

YOUR COLD WEATHER PRIORITIES

When your greenhouse is bleeding heat and your air temp setpoint won't hold, do what you can to minimize risk of things like chilling- or freezing injury and disease.



Reduce Your Footprint

Unless your greenhouse is 100% full and spacing cannot be reduced, consider a temporary consolidation of crops into houses that hold heat better than others.

- The glazing material on different greenhouses has a major impact on heat loss. Heat loss is generally highest in glass-glazed structures, slightly lower in rigid polycarbonate-glazed structures, and lowest in greenhouses like double-layer polyethylene-glazed Quonsets.
- If it's possible to temporarily move crops into a better-insulated structure without incurring chilling/freezing damage in the process, consider doing so. You will be better equipped to keep crops at or above their lowest safe temperature, and it will take significantly less energy to heat a smaller footprint during extreme weather.
- Once the cold weather passes, return crops to optimal spacing and environmental conditions. Don't let temporary energy savings that you may have experienced during a cold snap go to your head and keep your eyes on the prize: maximizing crop quality. Overly tight spacing for extended periods will only encourage crops to become soft and leggy and encourage disease.

Use “Hot Spots” To Your Advantage

Every greenhouse has areas that stay warmer than other parts of the range—the hot spots. Use these areas to your advantage and put higher-value or chilling-injury-prone crops in these areas first.

- Areas closest to your heat source like along heat pipes (for folks with radiant hot water/steam pipes), directly in the path of forced-air heaters, or near insulated knee- or curtain walls are prime real estate.
- High-density and slower-growing seed and vegetative inputs (like freshly-sown plugs or recently-stuck unrooted cuttings (URCs)) should be top priority. Young plant crop failures will often hit your bottom line the hardest and it may not be possible to source more URCs or finished plugs/liners for your desired planting timeframe.
- High-value crops like tissue culture inputs, specialty tropicals and orchids should also receive priority when allocating hot-spot space.

Some cold calculus (pun intended) may be necessary if you are forced to dole out a finite amount of warmer bench. Consider letting faster-growing crops or less-expensive inputs bear the brunt of suboptimal temps, because they will be easier to replace if they ultimately fail.

Tent Young Plants To Help Slow Heat Loss

If possible, erect a temporary tent of poly film over young plants to further reduce the rate of heat loss. Warm air will stay trapped under the tent more easily and help to reduce the likelihood of cold damage to young plants.

This can be especially helpful if you have a bottom heat stage (such as infrared heat mats, benchtop hot water tubes, or under-bench heat pipes/fin tubes).

If your only heat source is from a forced-air system above the benchtop, ensure that there is a direct path for warm air to enter the tent. Otherwise, it may become more difficult to keep temperatures warmer under the tent.

If you tent young plants, you will need to adjust your mist/irrigation schedule. Humidity will remain high under the tent for longer periods increase the amount of time needed for the canopy and rootzone to dry down. Failure to adjust moisture management appropriately will result in increased disease pressure.