

Celeriac (Celery Root)

Revised 2018

Thermal Properties

	English	Metric
Moisture, %	88.00	--
Protein, %	1.50	--
Fat, %	0.30	--
Carbohydrate, %	9.20	--
Fiber, %	1.80	--
Ash, %	1.00	--
Specific Heat Above Freezing	0.93 Btu/lb*°F	3.90 kJ/(kg*K)
Specific Heat Below Freezing	0.45 Btu/lb*°F	1.89 kJ/(kg*K)
Latent Heat of Fusion	126 Btu/lb	294 kJ/kg

Storage Conditions

Temperature	32°F (0°C)
Relative Humidity	95 to 99%
Storage Period	6 to 8 months
Highest Freezing Point	30.3°F (-0.9°C)

Celeriac can be room cooled and should be held in slatted crates or bins, with a moderate amount of air circulation to remove the heat of respiration generated by the vegetable.

Celeriac should be stored under the same conditions as those for topped carrots and is subject to the same diseases as carrots. Celeriac is easily stored for 3 to 4 months at 32°F (0°C) and with only minor losses for 6 to 8 months, if relative humidity (RH) is near saturation. If storage is above 34°F (1.1°C), the RH should be about 95% to avoid condensation of liquid water, or decay losses will be substantial within 6 months. At 40 to 41°F (4.4 to 5°C), the storage life is only 4 months if losses are to be held below 15%. Moisture loss and shriveling are the main causes of deterioration.

Research has shown that controlled atmosphere (CA) storage for celeriac is not advantageous. Low O₂ does not reduce losses and the high CO₂ atmospheres tested (5 to 7%) increase decay during storage. However, other research suggests that a CA of 2% O₂ plus 2-3% CO₂ may be slightly beneficial.

Diseases and Injuries

Toughening	<p>Celeriac is slightly sensitive to ethylene and chronic exposure during long term storage will eventually cause toughening of the root.</p> <p>Control: Do not store celeriac with apples, pears, or other ethylene-producing fruits.</p>
Freezing	<p>Freezing injury can occur if celeriac is stored at temperatures of 30.3°F (-0.9°C) and below. Symptoms of freezing injury are water-soaked areas or softening.</p> <p>Control: Avoid exposure to freezing temperatures.</p>

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