

# Prunes, Italian

Revised 2018

## Storage Conditions

Temperature	31 to 32°F (-0.6 to 0°C)
Relative Humidity	90 to 95%
Storage Period	2 to 3 weeks
Freezing Point	30°F (-1.1°C)

Fresh Italian prunes can ordinarily be kept in storage at 31 to 32°F (-0.6 to 0°C) with 90 to 95% relative humidity (RH) for 2 to 3 weeks if the prunes are shipped immediately after harvest. If the prunes are held in cold storage at the shipping point, then the maximum storage period should be 2 weeks before the transit period. Fresh prunes should not be exposed to temperatures between 36 and 48°F (2.2 and 8.9°C) to avoid internal breakdown (i.e., chilling injury), which includes symptoms of flesh browning, 'bleeding' (red color that appears to 'bleed' from the pit into the flesh), and loss of flavor.

If prunes are held too long in storage, there is danger of shriveling, mealiness, abnormal flavor, and internal browning near the pit. These conditions may not be apparent in cold storage, but on removal from storage the fruit may deteriorate rapidly, sometimes losing as much quality in 3 days after storage as has taken place during the entire storage period.

Exposure to 34°F (1.1°C) temperatures for a few days can enhance ripening of Early Italian prunes. These cold-stored prunes develop more color, have less acid, and are softer than prunes ripened immediately without a cold treatment.

Internal browning, the most serious disorder of Italian prunes, is a physiological disorder associated with overripening. The fruit are predisposed to it in the orchard, but subsequent handling contributes to its severity. Factors contributing to the disorder are low tree vigor, high summer temperatures during fruit maturation, and delayed harvest.

Italian prunes shipped after storage at shipping points should not be stored again at the receiving markets. Bruising greatly increases susceptibility of prunes to decay in storage.

## Diseases and Injuries

The most common postharvest diseases of prunes are blue mold rot, brown rot, *Cladosporium* rot, gray mold rot, and *Rhizopus* rot. Fruit maturing late in the season are particularly subject to brown and gray mold rot, and fruit that have become cracked during growth or during harvesting and handling are especially susceptible to blue mold and *Cladosporium* rot. *Rhizopus* mold grows only at temperatures above 45°F (7.2°C), and consequently develops only in plums that are not properly pre-cooled or refrigerated in storage or transit.

Control of prune diseases involves using protective fungicides in the orchard, postharvest fungicide-wax applications in the packinghouse, careful handling to prevent bruising or cracking, and good temperature management.

<p><b>Blue Mold Rot</b></p>	<p>Round spots of mushy decay that can be scooped out cleanly. White tufts turning to bluish-green develop on surface. Musty odor and flavor.</p> <p><b>Control:</b> Apply recommended fungicides. Market promptly. Cool promptly to 31 to 32°F (-0.6 to 0°C).</p>
<p><b>Brown Rot</b></p>	<p>Extensive firm brown, unsunken decay, turning dark in center. May be covered with dusty spores in yellowish-gray masses. Should be controlled in orchard.</p> <p><b>Control:</b> Cool promptly to 31 to 32°F (-0.6 to 0°C). Apply recommended fungicides.</p>
<p><b>Gray Mold Rot (Botrytis)</b></p>	<p>Light brown, fairly firm, watery decay covered with delicate dirty-white mold. On completely decayed plums grayish-brown velvety sporulation may occur. Associated with wet weather.</p> <p><b>Control:</b> Avoid inflicting harvesting and handling wounds to avoid infection. Cool promptly to 31 to 32°F (-0.6 to 0°C).</p>
<p><b>Green Mold Rot (Alternaria and Cladosporium Rots)</b></p>	<p>Mold growth on area is dark green below and white above. Light brown, dry, firm decay lining skin breaks. Can be removed easily from surrounding healthy tissue.</p> <p><b>Control:</b> Cull out fruit with cracks and other skin breaks.</p>
<p><b>Internal Breakdown or Chilling Injury</b></p>	<p>Flesh browning, 'bleeding' (red color that appears to 'bleed' from the pit into the flesh), and loss of flavor.</p> <p><b>Control:</b> Avoid exposure to temperatures between 36 and 48°F (2.2 and 8.9°C) throughout postharvest handling. Do not exceed storage potential.</p>
<p><b>Internal Browning</b></p>	<p>Flesh turns brown as fruit ripen and soften with development of off flavor.</p> <p><b>Control:</b> Early harvest. Avoid storage of prunes harvested at advanced maturity or that matured under unusually high temperature conditions. Cool promptly after harvest to 31 to 32°F (-0.6 to 0°C).</p>
<p><b>Rhizopus Rot</b></p>	<p>Extensive soft leaking decay with little change of color. Coarse mold growth and black spores prominent under moist conditions.</p> <p><b>Control:</b> Prompt cooling to 31 to 32°F (-0.6 to 0°C). Growth of Rhizopus is effectively inhibited by temperatures below 41°F (5°C).</p>
<p><b>Russetting</b></p>	<p>Found commonly on Italian prunes grown on the West Coast. Irregular, rough russeted spots on surface caused by insects, weather conditions, or mechanical damage on tree.</p>

	<b>Control:</b> No warehouse control.
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## Freezing

Some freezing of purple plums and prunes is done for the institutional market and for further processing. In preparation for freezing, the fruit are halved and pitted and packed in syrup, usually in barrels. In some European countries, plums and prunes are pitted with equipment similar to, but larger than, that used for cherries. For use in further processing, frozen plums and prunes may be held for up to 1 year at 0°F (-17.8°C) or longer at -10°F (-23.3°C).

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