



 **SAF** **PALM** *Springs*  **2018**

SEPTEMBER 12-15, 2018 ~ RANCHO MIRAGE, CALIFORNIA ~ 134TH ANNUAL CONVENTION

Down and Dirty:

Nitty Gritty Hacks to Extend Vase Life

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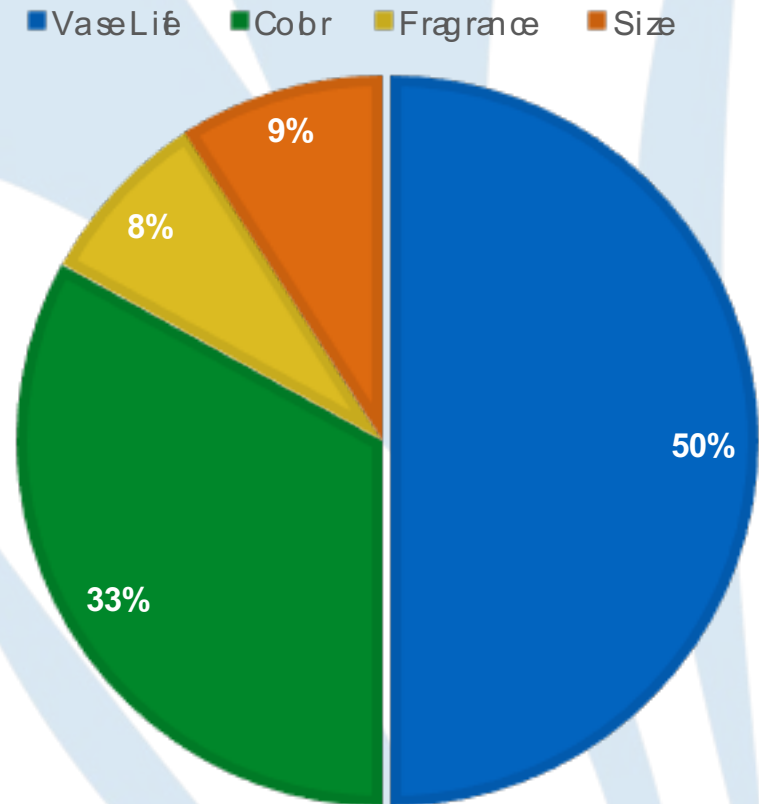
Society of American Florists

Topics

- ▶ What consumers want & need
- ▶ Science Friday with Steve
- ▶ 4 Colossal Profit thieves
- ▶ Cleaning House
- ▶ Flower Solutions 101
- ▶ Protocols

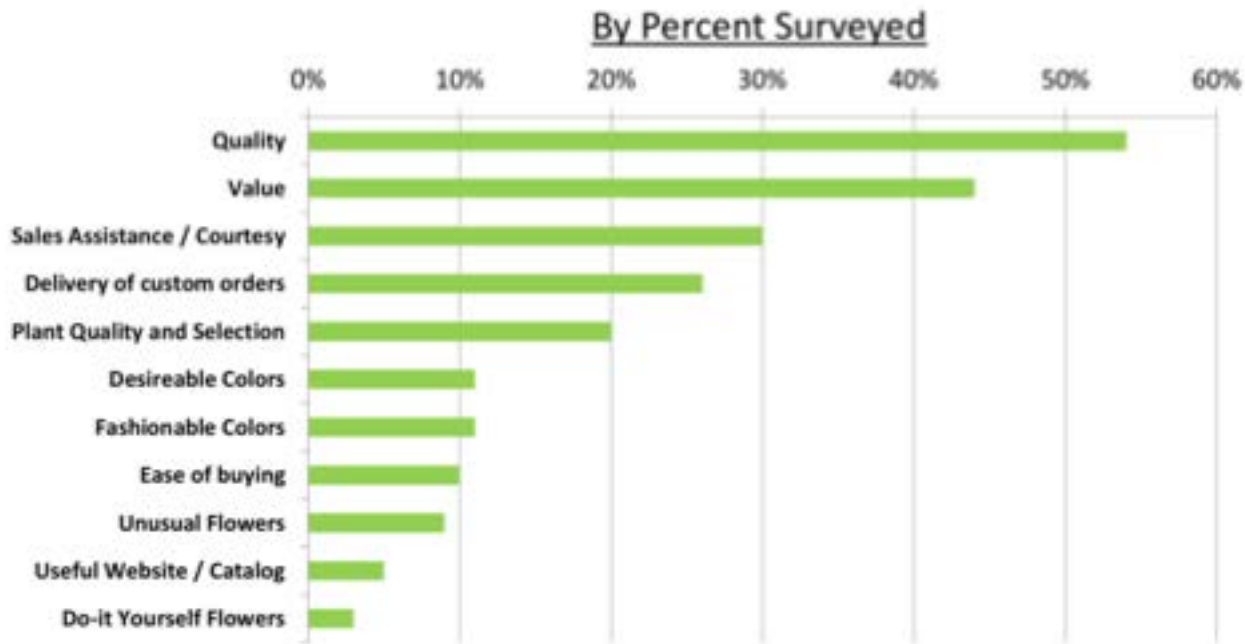
What's most important to the Consumer?

- ▶ Consumers are concerned with how long the flowers last.
- ▶ Studies show consumers expect 5-7 days of vase life to consider flowers a worthwhile purchase.



Factors influencing consumer behavior

- ▶ Based on a consumer study of 1,200 flower buying households in the U.S., over 14 years and four surveys, consumers rated the following positive and negative influencers.



Science Friday with Steve



Society of American Florists

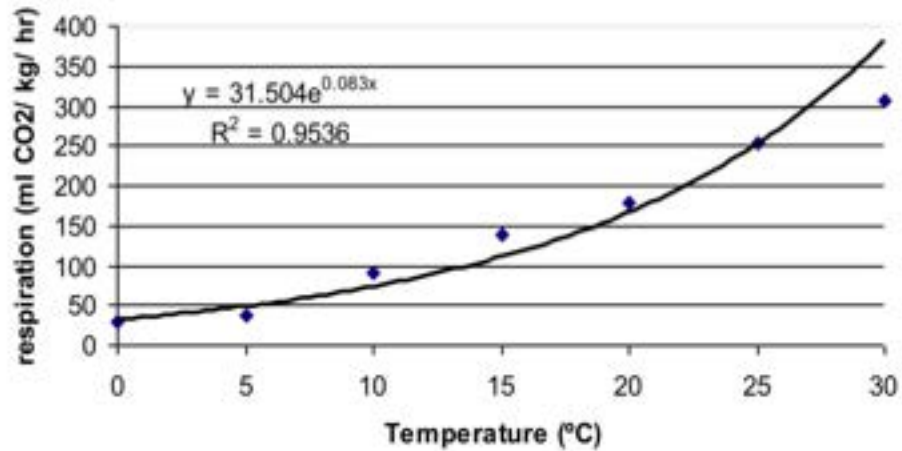
Temperature and Relative Humidity

Effects of Temperature 5 days @ _F...then day 5 =

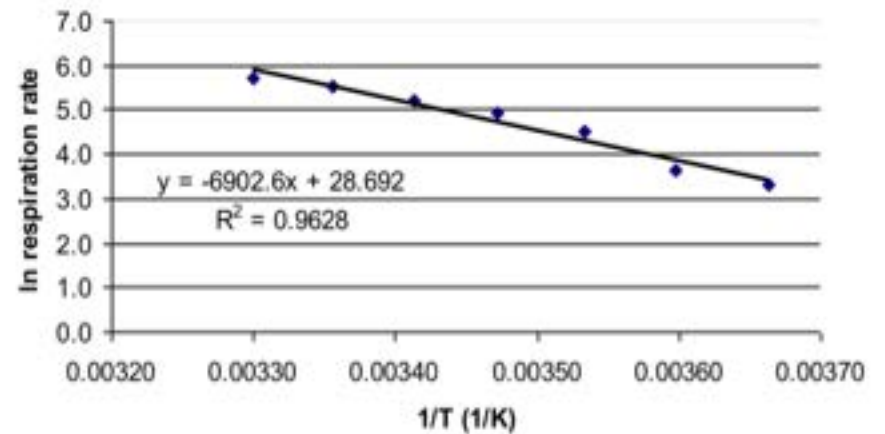


A few degrees matter!

Pink rose

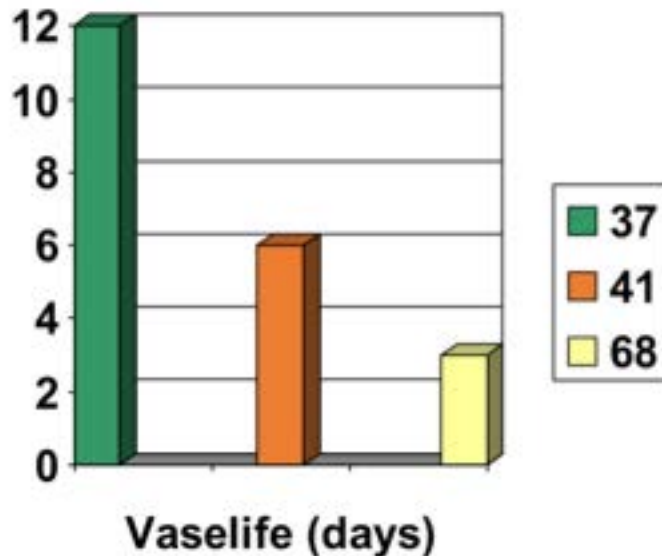


pink Rose



Storage: Temperature and Relative Humidity

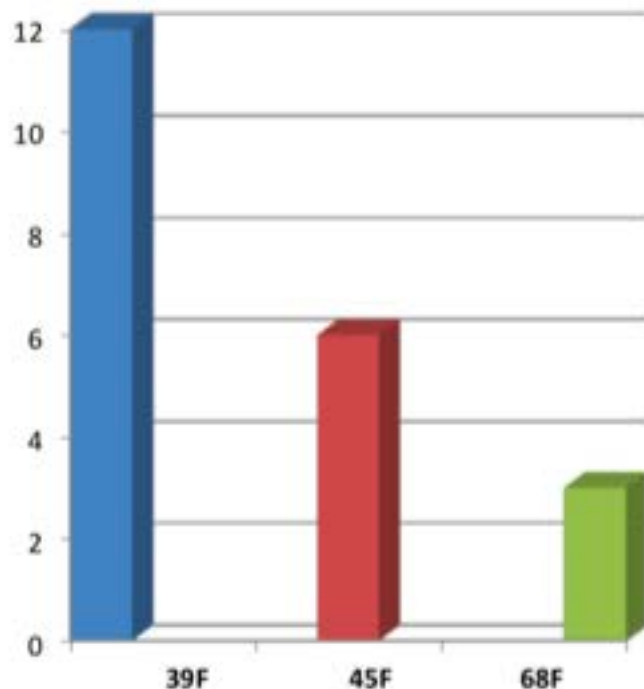
The Effect of Temperature on Vase Life



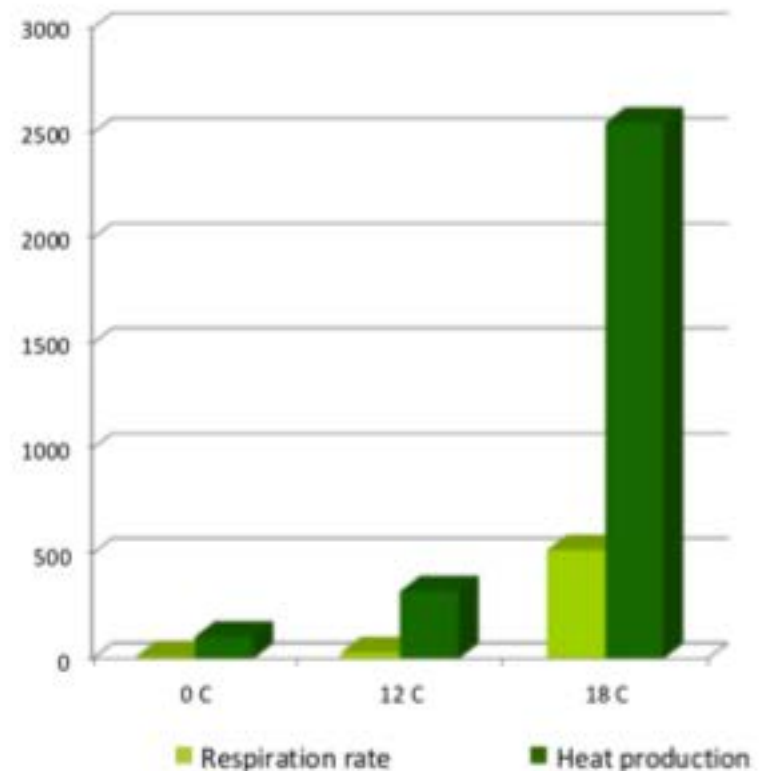
- ▶ The proper temperature of a cooler should be 34-38F
- ▶ Coolers should be cleaned with DCD or Chrysal Cleaner every two weeks
- ▶ Tropical flowers should be stored 55F or room temperature
- ▶ Relative Humidity should be 80-90%

Empirical data on the affects of heat and RH on cut flowers

Influence of temperture on vase life in days



Heat Production



Cooler Maintenance

- ▶ What is the best way to get an accurate read on the temperature?
- ▶ What is the humidity level?
- ▶ How often is the compressor serviced?
- ▶ Is bleach the most effective cleaner for walls and shelves?
- ▶ Fat guy breathing...only so many breaths.

Profit Thieves

- ▶ Temperature
- ▶ Ethylene
- ▶ Bacteria
- ▶ Botrytis
- ▶ Mechanical Damage



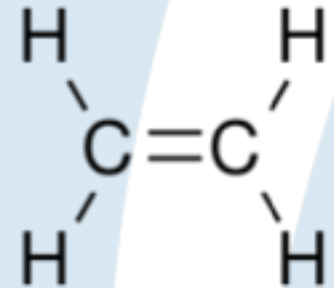
Resolutions:

- ▶ ...be cool
- ▶ Consistent sanitation
- ▶ Work clean
- ▶ Standardize protocols
- ▶ Control your gas



Ethylene

What is Ethylene?

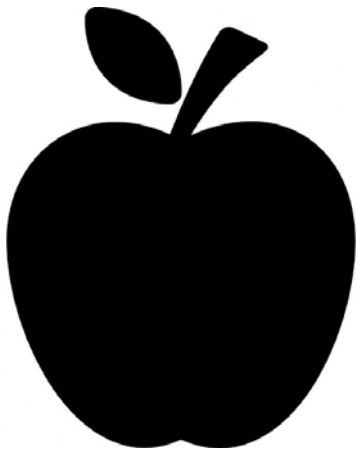


- ▶ A natural plant hormone internally produced by all plants
- ▶ The only plant hormone existing in the form of a gas
- ▶ Commonly used to ripen fruits and veggies, but deadly to flowers
- ▶ Ethylene molecules are small enough to migrate through plastic and cardboard
- ▶ Once exposure occurs, damage is irreversible

What does Ethylene do?

- ▶ Causes premature death of many cut flowers and potted plants
- ▶ Reduces the shelf life of many cut flowers and potted plants
- ▶ **Sensitive Cut Flowers:** carnations, delphinium, larkspur, stock, roses, cut orchids, sweet peas, wax
- ▶ **Sensitive Potted Plants:** mini roses, kalanchoe, lilies, orchids, impatiens, others

Ethylene Sources



- ▶ Internal
 - ▶ Flowers/Fruit generate their own ethylene as a hormone
- ▶ External
 - ▶ Other flowers
 - ▶ Fruits & vegetables
 - ▶ Bacteria
 - ▶ Burning organic material
 - ▶ Cigarette smoke
 - ▶ Propane heater or forklift fumes
 - ▶ Auto Exhaust

Symptoms of Ethylene exposure



How to Avoid Ethylene Problems

- ▶ Buy treated flowers.
- ▶ Don't over peel guard petals on roses.
- ▶ Clean cuts, no ragged edges.
- ▶ Avoid cramming product in buckets.
- ▶ No deco mosses in the coolers.
- ▶ No fruit basket items, no lunches in coolers.
- ▶ Work clean. Sanitation matters.
- ▶ No smoking in vans.



The curse of B&B

Bacteria - Botrytis

Damaging effects of Bacteria



If you don't control bacteria here....

it ends up here

If you wouldn't drink it, or drink out of it, neither will your flowers.



Bacteria colonies double every 20 minutes..



The Botrytis Hammer

- ▶ Botrytis

- ▶ What is it?

- ▶ Non-specific, air borne fungus
 - ▶ Loves ALL flowers, fruits, veggies and plants
 - ▶ Cross contaminates

- ▶ What Botrytis spores need to germinate: **Moisture**

- ▶ Dripping on flower heads
 - ▶ Condensation inside sleeves
 - ▶ Overturned wet-packs
 - ▶ Wet cooler floors



How to spot Botrytis



More examples...



Botrytis



- ▶ Respect the cold chain
- ▶ Keep flowers DRY
- ▶ Prevent condensation on the flowers!
- ▶ Keep cooler and production floors dry
- ▶ Give breathing room in buckets
- ▶ Avoid mechanical damage
- ▶ **WORK CLEAN**

Clean House

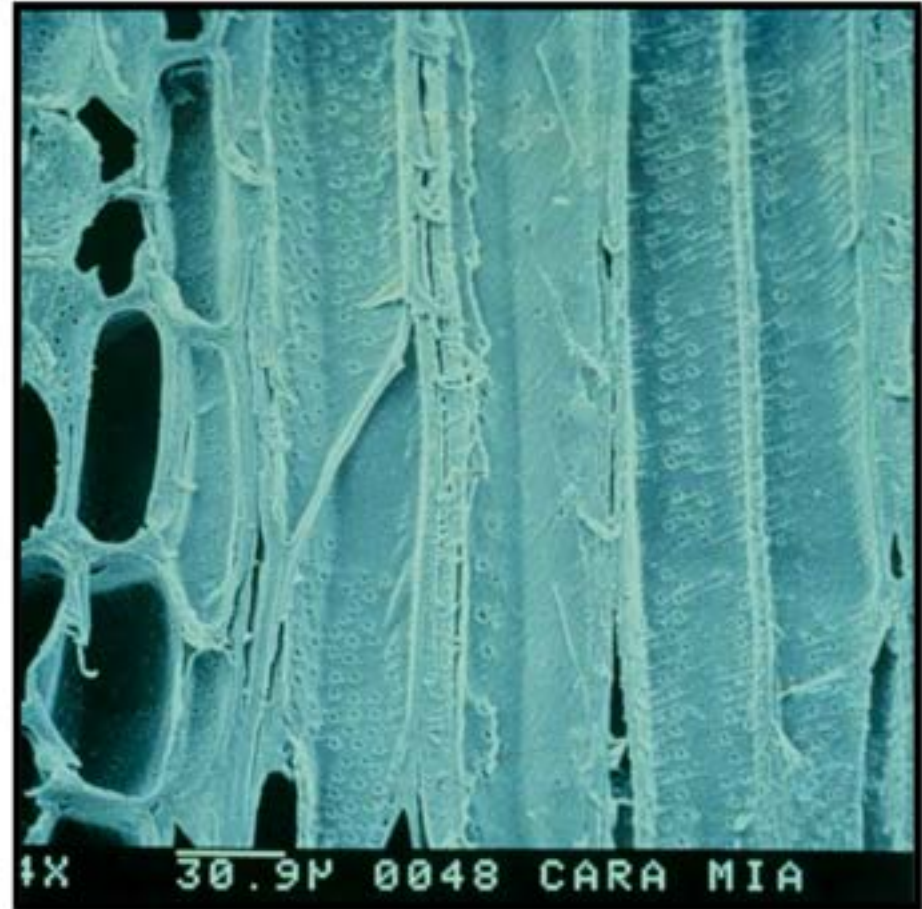
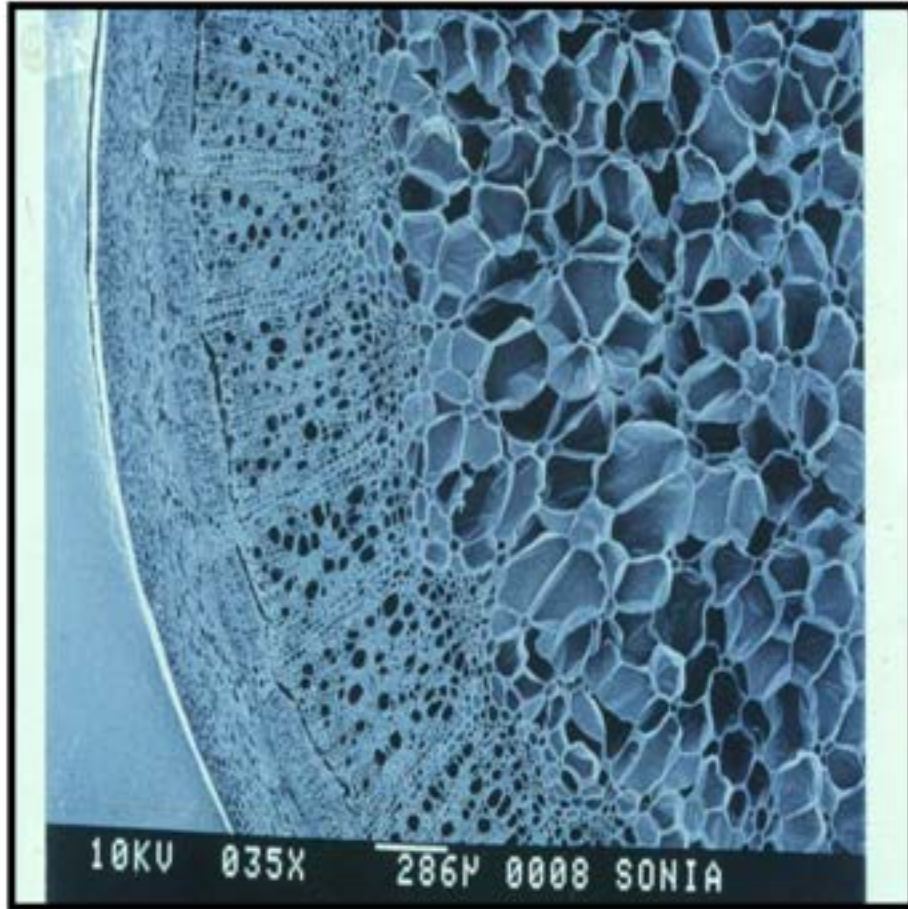
Ask “Does it bring you joy?”

Why is Sanitation important?



- ▶ The walls inside the flower stem (xylem) can be blocked with bacteria.
- ▶ This can cause wilting and bent-neck!
- ▶ Proper hydration and sanitation can eliminate this problem.

Free Flow vs. Blocked system



Is bleach your cleaning solutions?

Pros

- ▶ Aggressive



Cons

- ▶ Short lived
- ▶ No residual effect
- ▶ Corrosive to metal
- ▶ Hard on clothes
- ▶ Hard on skin

Cleaning Schedule



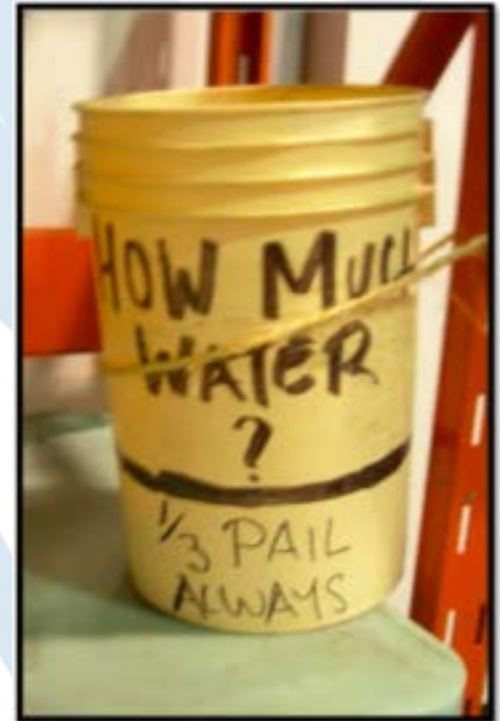
1. Tables, tools, chopper and knives daily
2. Buckets and vases – before each filling
3. Floors, coolers and vans – 2x week
4. Trash cans, brooms, dust pans – empty daily, sanitize weekly



Flower Solutions 101

Solution Review

- ▶ What's the difference between hydration and flower food solutions?
- ▶ Why is pH important?
- ▶ How does your supplier treat his/her flowers?
- ▶ Which solution to use?
- ▶ Guestimate or measure?
- ▶ How long are solutions active?
- ▶ Why change bucket & vase water every other day?



What's the difference between Hydration and Flower Food?

- ▶ **Hydration solutions** kick start stem flow and lowers pH levels.
- ▶ **Flower food** kick starts stem flow, lowers pH levels and provides energy to keep blooms standing tall.

Two kinds of Flower Food:



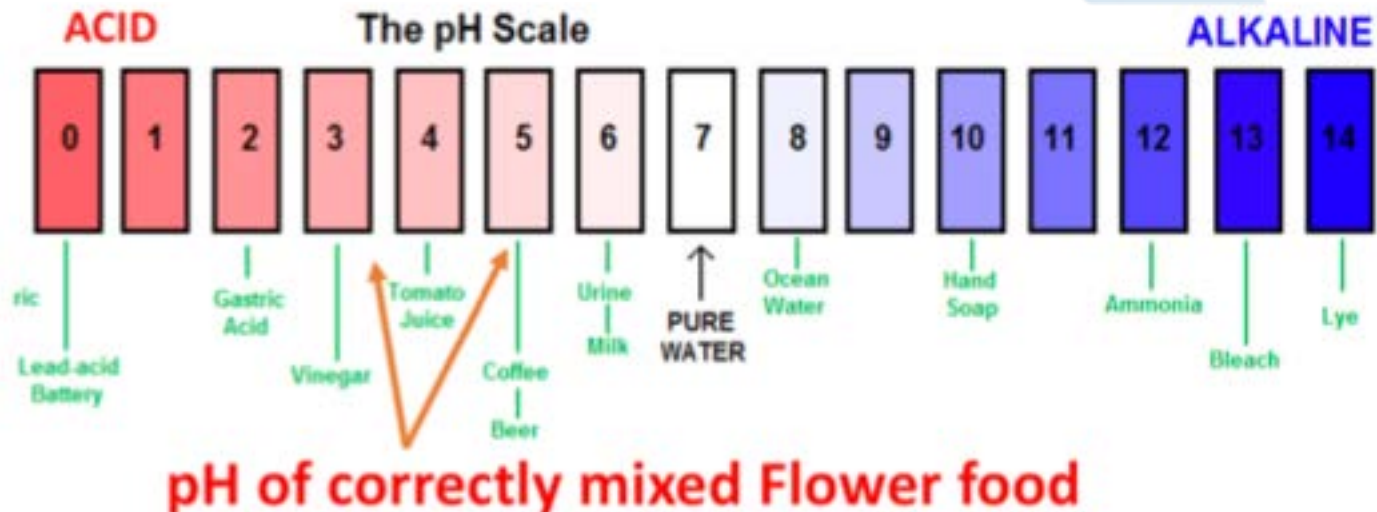
- ▶ **Buckets:** Use holding solutions that contain *minimum* amount of glucose



- ▶ **Vase and Foam soaking bin:** Contains *maximum* amount of glucose

pH – why it matters

- ▶ Lowering pH dissolves air bubbles in stems & boosts flow
- ▶ Clarifiers in solutions are pH dependent
- ▶ Flowers drink most efficiently between pH 3.5-5.0
- ▶ Tap water is neutral or close to neutral pH 7



Bucket Filling Demo

Importance of Correct Dosing

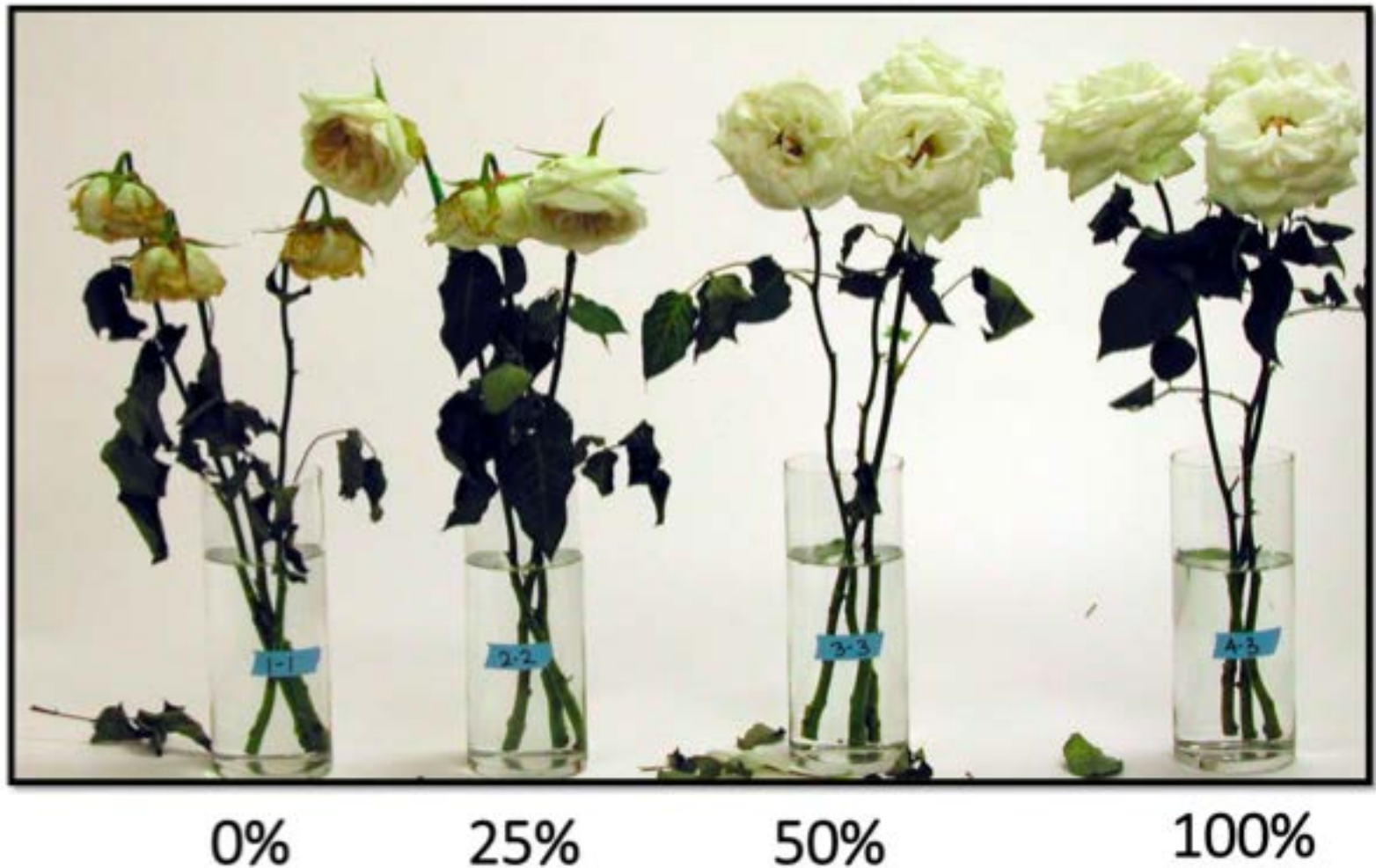
- ▶ Correct dosage is important for best performance of flower food
- ▶ Both under and over-dosing reduce the effectiveness of flower food

Day 7



Improper dosing results in premature flower death.

Important of Correct Dosing!



Alternative Facts (DIY Fails)

- ▶ Flower food clogs stems and burns foliage
- ▶ Change solutions every other day
- ▶ “Home brews” work as well as commercial formulas
- ▶ Add Ice
- ▶ Dip stems in alum
- ▶ Spray blooms with diluted Elmer’s glue
- ▶ Cut stems underwater at 45 degree angle
- ▶ Solutions make bad flowers better
- ▶ Prep solutions with warm water



Alternative Fact Buster



Photo Cred: Better Home & Gardens

WARNING: Research shows commercial flower food extends vase life by 50% longer than plain water and is more effective than any combination of aspirin, 7UP, sugar, Vodka, Viagra, cinnamon, bleach, vinegar, pennies, pure water, etc.

Protocols

The story behind stripping & peeling



Best Practices



- ▶ Temperature management
- ▶ Start and finish clean
- ▶ Right solutions – right sequence – right job
- ▶ Allow time to re-hydrate blooms
- ▶ Use sharp, clean tools
- ▶ Handle with care
- ▶ Ethylene – the silent killer
- ▶ Use plastic liners with metal containers & lead crystal vases

Flower handling is easier and cheaper than rafting, but not as thrilling!



The cost of using Floral Nutrients



To treat 20 stems:

Process Flowers in Holding Solution: \$.003

Vase of Flowers: \$.074

10 gram packet of flower food: \$.11

Total: \$.19 per treated vase



Questions??

Thank you!

