de-myth-tifying cut flower care

Forget the fairy tales! Handling cut flowers demands attention to details rooted in scientific research.

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IN DAYS OF OLD, SEAFARERS WERE WARNED of unimaginable evil lurking beyond the limits of the known world by marking charts: “Beyond this place, there will be dragons.”

Navigating the sea of information about processing fresh cut flowers can arouse equal amounts of dread as you cast off from trusted methods to embrace advice that’s based on scientific study. Discover if your practices adhere to modern truth or dabble in horticultural hocus-pocus as we de-myth-tify cut flower care.

vase solutions

Myth: Homemade flower foods—such as mixtures made with water and aspirin, gin or vodka, 7 UP, pennies, and/or bleach—keep cut flowers fresh.

Truth: While the logic behind a custom-blended floral cocktail holds some water, the science doesn’t back it up. For instance, the theory is that a penny tossed into water supplies copper to the vase solution, providing a heavy metal that increases vase life and acts as a fungicide. There’s just one problem with that theory: The copper in pennies isn’t soluble!

In addition, alcohol as a bactericide is expensive and poorly effective. Bleach is cheaper and more effective at controlling bacteria in vase water, but if improperly handled, free chlorine in the bleach will damage flowers.

There have also been reports that the active chemical in Viagra® (sildenafil citrate) increases flower life. There hasn’t been enough research to prove those claims valid, but the availability of the drug (by prescription only) limits its use with flowers.

The truth is that “homemade brews” don’t make flowers last longer. Commercial cut flower foods work best at controlling microbial populations, hydrating stems, and feeding flowers. Fresh flower foods provide the balance of nutrients needed by fresh flowers and antimicrobial agents to minimize microbial populations.

Some say that flower foods aren’t worth the money! Consider the actual cost of commercial flower food (often less than 0.2 cent per stem) and the value of customers who return to buy more long-lasting bouquets. Flower foods are one of the best investments a retail florist can make, along with an outstanding cooler.

hot water vs. cold water

Myth: Warm or even boiling water is best for processing cut flowers.

Truth: Maximum water uptake occurs in the first 36 to 48 hours after cutting flowers. Warm water (100°F to 110°F) dissolves rehydration chemicals more easily and enhances water uptake in stems in the first 24 to 36 hours, but research doesn’t reveal any long-term benefits to vase life. Boiling water will reduce microbes—both in solutions and on stems. But that same sizzling water (above 110°F) also kills stem tissue, providing an ideal habitat for microbes.

stripping leaves

Myth: It doesn’t matter how much foliage you remove from fresh stems as long as you don’t leave any below the water line.

Truth: Always remove any leaves that fall below the water line to limit microbial growth in the vase solution.

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But because transpiration through the leaves drives water flow up the stems of cut flowers, don’t strip all leaves from individual stems. Leave as much foliage as possible on each stem, but remove any leaves that are broken or damaged.

Sometimes leaves yellow before blossoms die, which makes flowers look less fresh. This is especially common with bulb flowers including lilies, *Iris*, *Alstroemeria*, and tulips. Having your grower pulse these flowers with a hormone-balancing pretreatment will prevent premature leaf yellowing and yield green leaves that outlast blooms.

**removing thorns**

**Myth:** Dulling and removing thorns on roses doesn’t shorten vase life. The trick is discovering the most effective, efficient method.

**Truth:** Whether you subscribe to thorn removal (via knife or stem stripper) or thorn dulling (courtesy of a tar-coated glove, heavy rag, or snips), you are not enhancing your roses’ vase life. As a matter of fact, tampering with thorns most often shortens vase life. Why? Removing thorns damages stems, creating wounds that provide entry points for microbes, which plug water-conducting cells in stems. Resist the temptation to dethorn your roses.

**plucking guard petals**

**Myth:** Removing guard petals on roses will shorten vase life.

**Truth:** Plucking outer petals from roses doesn’t have any impact on vase life. This is purely a cosmetic decision. Feel free to remove petals if they’re damaged.

**defeating ethylene**

**Myth:** Even though ethylene causes major problems for cut flowers, as a florist, there’s nothing I can do about it.

**Truth:** This responsibility should ideally fall on the grower, but as a retail florist, you can prevent ethylene damage to flowers by 1) asking your grower to assure you that he is treating stems with an ethylene inhibitor following harvest and 2) eliminating sources of ethylene in your store, including fruit, food, and decaying foliage and flowers stored in the cooler, tobacco smoke; and vehicle exhaust.

**treating tulips**

**Myth:** The ideal way to store tulips is in newspaper; in buckets, in the dark. It’s also wise to wash dirt from stems when they arrive—before putting them into storage solutions. Keep blooms from blasting open by piercing stems just under the flower.

**Truth:** When tulips arrive, leave them in the original sleeves. Each time you change the sleeves, you risk damaging flowers. Store bunches upright, in sleeves. What causes stems to bend is gravity, not light. If stems are even the slightest bit sideways in the bucket, they’ll bend.

Most growers do a fine job washing soil from stems, but if you receive an especially dirty bunch and choose to wash the stems yourself, take care not to splash water on blooms. Wet petals, placed in sleeves, add up to *Botrytis* (a disease-causing fungus), which will affect the entire bunch.

Flower puncture does not delay blossom opening. The best way to slow petal opening is to ensure that blooms are kept cold—33 F to 35 F.

Note: Fresh flower foods don’t lengthen the vase life of most spring bulb flowers, but new flower foods developed specifically for spring bulbs are now available on the market.

**pinching flower tips**

**Myth:** Snapping the tips of gladioli, snapdragons, stocks, and *Delphinium* increases vase life.

**Truth:** If any of these flowers are harvested when the small buds are too tight, those buds may never open. In this case, removing the small buds will prevent them from becoming brown and dying. This is more a case of aesthetics than longevity.

**handling freesias**

**Myth:** Removing the first open bloom on a Freesia stem causes remaining flower buds to open.

**Truth:** Keeping or removing the first open bloom on a Freesia stem has no impact on how and if the remaining flower buds open. If the first flower is too open when you receive stems, that’s likely a sign that the flowers were harvested too late, that they have been stored too long, or that they’re old. If any of these scenarios is right, two things are true: 1) Longevity of the entire flower spike will be shortened, and 2) removing that first, too-open bloom won’t damage the possibility for the remaining buds to open.

**picking pollen**

**Myth:** Removing anthers from lilies and *Alstroemeria* shortens vase life.

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Truth: Removing anthers has no major impact on vase life, but doing so can prevent pollen stains. The best way to remove pollen from clothing or other fabrics, by the way, is to brush away the pollen with a soft, dry cloth, soft brush, or chemically stem (anything but your hand—skin oils will set pollen stains). You can also try using a piece of tape to strip pollen grains from the surface. If pollen does stain a fabric, placing it in sunlight will cause the stain to disappear.

bleaching gypsophila

Myth: Adding bleach to bucket solutions will whiten Gypsophila blooms. You can improve Gypsophila flower opening by bouncing stem ends on a tabletop.

Truth: While bleach will whiten other surfaces, flower stems don’t take up bleach, so it cannot whiten blooms. Bleach does, however, control bacteria in bucket solutions, and when microbial populations are kept under control in buckets, stems can take up water freely, which would cause blooms to open more fully. In the case of Gypsophila, this could create the appearance of whiter flowers.

As for bouncing the stems, flowers don’t open by means of mechanical force—rather by good care and handling techniques.

soaking tropica1s

Myth: Soaking certain tropical flowers, particularly orchids, Anthuriums, and gingers, every day or so enhances vase life.

Truth: It’s unwise to submerge any flower because wet petals are more prone to developing disease.

opening birds

Myth: Soaking bird-of-paradise flower heads in warm water will cause the flowers to emerge from the bracts.

Truth: Many times, bird-of-paradise flowers have difficulty emerging from the green sheaths that surround the blossoms. You can cut a small slit (no more than 1/2-inch long) in the top of each flower and gently open the sheath to reveal the blossoms. First, soak each bud in warm water for 20 minutes, and then open the sheath along the slit on the top. Carefully lift the first flower and then subsequent flowers up and out of the sheath, arranging them to resemble a fan. Cut away the thin white membrane between each flower.

preserving exotics

Myth: Increasing humidity around tropical flowers is important. One way to do this is by misting blooms and covering them with plastic or by dipping blooms in floor wax.

Truth: Most tropical blooms do not absorb water well. Always avoid wrapping wet petals in plastic, that’s a recipe for disease. Instead, spray blossoms with a commercially available antitranspirant to prevent water loss. Don’t use floor wax.

refrigerating tropica1s

Myth: Tropical flowers will last longer if you store them in the cooler.

Truth: Tropical flowers require a warmer chill than other cut flowers. Store all tropical blooms, such as Proteas, Anthuriums, Leucospermum (pincushions), gingers, and birds-of-paradise at 50 F to 55 F. (Store all other, nontropical cut flowers at 33 F to 35 F.)

hydrating foliage

Myth: It’s best to keep cut stems of foliage, such as evergreens and Galax, in buckets of fresh flower food solution. When it’s time to use the stems, recut and smash the ends to promote water uptake.

Truth: There is no general rule on woody material. Some stems must be kept in water; some can be stored cold, wrapped in plastic, for several days without being hydrated. All woody or foliage stems need high humidity; wrapping them in plastic or shredded damp newspaper (while in the cooler) raises the humidity in the storage box.

When woody stems are first put into solution, they’ll drink a lot of water. It’s important to hydrate them before you use them in an arrangement, or they will drink all the solution in the container, creating a drought for the other flowers.

The day before using woody stems in an arrangement, recut the stems, and hydrate them in flower food solution to reduce the solution pH, increase water uptake, and control bacteria. Don’t smash them; crushed stem cells only promote bacterial infection in vase solutions, which will plug stems and limit water uptake.

Terril A. Neil, Ph.D., AAF, University of Florida-Gainesville, heads a research program aimed at increasing the longevity of fresh cut flowers. He has co-authored the Society of American Florists’ Flower & Plant Care manual and presented numerous talks in the United States and around the world on care and handling of cut flowers. His research, funded by the American Floral Endowment, has allowed the industry to focus on new postharvest techniques and procedures.