Loquat

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Scientific Name and Introduction: Loquat, *Eriobotrya japonica* L., belongs to the rose family, is a subtropical evergreen fruit tree. Fruits grow in loose clusters and are round or oval in shape weighing about 20 to 80 g (0.7 to 2.8 oz). Fruit have a thin but tough skin. Ripe fruit flesh is soft and juicy, varying in color from white to deep orange. Loquat originated in middle-western China and is widely cultivated in the subtropical regions of Southern China, Japan, Israel and Mediterranean area. In the U.S., loquats grow in Hawaii, California and the Gulf states.

Quality Characteristics and Criteria: High quality loquat have SSC >12%, moderate TA (0.3 to 0.6%) and low flesh firmness. Loquat cultivars have a rapid rate of fruit softening.

Horticultural Maturity Indices: The quality of loquats is highly dependent on the degree of ripening. Loquats harvested in the fully ripe stage have the optimum quality. However, in commercial situations where transport and shelf-life are involved, loquats are generally harvested at the eating-ripe stage before becoming fully ripe. In most cultivars, harvest date is determined by skin color changes, described for each cultivar.

Grades, Sizes and Packaging: Size in the cultivar 'Tanaka' are defined as: Large, > 60 g (2.1 oz); Medium, 50 to 59 g (1.9 oz); Small, 40 to 49 g (1.6 oz); and SS, 30 to 39 g (1.2 oz). Packages commonly employ soft materials because of their susceptibility and bruising.

Pre-cooling Conditions: In order to maintain quality and storage-life, loquat should be pre-cooled to < 5 °C within 20 h of harvest (Shinbori and Nakai, 1991).

Optimum Storage Conditions: Recommended conditions for commercial storage are 0 to 5 °C with > 90% RH. Loquat fruit can be kept in good condition for 3 to 4 weeks at 0 °C and 2 weeks at 10 °C (Guelfat-Reich, 1970; Ding et al., 1998). Use of polyethylene bags retards weight loss and minimizes decreases in organic acids (Ding et al., 1997).

Controlled Atmosphere (CA) Conditions: None.

Retail outlet Display Considerations: A refrigerated shelf at 5 to 12 °C (41 to 54 ºF) is good.

Chilling Sensitivity: Loquats are not sensitive to chilling temperatures.

Ethylene Production and Sensitivity: Loquats produce relatively low amounts of ethylene and are not particularly sensitive to ethylene exposure after harvest.

Respiration Rates: Respiration rates of loquat are influenced by temperature, and decrease rapidly over the first 4 days of storage. By 4 days of storage, respiration of fruit stored at 20, 10, 5 and 1 °C were 80.0, 30.6, 12.4 and 11.2 mg CO_2 kg^{-1} h^{-1}, respectively (Ding et al., 1998). To get mL kg^{-1} h^{-1}, divide the mg kg^{-1} h^{-1} rate by 2.0 at 0 °C (32 °F), 1.9 at 10 °C (50 °F), and 1.8 at 20 °C (68 °F). To calculate heat production, multiply mg kg^{-1} h^{-1} by 220 to get BTU per ton per day or by 61 to get kcal per metric ton per day.

Physiological Disorders: Fruit are easily bruised and scratched, and the damaged areas usually turn brown or black, so careful handling and packaging during and after harvest are important. Also, internal browning and brown surface spotting occur during long-term or high CO_2 storage (Ding et al., 1999).

Postharvest Pathology: Cooling fruit and keeping < 5 °C is effective at controlling spoilage.

Quarantine Issues: None.

Suitability as Fresh-cut Product: No current potential.

Special Considerations: Loquats must be handled with care to avoid mechanical damage and the low-temperature storage is essential for extending postharvest life.

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