

STOP LILY LEAF GRIEF

THE PATIENT Lilies, alstroemeria

THE DOCS Terril A. Nell, Ph.D.,

Ria T. Leonard, University of Florida

THE SYMPTOMS Yellow leaves

> Yellow isn't always the sunny, happy hue of smiley faces and sunflowers. When it shows up your flowers' leaves, your customers are going to give it less-than-glowing reviews. With the increasing popularity of lilies and alstroemeria, it's no longer enough just to have a flower that looks good and lasts long. Customers demand that green leaves be a part of the satisfaction equation.

The Examination

Fresh lilies and alstroemeria blooms last a week or more, but the leaves can begin to yellow before the flowers die, greatly distracting from the beauty of the design. The problem may occur before the flowers arrive at the shop (if they have been stored), but is most often seen about three to five days after a customer has them.

Leaf yellowing occurs in designs using both floral foams and vases, but it doesn't have to. Reducing or eliminating leaf yellowing is easy. So simple, in fact, that consumers should never see leaf yellowing again on fresh-cut flowers. Retail florists who see leaf yellowing need to make sure their suppliers are treating the flowers properly.

The Diagnosis

Leaf yellowing is caused by a hormonal imbalance in the leaves, following harvest. Some varieties show little, if any, yellowing while others are very prone to this problem. Unfortunately, no comprehensive list exists of varieties that maintain green leaves throughout the life of the flower. Therefore, retailers need to evaluate varieties for leaf yellowing and develop their own lists. Of course, you may have varieties you can't part with because of their leaf shape or flower color, despite their yellowing tendencies. In those cases, you'll need to use specialized products and/or treatments.

The Cure

Boosting natural hormones can end leaf yellowing. These hormones, generally considered to be gibberellic acid and cytokinins, are provided as part of the specialized flower-hydration programs used by growers and wholesalers. As with commercial flower foods, anti-leaf yellowing solutions contain more than just hormones. While these products are proprietary, we can generally assume that they also include a combination of delicately balanced wetting agents, buffer solutions and anti-microbial compounds to enhance solution uptake and effectiveness. We don't advise using "home brews" of anti-leaf yellowing compounds, as they usually lack the overall effectiveness of commercial solutions.

By using specialized commercial products for lilies and alstroemeria, we've seen leaf yellowing virtually eliminated. Effective products include Chrysal BVB from Pokon-Chrysal and Floralife's PAL. These treatments require that flowers be placed into the solution from four hours to overnight to protect the flowers from leaf yellowing. The best time for this treatment is immediately following harvest, so flowers are protected throughout shipping and storage. But don't let that stop you from treating flowers upon arrival to your shop. Treating ethylene-sensitive species with anti-ethylene treatments also extends flower life.

Another option for retail florists is Improved OASIS Floral Foam with Floralife Technology. We have seen a dramatic reduction in leaf yellowing of alstroemeria and chrysanthemum leaves without any prior specialized treatments.



YELLOW BELOW If what lies beneath your lilies' heads are yellow leaves (as seen on the left), you should demand pre-treatment.

As with all flowers, we recommend giving customers flower-food packets. For flowers prone to leaf yellowing problems, flower foods designed for bulb flowers will supplement all other anti-leaf yellowing treatments.

Preventative Measures

Regardless of the approach to reducing leaf yellowing, we need to eliminate this annoying post-harvest problem. Retail florists should require that growers or wholesalers treat lilies, alstroemeria, chrysanthemums and tulips and any other flower prone to leaf yellowing with specialized solutions. If that first level of defense is skipped, florists should use one of the three products mentioned above. One easy step can save a gorgeous design from being ruined by off-color leaves. 🌸

Terril A. Nell, Ph.D., AAF, is chair of the department of environmental horticulture, and **Ria T. Leonard** is a research associate at the University of Florida, Gainesville, Fla. The authors gratefully acknowledge the support of the American Floral Endowment, Produce Marketing Association, Asocolflores, Centiflores and floral importers for support of this research.