

The Cold Facts

By W. Kurt Schroeder, AAF, AIFD, PFCI

TEMPERATURE IS ONE OF THE MOST IMPORTANT factors when handling fresh flowers. But when it comes to our coolers, temperature is often overlooked because we assume it's working fine. Temperature management alone (or lack thereof) can make an exponential difference in flower quality, shrink, vase life and customer satisfaction.

Below are some frequently asked questions about proper temperature management and cooler maintenance.

How do I know if my refrigerator is working properly?

Just because it's humming doesn't mean it's working properly. The only way to tell is to make sure you have an accurate thermometer (for temperature) and hygrometer (for relative humidity).

Full disclosure: I'm one of those who thinks my cooler is working because it's humming. How do I stay on top of cooler maintenance?

First, you should check the cooler temperature daily. In an ideal world, where time is not an issue, you'd check flower temperature using a probe in the flower head. The practical ways to measure temperature in a cooler are:

1. Place at least two thermometers in each cooler near flower height, so you can check one thermometer against the other to make sure they are operating correctly. If you use only one thermometer, you run the risk of breaking without your knowledge.

2. Place the thermometers in a visible area. I've been in some coolers that you needed a ladder, map and magnifying glass to check the temperature.

3. If you do not have a hygrometer in your cooler, ask your HVAC company to check it on a regular basis so you know what the humidity is.

4. Make sure all employees know where the thermometers and hygrometers are so everyone can be a "temperature inspector" for you.

I give my cooler a good cleaning about once a year. Is this enough?

The short answer: No.

You should be cleaning them at least monthly, using a horticulture detergent and disinfectant wash. A cooler has two sections: the physical structure (walls, doors, floor, racking and ceiling) and mechanical components (evaporator coils, fans, fins and drip pan). Both "worlds" do their share of harboring bacteria, fungus, debris and mold. Follow manufacturer instructions for specific guidance

Quick Cooler Facts, Resources

- Ideal cooler temperature for nontropical cut flowers: **34°F to 36°F**

- Ideal cooler temperature for tropicals (protea are not tropicals): **55°F to 60°F**

- Ideal relative humidity for all cut flowers: **75 percent to 85 percent**

- A high relative humidity reduces transpiration and keeps flowers from drying out.

- Cleanliness, proper temperature and keeping food out of the flower cooler are three ways to avoid negative effects of ethylene gas.

- Additional resources: **SAF's Flower and Plant Care Manual** (call (800) 336-4743 or visit the SAF Market on www.safnow.org for more information). **White Paper II — Improving the Cold Chain for Cut Flowers and Potted Plants** on www.chainoflifenet.org

— K. S.

when cleaning the mechanical components.

I bought a used cooler, and the air circulation is strong; it feels like a hurricane inside. Is this damaging for the flowers?

It could be. It sounds like you have a refrigerator with high velocity fans. This may be fine for soft drinks, but this type of environment can increase transpiration, lower the relative humidity in the cooler and simply "dry" the flowers out. Be cautious when you purchase a used cooler (not all coolers are the same).

My humidity is low (around 45 percent). My HVAC company suggested adding a fogger or mister to the cooler. Is this a good idea?

No, it isn't the best idea. It will raise the relative humidity in the cooler but will introduce freestanding moisture that can exacerbate botrytis and other problems. I would work with a company that could alter your unit to achieve the same results without using a misting machine. 🌿

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