Loquat

Scientific name: *Eriobotrya japonica*
Family: Rosaceae
Origin: China

Loquat is among the first fruits cultivated in Asia and is steeped in ancient Chinese mythology. For centuries only the Chinese royalty was allowed to eat the fruit, as it was thought that loquat fruit falling into the rivers gave the koi, or carp, the strength and desire to swim against current and up waterfalls and be turned into mythical dragons. The fruit was introduced from China to Japan as early as 700 AD. In 914 the first Chinese medical textbook was translated to Japanese and mentioned how to use loquat to obtain clear lungs. Japanese law books in the early 900s stated the proper way to present loquat as an offering to the Shinto gods. In Hawai‘i, loquat is sometimes called pipa (Chinese) or biwa (Japanese).

Loquat is one of the most popular fruits in the world. It was grown in Europe in the early 1700s. Spain, China, and Japan are the world's largest commercial producers. Loquat is also very popular in the Middle East, India, South America, and South Africa.

The fruit may have been introduced to Hawai‘i as early as 1787 with Chinese visitors. In 1831, Dr. F.J.F. Meyen wrote of hearing about a Chinese settlement on Maui prior to Captain Cooks' arrival. Loquat was found in the yards of many of Hawai‘i's first Asian immigrants.

Cultivars

There are over 900 loquat cultivars, and work on the crop is conducted in many growing areas around the world. In Hawai‘i, common varieties are 'Tanaka', 'Gold Nugget', 'Mammoth', 'Advance', and 'Wolf'. Varieties introduced in the 1990s from Japan include 'Obusa', 'Fusahikari', and 'Mizuho'. Many older, wild loquat trees in Hawai‘i are thought to be seedlings and produce small, inferior fruit. These trees can be top-worked and grafted with newer varieties. A seedless variety, 'Kibou', was developed in 2003 in Chiba, Japan, but it has not yet been released to growers.

Environment

A subtropical tree, the loquat is well adapted to Hawai‘i's wide range of climates. It prefers upper elevations from 1000 to 5000 feet but is often found grown at lower elevations as an ornamental. Loquat leaves are sometimes used as fodder or made into tea. The fruit is susceptible to sunburn at lower elevations. The tree tolerates most soils with good drainage. Salt spray can cause leaf drop.

Horticulture

Loquat grows rapidly and needs frequent pruning to keep it managed and facilitate harvesting. The tree has a shallow root system and may require irrigation at lower elevations. Trees at the 12 Trees Project site, at 430 feet elevation, were given 15 minutes of water daily with a ½-gallon/hour emitter. The tree is a heavy feeder and requirements for fertilizer vary greatly depending on location. Generally, in Hawai‘i, ½ pound of 6-6-6 fertilizer applied four times per year to mature trees will ensure good fruit growth. Loquat can be pruned as an espalier or kept low to the ground. Multiple branches on new growth are removed, leaving only the top and bottom branches.

In Asia, various techniques are used to produce large fruit with high quality. As flowers develop, they should be thinned to three bottom stalks (racemes). Depending on the variety, only three to five fruits are left on each panicle. The fruit should be covered to protect it from

Loquat inflorescences are trimmed to have fewer flowers; after the fruits develop, they are thinned to three or four per inflorescence and then bagged.

fruit flies and to slow coloration. Double bags used in Japan reduce the light reaching the fruit for 80% of fruit development. When that is reached, the outer bag is removed, leaving the inner bag, which permits 60% of the light to reach the fruit. Most loquats turn from green to yellow to light orange when ripe.

In general, loquat flowers and fruits in Hawai‘i earlier than other growing locations, from late November through April, with peak production in January and February.

Pests and diseases

Loquat is a fruit fly host. In addition to the protective wrapping, following the Hawai‘i Area-Wide Fruit Fly Pest Management Program recommendations is highly advisable. The tree is also susceptible to nematodes. Good sanitation should be practiced. Green scale (*Coccus viridis*) can also affect the plants. Loquat can be affected by fire blight (*Erwinia amylovora*), and damaged wood should be removed and disposed of.

Propagation

Loquat does not produce true to seed but is easily grafted. Older trees can be top-worked to change the variety. Scions for grafting should be from 2-year-old wood taken 3–4 months before the tree usually produces fruit. Air-layering also works well with loquat.

Harvesting and yield

Loquat is very fragile and should be packaged in the field while harvesting. The fruit should be picked when orange colored. Fruit stems should be cut close to the fruit and not pulled off. Trees can produce from 100 to 300 pounds of fruit per season. A mature ‘Gold Nugget’ loquat tree in South Kona at 1800 feet elevation, covering a 20 x 25 foot area at a height of 12 feet, produced 300 pounds of marketable fruit.

Bruised and sunburned fruit can be used in value-added products such as jam.

Postharvest quality

Loquat can be kept in cold storage for 2 months with little damage. In grocery stores it should be kept in chilled areas of the produce section to ensure quality.

Packaging, pricing, and marketing

Loquat is packaged differently for hotel and restaurant markets than it is for grocery or sales at farmers’ markets. The fruits should be packaged so that they do not touch other fruits, which can cause bruising and discoloration. Fruit size can vary greatly, and same-sized fruit should be packaged together. Current wholesale prices in Hawai‘i depend on fruit size and can range from $2.00 per pound to $3.50 a pound or more. Retail prices in Japan for top-quality fruit can be as high as U.S. $50 for 12 fruits. Loquat is a popular fruit with hotel chefs, who wish to feature it both as fresh and in various recipes. Loquat can used in many value-added products. The fruit is the main ingredient in over 1000 food products in Japan and is often the featured topic on TV cooking shows.

Food uses and nutrition

Loquat is a good source of vitamin A; just a few fruits can provide up to half the recommended daily allowance. Vitamin A is important to visual and dental health. For thousands of years, the Chinese used extract from loquat leaves as an important ingredient for lung ailments.

Bagging loquat fruits is a common practice throughout Asia; these trees are in South Kona.

Bruised or sunburned fruits are still useful in many recipes.

Branches can be tied down to keep trees low.

Nutritional value per 100 g of edible portion*

Moisture	87 g
Calories	47–168
Protein	0.43–1.4 g
Fat	0.64–0.7 g
Carbohydrates	11–43.3 g
Fiber	0.83–1.7g
Ash	0.48 g
Calcium	9–70 mg
Iron	0.14–1.4 mg
Phosphorus	11–126 mg
Potassium	185–1216 mg
Vitamin A	1122–2340 I.U.
Ascorbic acid	0–3 mg

**Values compiled from various sources. Ranges vary greatly due to degree of ripeness of fruits tested.

A "wild" type of loquat

Recipe: Poha loquat salsa

Vince Mott and Ann Rothstein

3 lb poha, cut in half
1 lb loquat, peeled and seeded
3 small mangoes, diced
¼ cup red onion, minced
1 red bell pepper, minced
3 Anaheim chilies, roasted and diced
1 Kona Rangpur lime, juiced
3 slices fresh ginger
Zest of 1 tangerine
2 cups sake
6 cups water
1 T lilikoi puree
1 T olive oil
1 pinch salt
Optional: ¼ cup cilantro

Cook peeled loquats in simple syrup (1 cup water and 1 cup sugar), then cut and dice. Save syrup to flavor salsa, if desired. Mix loquat with other cut fruit and other ingredients. Add additional lime juice to taste.