wrap in newspaper for conditioning. Flowers continue to grow when cut and will become crooked if not forced to keep straight. They also turn toward a light source. This tendency has spoiled many a perfect design, so take this into consideration when choosing tulips and gerberas for a design.

Lilies: Remove stamens to prevent pollen from staining clothing, flower petals, and tablecloths.

Peonies: Cut blooms when they reach the stage of a big soft, fully colored bud. Tight buds will not open, and blooms that are fully opened do not last long. Cut stems in early morning, and wrap stems leaves and buds in several layers of newspaper and lay in the refrigerator for at least 6 hours before arranging. Peonies can be stored in the refrigerator in this soft bud stage up to a couple of weeks; add plastic around the newspaper.

Zinnias: Unlike most flowers, zinnias should be cut when the bloom is fully open; they do not continue to open afterwards. They will last 10 days in a vase as long as the water is kept clean. Floral preservative may extend this a couple of days. Plunge fresh stems immediately into cold water, but do not chill the blooms. Chilling the blooms or using floral foam will shorten their life.

Bulbous stems: Most flowers of these plants, like daffodils, tulips, and hyacinths are pulled from the plant instead of cut. This method of pulling yields a stem that is white and firm and does not allow the optimum uptake of water. Cut off the white part of the stem before placing in warm or cool water. Warm water will make the flowers open more quickly.

When all else fails: If flowers wilt even after conditioning, recut their stems and place in boiling or near-boiling water for a minute or so to destroy the airlock that prevented the uptake of water. Wrap the flowerheads in paper to protect them from the hot water. After the flowers revive, recut the stem and place them in your arrangement.

About Marie Harrison

Serving as a board member for Valparaiso Garden Club, the Florida Federation of Garden Clubs and the Deep South Region, and National Garden Clubs takes a chunk of my time and attention. Being a Master Flower Show Judge, a Floral Design Instructor, instructor of horticulture for National Garden Clubs, and a University of Florida Master Gardener crowds a bit more into my busy days. In addition to these activities, I contribute regularly to Florida Gardening magazine and other publications. I am author of four gardening books, all published by Pineapple Press, Sarasota, Florida. Read about them and visit me at www.mariesgarden.com.
More Tips from
NC Cooperative Extension’s Cut Flower Workshop

Several years ago I attended an all-day, cut flower workshop hosted by Debbie Roos, Agricultural Extension Agent, for Chatham County NC commercial growers. Here are a few helpful tips from NC State University’s cut flower research regarding how growers extend vase life. I found these post-harvest handling tips particularly valuable to me as a home gardener.

(1) Cleanliness is very important for extending the vase life of cut flowers. Why? Bacteria can inhibit water flow into cut stems and shorten their life. When harvesting flowers work with sterilized containers, knives, clippers, scissors, work surfaces. A 10% bleach solution works well for cleaning. Your hands should be clean too, or wear rubber gloves. If your flower water is not clean enough to drink, it is not clean enough!

(2) Bring water to the garden with you so flower stems can be immediately immersed. Mix floral preservative (or 7Up) with HOT water and let it cool to room temperature or slightly warmer. (Hot water has less air to plug the stems from taking up water. Warm water is more easily absorbed by flower stems.)

(3) Cut flowers in early morning or late evening to minimize wilting.

(4) Many flowers benefit from being stored in a cool place (about 35 degrees) for several hours immediately after cutting to slow their growth metabolism and extend vase life. For zinnias and sunflowers, plunge stems immediately in cold water but do NOT store in cool air.

(5) After bringing flowers in and cooling them, re-cut the stems before arranging them in a vase. Use sharp clippers that will not crush the stems.

(6) NC State did a research study comparing preservatives for extending the vase life of cut flowers. They compared:

- 7-up + water (50/50 ratio)
- 7-up + water + bleach
- vinegar + aspirin + sugar
- vinegar + bleach + sugar
- lemon juice + bleach + sugar
- Floralife
- Poikon & Crystal
- Tap water

7-up + water was the clear winner overall, particularly for bulbs such as gladiolas and lilies where general purpose foods caused more yellowing than plain water. Anything combination with bleach shortened vase life. Floralife Bulb Food and Crystal Clear for Bulb Flowers received good ratings (for bulbs only). Pokon & Crystal rated #1 for roses.

(7) Fresh fruits and vegetables give off ethylene gasses that can also “ripen” your flowers. Your cut flower arrangements will last longer in the house of you store those fresh tomatoes, bananas, etc in a box in a separate room.

Happy Gardening!
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