

# Squash, Summer

Revised 2018

## Thermal Properties

	English	Metric
Moisture, %	94.64	--
Protein, %	1.21	--
Fat, %	0.18	--
Carbohydrate, %	3.35	--
Fiber, %	1.10	--
Ash, %	0.62	--
Specific Heat Above Freezing	0.97 Btu/lb*°F	4.07 kJ/(kg*K)
Specific Heat Below Freezing	0.42 Btu/lb*°F	1.74 kJ/(kg*K)
Latent Heat of Fusion	135 Btu/lb	315 kJ/kg

## Storage Conditions

	Fresh	Frozen Slices
Temperature	40 to 50°F (4.4 to 10°C)	0 to -10°F (-17.8 to -23.3°C)
Relative Humidity or Packaging	95%	Vapor-proof packaging
Holding Period	1 to 2 weeks	14 to 16 months at 0°F (-17.8°C) to 24 months at -10°F (-23.3°C)
Highest Freezing Point	31.1°F (-0.5°C)	

Summer squash are highly susceptible to water loss, therefore packaging in waxed cartons or in containers with polyethylene liners is recommended to maintain firmness and quality.

Normally, summer squash, including crookneck, yellow straight neck, zucchini, and scallop, should not be stored except long enough to accommodate normal delays such as holidays and weekends. If held at 32 to 40°F (0 to 4.4°C), chilling injury (CI) occurs after 3 or 4 days. Deterioration is rapid on removal from storage, evidenced by an increase in yellow color, surface pitting, decay, and rapid wilting. Summer squash stored at 40°F (4.4°C) remain virtually free of CI. Different cultivars vary substantially in their chilling susceptibility. In a controlled atmosphere containing 5% CO<sub>2</sub>, storage can only be extended an additional 4 to 5 days.

The storage life for most summer squashes at 40 to 50°F (4.4 to 10°C) is only 1 week for good quality retention, and 2 weeks at most for fair to good quality. Quality of summer squash is definitely related to size; the smaller ones have a more tender flesh, soft seeds, edible skin, and their flavor is mild and slightly

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sweet. The skin is tender and easily wounded in handling, and highly susceptible to water loss. Yellow and scalloped summer squash show damage most readily. Workers should wear gloves to prevent fingernail punctures.

## Diseases and Injuries

<b>Bacterial Soft Rot</b>	Water-soaked and pronounced softening of flesh, which is eventually liquefied by the pathogen. Usually has offensive odor. <b>Control:</b> Handle carefully to avoid mechanical injury and store promptly at 41°F (5°C).
<b>Black Rot</b>	Irregular, brownish, water-soaked spots of different sizes, later nearly black. <b>Control:</b> Cull out affected squash before storage. Keep temperature at 41°F (5°C), not lower.
<b>Cottony Leak</b>	Large greenish, water-soaked areas, later covered by white, cottony mold. No disagreeable odor, much leaking from decayed squash. Worse following periods of hot, wet weather. <b>Control:</b> Cull out before storage. Cool rapidly and keep temperature at 41°F (5°C), not lower.
<b>Scab</b>	Grayish sunken spots, quite shallow, later covered with dark olive-green fungus layer. Favored by cool, moist weather. <b>Control:</b> Field sanitization. Nothing that a warehouseman can do except refusal of storage unless diseased squash are culled. Decay already started will develop in storage, but new lesions will not occur.
<b>Chilling Injury</b>	Numerous sunken, slightly water-soaked areas, pitting of skin. Prolonged chilling causes increased decay. All symptoms develop more rapidly on removal from chilling temperatures. <b>Control:</b> Do not store at temperatures lower than 41°F (5°C) unless squash will be used immediately afterwards and storage period will be less than 5 days.

## Freezing

Summer crookneck and zucchini varieties are most commonly frozen. They should be harvested before the rind is hard and the seeds large. Slice into 1/2 inch (1.3-cm) slices; blanch in boiling water for 3 to 4 minutes, package, and freeze. At temperatures of 0°F (-17.8°C), frozen products can be stored for 14 to 16 months, whereas the storage period is extended to over 24 months with storage temperatures of -10°F (-23.3°C).

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