

# SEED STORAGE BEST PRACTICES



These guidelines will help you store seed more effectively, while maximizing your investments in seed and storage equipment.

## STORAGE

### ALWAYS STORE SEED IN A COOL, DRY AREA

Temperature and relative humidity are the two most important factors affecting seed quality.

To prevent warm temperatures and high humidity from rapidly deteriorating seed quality, install dedicated, refrigerated storage with consistent temperature and humidity control in an office or other low-traffic area.

## TWO RULES TO FOLLOW

### 1 HARRINGTON'S RULE

Seed shelf life decreases by 50% for every:

- 1% increase in moisture content within the seed.
- 10°F/~5 °C increase in storage temperature.

**Note:** Effects of higher temperature and moisture content by this rule are cumulative, not separate.

### 2 JAMES' RULE OF SEED STORAGE OR RULE OF 100

Combined storage temperature in Fahrenheit and relative humidity (RH) should be no greater than a total value of 100.

For example, a cooler at 45°F + 50% RH = 95; this is considered suitable storage conditions.

## RETAINING SEED QUALITY

- New and opened seed packages should be stored at ~41°F/5°C in a cooler with ≤60% relative humidity.
- Allow the package to reach room temperature before opening to prevent condensation from forming.
- Remove only what is needed and return extra seed to cold storage as soon as possible.
- Keep seed packages open for 24 hours before resealing them if your seed storage is humidity-controlled (set to ~25-30% RH).

*This equilibration period will help remove excess moisture that may have been absorbed by seeds during sowing operations, and increase their shelf life.*



Most seed should be stored at 41°F/5°C and 25-30% relative humidity (RH). Commercial coolers/refrigerators are regularly used for seed storage but often don't provide humidity control. Tubs with lids can help buffer changes in RH if the cooler opens regularly or additional items are stored inside.

# STORAGE DESIGN STRATEGIES

Develop and maintain a well-controlled seed storage and operations area.

## BEST PRACTICES AND INFRASTRUCTURE

	GOOD	+ / →	BETTER	+ / →	BEST
<b>Temp. Control Capability</b>	Below 55°F/13°C <i>(i.e., flower cooler)</i>	→	Below 45°F/7°C; avoid freezing <i>(i.e., conventional refrigerator)</i>	→	Precise control at 41°F/5°C <i>(i.e., industrial cooler)</i>
<b>%RH Control Capability</b>	Gasketed tubs for seed packages	+	With a commercial desiccant inside, OR	→	Integrated relative humidity control
<b>Cooler Location</b>	In a temperature- controlled environment	+	With humidity control	+	Separated from other areas by air-conditioned hallway/room
<b>Seed Ordering</b>	When ordering seed, always purchase the smallest packages required for each sowing, and use as quickly as possible.				
<b>Seed Use</b> <i>(By Storage Ability)</i>	Warm seed to room temperature before sowing; return package to storage ASAP	+	Distribute roughly what is needed in seed cooler room; return extra ASAP	+	Leave packages with returned seed open for ~24 hrs. to equilibrate seed moisture content

## SEED SHELF LIFE BY VARIETY

Seed shelf life can vary, based on the following factors:

1. Health/environment of the mother plant.
2. Harvest stage and conditions.
3. Seeds' post-harvest handling practices.
4. Seed storage conditions.

To account for any variabilities, we perform cycle testing on our seed inventory, ensuring you receive the highest-quality seed.

