

Leeks, Green

Revised 2018

Thermal Properties

	English	Metric
Moisture, %	83.00	--
Protein, %	1.50	--
Fat, %	0.30	--
Carbohydrate, %	14.15	--
Fiber, %	1.80	--
Ash, %	1.05	--
Specific Heat Above Freezing	0.90 Btu/lb*°F	3.77 kJ/(kg*K)
Specific Heat Below Freezing	0.46 Btu/lb*°F	1.91 kJ/(kg*K)
Latent Heat of Fusion	119 Btu/lb	277 kJ/kg

Storage Conditions

Temperature	32°F (0°C)
Relative Humidity	95 to 100%
Storage Period	About 3 months
Highest Freezing Point	30.7°F (-0.7°C)

High quality green leeks have a white base and green, turgid leaves, with no seedstalk present. Leeks with seedstalk are tough and strongly flavored. The stem plate should not be trimmed off or else the cut leaf ends will discolor.

Green leeks are held in cold storage under conditions quite similar to **Onions** or **Celery**. They should be cooled promptly to near 32°F (0°C) after harvest by hydrocooling, package icing, or vacuum cooling. When hydrocooling, the water should be chlorinated to 50 ppm and the pH adjusted to 7 to prevent the spread of decay. At comparable temperatures, respiration and heat evolution rates and refrigeration requirements are about the same for leeks and green onions. At 70°F (21.1°C) leeks respire and produce heat at about 8 times the rate for leeks held at 32°F (0°C).

For best quality maintenance, leeks should be kept at 32°F (0°C) and high relative humidity (RH) of 95% or above throughout storage and marketing. Elongation and geotropic curvature occur even at 32°F (0°C) but are rapid at temperatures above 50°F (10°C). Good refrigeration also retards root and stem growth. Leeks stored in polyethylene-lined crates elongated less than 1% per week at 32°F (0°C) under crushed ice and 22% per week at 50°F (10°C).

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High humidity is essential for leeks to prevent wilting. One report indicated that losses were greater at 32 to 34°F (0-1.1°C) and 90 to 95% RH than at the same temperature and 98 to 100% RH. Perforated polyethylene film crate liners or overwraps can aid in preventing moisture loss. Leeks lose weight and wilt to about the same degree as do fresh green onions. Moderate wilting will be noted when they lose an average of about 15% of their weight.

Leeks benefit from storage in modified atmospheres with 1 to 3% O₂ plus 10 to 14% CO₂ or from holding in non-perforated film packages. Yellowing, discoloration on the basal cut surface, leaf and root growth, and decay are retarded by modified atmospheres. Atmospheres containing 15 to 20% CO₂ cause tissue injury.

Diseases and Injuries

Leeks seem quite resistant to many diseases but are subject to diseases of **Onions**. Bacterial Soft Rot may sometimes be found, as in celery. Adequate refrigeration will retard decay.

Containers should be stacked so they will have sufficient air circulation to keep temperatures at the top and bottom as nearly equal as possible. Leeks should not be stored with other products that tend to absorb odors. They may be stored with fresh onions or garlic.

WFLO is indebted to Dr. Jeff Brecht, Horticultural Sciences Department, University of Florida, for the review and revision of this topic.