



Cut Flower Post-Harvest Solution Guide

Alexis Sheffield¹ and Joshua Knight²

Introduction

Similar to other horticulture crops, the post-harvest handling of cut flowers is a critical step in guaranteeing the highest possible value to customers. Many cut flower growers grow multiple cut flower species within a single operation and each species has its own set of post-harvest needs. For example, most species require the use of a cooler (34°F - 42°F), while some species should only be stored at warmer temperature (42°F - 60°F). Some species have “dirty flowers”, which release tannins or sap into the water after being harvested, require a chlorine solution. Other species need a hydrating solution (Figure 1) for a few hours, or even longer, before placement in a cooled environment. Cut stems that have difficulty hydrating require a “quick dip” step to allow for improved hydration.

This publication was designed for cut flower growers to use as a reference guide to assist them in understanding the post-harvest care required for specific cut flowers. The reference sheet on the back lists commonly grown cut flowers and their preferred post-harvest solutions needs. An “X” indicates whether that cut flower species requires cooler, room temperature, chlorine, hydrator, or quick dip. The last column given on the reference sheet also provides special instructions that are unique to the species being grown.

After using this guide, growers can make further improvements to their cut flower operations around being able to handle multiple cut flower species. A grower may choose to grow species that all share the same post-harvest process



Figure 1 - Hydrating solutions with harvested cut flowers in storage bucket.
Photo: Alexis Sheffield, University of Kentucky

to streamline the workflow of handling. Alternatively, they may choose to add species requiring only room temperature storage due to limited cooler space.

*Please note that growers with diverse operations should **avoid storing cut flowers in the same cooler with fruits or vegetables**. Produce tends to release ethylene, a leading factor to faster decay of blooms.*

Suggested Citation:

Sheffield, A. and J. Knight. (2023). *Cut Flower Post-Harvest Solution Guide*. CCD-FS-X. Lexington, KY: Center for Crop Diversification, University of Kentucky College of Agriculture, Food and Environment. Available: <http://www.uky.edu/ccd/sites/www.uky.edu/ccd/files/cutflowersolutions.pdf>



¹Alexis Sheffield is the Horticulture Extension Agent with the Boyle County Cooperative Extension Service.

²Joshua Knight is a Senior Extension Associate for Horticulture with the Center for Crop Diversification.

What To Do After Harvesting Cut Flowers...

Cooler	Store plants in a cooler with a temperature BELOW 42°F , but above freezing . This often helps stems hydrate more efficiently and extends vase life. Take care when storing Zinnia and Basil below 40°F. Hibiscus should be above 38°F
Room Temp	Stems do not require refrigeration and should be kept ABOVE 42°F . Stems do best if kept in a cool room BELOW 60°F with little to no light .
Chlorine	Chlorine and water solution made with slow release tablets (ex. CVBD). Used primarily for “dirty flowers” or flowers that release tannins or sap into the water as they hydrate. Chlorine tablets reduce bacteria and help keep water cleaner, longer.
Hydrator	Cut stems are placed into a diluted “hydrating” solution for a few hours at room temperature or overnight in a cooled (34°F - 38°F) environment. Then flowers are transferred into flower food until transport/shipment.
Quick Dip	Should only be used on stems that have difficulty hydrating. Before placing in flower food, stems can be “ quick dipped ” for a couple of seconds to open up the stem’s vascular system, allowing for better hydration.

	Cooler	Room Temp	Chlorine	Hydrator	Quick Dip	Special Case
Basil		X		X		
Zinnia		X	X			
Cosmos	X					
Lisianthus	X					
Dahlias	X				X	
Anemones	X					
Yarrow	X		X			
Rudbeckia	X		X			
Narcissus	X					1
Dusty miller	X			X	X	*
Scented Geranium	X			X	X	*
Euphorbia	X					2
Celosia		X				
Amaranth	X					
Bupleurum	X					
Gomphrena	X					
Hydrangea	X					3
Nigella	X					
Marigold		X				
Snapdragon	X					
Sunflower	X		X			
Hibiscus	X			X	X	*
Dianthus	X					
Ammi/Daucus	X			X	X	*
Chinese Forget Me Nots	X			X	X	*

- 1: Needs to be kept in its own bucket as sap can damage other flowers
- 2: Sap can cause skin irritation
- 3: Slit wood stems an inch at the bottom and put into bottom with 1 teaspoon of alum
- * Both Quick Dip and Hydrator are *not* necessary, growers can pick one or the other