THE PERFECT MIX

TOO MUCH, TOO LITTLE, TOO BAD Proper dosing of flower food makes the difference between flowers that last and those that don't. From left to right, water, then flower food at 25 percent of the required dose and in gradually increasing concentrations.

> Sometimes, the unexpected — a little improvisation — can add a spark to life, but when it comes to feeding your flowers for maximum performance, stick to a recipe. Professional flower foods work best when used as directed. If you train your staff to accurately measure water and food, your flowers will open more beautifully and last longer, and your customers will notice the difference.

Flower Food to the Rescue

First, let's review some basic information on plant biology. The life and quality of flowers depend on water and sugar. Before harvest, the flowering plant manufactures sugar through photosynthesis, and water is absorbed through the roots. The flowering plant then moves water and sugar up the stem to the leaves and flowers. Flowers open as a result of the expansion of cells, a process that requires water and energy.

At harvest, all flower cells are present. Once cut, flowers are deprived of sugar and water. Without intervention, they become dehydrated, fail to open fully and die prematurely.

After harvest, cells in the cut flower's leaves, stems and petals must get their hydration from water and energy from sugars in vase solutions. When the correct mix is present, a cut flower can move water up its stems and convert stored sugars and starch into usable energy.

Sugar helps flower life by maintaining cellular function. Flower foods accelerate water uptake and provide sugars to supplement stored sugars in the leaves and flowers. They also reduce the cloudiness of the vase water and to lower the solution pH; both factors will help water cut flowers absorb water. The formulations are designed to provide the correct balance of components — when mixed properly.

The Right Ratio

Often, florists ask whether it is *really* important to mix the solution as recommended. The short answer: Yes. These products achieve optimal results only when used as recommended.

Consider the following example: Flower food (Floralife Crystal Clear) was mixed at 0 percent, 25 percent, 50 percent, 100 percent (as directed on the label), 200 percent and 400 percent of recommended levels. Researchers cut roses, snapdragons and delphinium and placed them into these solutions. They recorded vase life and cloudiness of the vase solution for each flower.

In the study, all of the vases containing flower food extended flower life when compared to untreated water. The vase life increased slightly with each increase in flower food concentration up to the recommended level, sometimes by up to nine days. The best results, in terms of both flower life and quality, came when a vase contained the recommended concentration of flower food (Figure 1). At the higher concentrations (200 percent and 400 percent), the flowers displayed stem burn and vase life was reduced. These effects were more pronounced at the highest concentration. Clarity of the vase solution also increased with the concentration of flower food up to the recommended level, an indication of lower microbial levels in the water.

Use it for Lose It

The lesson is as clear as clean water in a sanitized vase: Flower foods work best if used properly. If you dilute solutions to save a few pennies, you will pay for it with reduced quality.

Be sure to remind your team that flower stems absorb the most water in the first 72 hours after being placed into a floral hydration solution or flower food. Dirty containers and reused solutions may contain microbes that clog the stem and obstruct water uptake. Fresh, clean water and sanitized containers promote flower life by reducing stem blockage.

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