Radishes

Revised 2018

Thermal Properties

	English	Metric
Moisture, %	94.84	--
Protein, %	0.60	--
Fat, %	0.54	--
Carbohydrate, %	3.59	--
Fiber, %	1.60	--
Ash, %	0.54	--
Specific Heat Above Freezing	0.97 Btu/lb*°F	4.08 kJ/(kg*K)
Specific Heat Below Freezing	0.42 Btu/lb*°F	1.77 kJ/(kg*K)
Latent Heat of Fusion	136 Btu/lb	317 kJ/kg

Storage Conditions

	Spring Radishes	Winter Radishes (Black)
Temperature	32°F (0°C)	32°F (0°C)
Relative Humidity	95 to 100%	95 to 100%
Storage Period	3 to 4 weeks (topped)	3 to 4 months (topped)
Freezing Point	30.7°F (-0.7°C)	28°F (-2.2°C)

Commonly used spring or summer radishes, including red or white, can be hydrocooled efficiently after mechanical harvest. It is important to cool promptly, or radishes become spongy due to water loss. Using 34°F (1.1°C) water, they can be cooled to 40°F (4.4°C) in about 5 minutes. If they are topped and then packaged in polyethylene bags, radishes can usually be stored 3 to 4 weeks at 32°F (0°C), and a somewhat shorter time at 40°F (4.4°C). The film bags should be ventilated with a few small holes for aeration.

Storage life can be lengthened by trimming any thin side roots and by clipping the tops just above the crown. The latter practice greatly retards regrowth of tops and reduces decay.

Bunched radishes with tops are more perishable than trimmed radishes. They can be stored at 32°F (0°C) with 95% relative humidity (RH) for 1 to 2 weeks. The use of package ice and top ice keeps the tops fresh and the roots firm. Radishes cannot withstand even brief freezing without major loss in quality after thawing. Thus, if they are packed in ice, care must be taken that the ice is not below their freezing point when it is applied. When storage temperatures are higher than 32°F (0°C), a low oxygen atmosphere (1%) may be beneficial in reducing top and root growth and softening.

Winter or black radishes can be stored much longer than spring radishes and require the same cold storage conditions as topped carrots, turnips, and rutabagas. They should remain in good condition for 3 to 4 months at 32°F (0°C) as long as the RH is 95 to 100%.

Diseases

The diseases of radishes resemble those of rutabagas and turnips. Additional information is located elsewhere in the manual, under **Turnips**.

Bacterial Soft Rot	First seen as water soaked or greasy spots on leaves. Often follows bruises, cracks or other injuries on roots. In later stages, infected areas turn brown to black, often with a foul odor. Disease spreads rapidly in warm, humid weather. **Control**: Care in handling to avoid cuts, bruises and other injuries. Maintain 50 to 100 ppm chlorine in wash and hydrocooler water with pH adjusted to 7.0, and thereafter maintain the roots at the proper temperature of 32°F (0°C), not above 35°F (2.2°C), and avoid freezing temperatures. Especially bad on radishes that have not been topped.
Black Spot	Black spot is a bacterial disease (*Xanthomonas campestris* pv. *vesicatoria*) characterized by a number of brown to black spots 1 to 3 mm in diameter on roots with little internal discoloration. **Control:** Black spot is controlled by maintaining 50 to 100 ppm chlorine in wash and hydrocooler water with pH adjusted to 7.0, and thereafter maintaining the roots at the proper temperature of 32°F (0°C).
Gray Mold (Botrytis) Rot	A moist, firm rot that is initially white and fluffy, becoming brown or gray. Usually develops at injured areas. Grows slowly even at 32°F (0°C). **Control:** Avoid injuries because *Botrytis* is typically a wound parasite. No warehouse control.

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