CLEAN WATER ACT Bacteria are present in water in various levels, at every level of the chain of distribution. Using a commercial flower food solution containing anti-bacterial compounds, rather than plain tap water (shown in the righthand vases in both photos) will have a dramatic impact on vase life — and customer satisfaction.

LOOK MA, CLEAN STEMS!

> Eat your veggies. Look both ways before you cross the street. Keep your room tidy. Sometimes, moms do know best. The lead-up to Mother's Day is the ideal time to make sure that third piece of advice — cleanliness — is prioritized at your shop, because a successful holiday starts with proper sanitation.

Bacterial contamination is often the culprit behind drooping, sad flowers and disappointing vase lives. That's because, even after harvest, water allows stem, leaf and flower cells to function normally. Without clean water, stored sugars and starches can't become energy and flowers won't open. For water to move freely, stems have to be free of obstructions — namely, bacteria. Reduce those blockages with proper sanitation, and you'll provide customers with longer lasting blooms this holiday, and throughout the year. How do you do that? I'm glad you asked. Here are some of the top questions I field from industry members.

What does bacteria come from?

Bacteria are usually present in water in various levels, depending upon the source. Growers who use water from ponds may be inadvertently exposing flowers to high levels of bacteria. Irrigation water and unfiltered recycled water also can reduce vase life. This is a problem, however, that appears at every point in the supply chain, and we all need to take it seriously. A 1995 Dutch study found that nearly 70 percent of retail florists and supermarkets in Europe and the U.S. used water with levels of bacteria high enough to reduce flower vase life significantly. Nearly 20 years later, I'm afraid the situation hasn't improved much. Growers, wholesalers and retailers should all place special emphasis on clean buckets, work surfaces and tools (clippers, knives and other cutters).

Where do bacteria accumulate?

Generally, in the lower four inches of the stem. The cut surface contains food for bacteria growth. Bacteria multiply inside the stem and in the vase water. Later, they are absorbed into the stem with the water. When bacterial concentrations increase enough to block water flow, air bubbles form in the stem and flowers die prematurely. Blockage results not only from living bacteria, but also from the polysaccharides (carbohydrates) they produce. As they degrade, these bacteria form other chemical by-products that also cause blockage.

Can I use citric acid to prevent damage from bacteria?

Some growers use citric acid to lower the pH of hydration and holding solutions. Citric acid can reduce air blockages in the stem; however, it is not effective in controlling bacteria. The best way to prevent bacterial blockage is to embrace these preventive sanitation measures:

- Use only sanitized water for flower hydration, holding solutions and vase solutions.
- Clean buckets with sanitized water and professional bucket cleaner.
- Use only commercial hydration and flower food solutions containing anti-bacterial compounds.
- Mix fresh solutions daily. Start with clean, freshly-made hydration and holding solutions at grower, wholesale and distribution centers and properly-mixed commercial flower foods at retail stores.
- Clean all clippers and cutters with disinfectant solutions several times a day.
- Sanitize cooler walls at least monthly (more and more retailers and wholesalers are doing this weekly), as these can be a source of bacteria and fungi.

With a little extra attention to your sanitation practices, you'll win over moms and the customers who love them this year with long-lasting, beautiful flowers.

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