

# Olives, Fresh and Salted

Revised 2018

## Thermal Properties

	English	Metric
Moisture, %	79.99	--
Protein, %	0.84	--
Fat, %	10.68	--
Carbohydrate, %	6.26	--
Fiber, %	3.20	--
Ash, %	2.23	--
Specific Heat Above Freezing	0.90 Btu/lb*°F	3.76 kJ/(kg*K)
Specific Heat Below Freezing	0.49 Btu/lb*°F	2.07 kJ/(kg*K)
Latent Heat of Fusion	115 Btu/lb	267 kJ/kg

## Dry Storage Conditions

Temperature Uniform Air Circulation	45°F (7°C)
Relative Humidity	85 to 90%
Storage Period	2-4 weeks* (2 weeks optimum)

\* Longer storage is dangerous because of excessive molding of the olives.

## Brine Storage Conditions

Temperature Uniform Air Circulation	32 to 34°F (0 to 1°C)
Brine Strength	7% salt (NaCl)**
Storage Period	7 to 8 months***

\*\* On-going brine only.

\*\*\* Projected from actual storage of olives for 7 months in polyethylene lined bins 4' x 4' x 2½', with an air-tight seal, with all olives submerged in brine.

Fresh olives may be shipped in small quantity for home pickling. Occasionally there is need for storage due to market conditions. However, most olives stored under refrigeration are subsequently processed

as California canned black ripe olives. In large crop years, it is advantageous for the commercial processors to refrigerate a portion of the crop prior to processing.

Olives in dry refrigerated storage remain biologically active and continue to ripen. Riper fruits become over-ripe thus increasing cullage. This phenomenon does not occur to any extent if the olives are stored in brine and refrigerated.

The olives from dry storage are processed as direct cure olives. This practice is limited to the Ascolano, Manzanilla, and Mission varieties. The Sevellano must be stored in brine for one month before being processed. Obviously, the refrigerated brine storage of olives has several advantages.

Olives belong to the cold-sensitive fruits, and are subject to chilling injury (CI) at temperatures below 40°F (4.4°C) the flesh of fresh green olives turns brown. Furthermore, on pickling, an abnormal, very undesirable taste is always present. For some reason, still unknown, olives refrigerated in brine do not discolor or possess an off-taste after processing.

Pickled ripe olives, including black ripe, green ripe, and Greek style, can be preserved by freezing at 0°F (-18°C) or lower. At present there is little commercial interest in preserving olives by freezing, but it has been determined that the best color and texture is retained by immersion freezing and storing dry (IQF). Some commercially freeze-dried olives now are available in the market.

## **Salt Cured Greek Style Ripe Olives**

In the salt curing process, olives become shriveled and very high in salt content. Curing by this process usually requires 2 months or longer. Most of the salt in which they have been cured is removed by screening, and the olives coated with olive oil by shaking with a small amount of the oil. They should be shaken or rolled occasionally to prevent molding. If handled properly after salt curing, olives can keep for several months.

If refrigerated in household appliances or commercial installations at 45°F (7°C) in closed, air-tight containers, the olives keep very well for one year or more without appreciable change in texture or taste.

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