



## Surinam Cherry

Scientific name: *Eugenia uniflora* L. Synonym: *Eugenia michelii* Lam.

Family: Myrtaceae

Origin: Surinam to Southern Brazil

Surinam cherry, also called pitanga, Brazil cherry, and (in Hawai‘i) pumpkin cherry, is a large shrub that can reach heights in excess of 25 feet. It is often referred to as a tree. The evergreen, ovate to lanceolate leaves are slightly bronze colored when young and about 2 inches long by  $\frac{1}{2}$ – $\frac{3}{4}$  inches wide. One to four fragrant white flowers are found together in a leaf axil, each  $\frac{3}{8}$  inch diameter with an average of 50 stamens. The fruit is thin skinned with seven or eight ribs,  $1\frac{1}{2}$  inches in diameter, and has one to three seeds. The fruit is green when young, turning to orange and then bright red or dark purple-black. The sweet, juicy flesh is considered refreshing by some and an acquired taste by others, due to its resinous flavor.

A member of the Myrtaceae family, the plant is related to guava, jaboticaba, mountain apple, and other members of the genus *Eugenia*, which includes more than 30 edible species.

Chefs chose Surinam cherry as part of the 12 Trees Project because of its versatility for culinary uses, attractive color, and unusual flavor. Introduction of the fruit into Hawai‘i is believed to have been prior to 1911.

### Cultivars

Two distinct variations are found in Surinam cherry, a common red-colored fruit and a less resinous dark-purple-to-black, often sweeter fruit. An Israeli cultivar named ‘Gitit’ is untested in Hawai‘i, as are plants from a Brazilian breeding program that identified three promising cultivars in 1996. A Florida cultivar named ‘Zill’ and other “black” Surinam cherry seedlings are scheduled to begin variety trials at the Kona Experiment station in 2007.

### Environment

Surinam cherry is a tropical plant that can also be grown in subtropical regions. It can be grown at sea level, although it is intolerant of salt in the soil, and it has been found at elevations up to 5000 feet. The plant has a long taproot and can survive periods of drought. It produces fruit in full sun or partial shade. The plant thrives in most soils but produces more fruit in deep loamy soil.

Some seedlings will produce fruit in 2–3 years, while others will produce in 5–6 years. Fruit matures within 3 weeks after flowering. In many parts of Hawai‘i, fruiting occurs year-round when rainfall is abundant.

### Horticulture

Cultivation of Surinam cherry occurs in many countries. Often planted in rows spaced 6–10 feet apart, the shrubs are also planted as hedgerows as close as 3 feet apart. The plant responds favorably to  $\frac{1}{2}$ -pound quarterly applications of organic 6-6-6 and to irrigation in dry areas. Regular mulching is advisable. Ten minutes of daily irrigation with a  $\frac{1}{2}$ -gallon/hour emitter helps the plant create larger and somewhat sweeter fruit. In countries where Surinam cherry is grown, no pruning is done until after the first year the shrub has heavily fruited. Pruning dead wood and shaping or lowering the tree to facilitate harvesting is advisable, usually after the sixth or seventh year of growth. This highly adaptable plant also serves as an ornamental and will flourish in locations where other fruit crops are difficult to establish.

### Pests and diseases

Surinam cherry is a fruit fly host. Following the recommendations of the Hawai‘i Area-Wide Fruit Fly Pest



**Surinam cherry flowers**

Management Program (HAW-FLYPM) is highly advisable. Scale insects and caterpillars are also attracted to the tree. Twig dieback and root rot, caused by *Rhizoctonia solani*, often occur in Hawai‘i. Other reported problems include leaf spot caused by *Cercospora eugeniae*, *Helminthosporium* sp., and *Phyllostica eugeniae*; thread blight from infection by *Corticium stevensii*; and anthracnose from *Colletotrichum gloeosporioides*. The use of insecticidal soap or neem oil sprays, and proper care of the tree, help to combat these diseases.

### **Propagation**

Although usually grown from seed, grafting of plants that bear superior fruit occurs in countries where the fruit is commercially cultivated (e.g., Brazil and India). Successful air-layering is also reported. Numerous seedlings are often found under existing trees, and the small ones can be easily transplanted. Seeds are viable for about a month and germinate in 3–4 weeks.

### **Harvesting and yield**

Surinam cherry sold as fresh fruit is generally harvested when fully ripe, when the fruit contains more sugar and less resin. Care must be taken not to damage the thin skin. When the color is orange or orange-red, the fruit is edible and somewhat firmer and less susceptible to damage, but it has a more resinous flavor. Fruit harvested for processing can be picked as soon as it becomes orange. Chefs and jelly manufacturing companies have expressed a desire for fruit at this stage. Ripe fruit should be packaged in the field in the vented clamshell container in which it will be sold. It should be chilled as soon as possible after harvest. Firmer fruit is also easier to pit than softer, fully ripe fruit. Yields of trees observed in Hawai‘i have varied from 6 pounds from a 4-year-old tree to 24 pounds from a 20-foot, untrimmed tree in the wild. In India the fruit is harvested once or twice



**In any given fruiting period, fruits ripen over several weeks.**

daily, with yields ranging from 6 to 8 pounds per plant per year. Israel reports one untrimmed tree producing 2700 fruit in one year, with a total weight of 24 pounds. The average yield from a Brazilian test plot was 15.4 pounds per tree per year.

### **Postharvest quality**

As with most members of the *Eugenia* genus, the faster the fruit can move from field to refrigeration, the longer its shelf life. Freshly picked Surinam cherry chilled within an hour of harvest maintained its integrity in the produce section of a South Kona supermarket for 14 days.

### **Packaging, pricing, and marketing**

The demand for Surinam cherry increased dramatically during the course of the 12 Trees Project due, in part, to the awareness created by the project with area chefs who had been unfamiliar with this common, locally grown fruit, and also because of the outstanding recipes developed by the community college culinary arts program. In addition to demand from chefs, Hawai‘i jelly manufacturers have also requested large quantities of the fruit. In both cases, fresh fruit or frozen puree would be acceptable. Fresh fruit packaged for the consumer should be in vented clamshell containers with no more than a double layer of fruit. Packed fruit should be even-colored and inspected carefully for defects and possible infestation. Fruit that leaks juice should be discarded or kept for processing. Fruit harvested for sale to processors should be washed. Seeds and stems should be removed prior to processing into puree with a commercial juicer. Puree for sale to chefs and manufacturers should be processed in a commercial kitchen as required by the state Department of Health. In some cases chefs will prefer to purchase fruit that has been cooked and strained but not pureed. During the first two years of the 12 Trees



The black-fruited Surinam cherry is called “Kawahara” in Kona; the red fruit is the more typical color.

**Nutritional value** per 100 g of edible portion\*

Calories .....	43–51 g
Moisture .....	85.4–90.70 g
Protein .....	0.84–1.01 g
Fat .....	0.4–0.88 g
Carbohydrates .....	7.93–12.5 g
Fiber .....	0.34–0.6g
Ash .....	0.34–0.5 g
Calcium .....	9 mg
Phosphorus .....	11 mg
Iron .....	0.2 mg
Carotene (vitamin A) .....	1,200–2,000 I.U.
Thiamine .....	0.03 mg
Riboflavin .....	0.04 mg
Niacin .....	0.03 mg
Ascorbic acid .....	20–30 mg

\*Values compiled from various sources

Project the retail price of Surinam cherry jumped from \$2.00 per pound in 2003 to \$3.50 per pound in 2005. Wholesale prices to groceries and wholesalers jumped from \$1.50 to \$2.50 per pound in the same period.

**Food uses and nutrition**

A good source of vitamin A, vitamin C, iron, and iodine, and an antidiarrhoeic, Surinam cherry also has substantial amounts of the antioxidants lycopene, beta-cryptoxanthin, gamma-carotene, and rubixanthin. The seeds are reported to be toxic to some people and should be avoided.

**Average degrees Brix**

13 (five samples each from two trees with red fruit);  
15 (5 samples from one tree with black fruit)

**Recipes**



**Surinam cherry curry sauce**  
*Chef Paul Heerlein*

- 4 cups Surinam cherry puree
- Thai yellow curry paste to taste
- Raw honey to taste
- ½ cup sake
- 2 cloves crushed garlic
- 1 large knob of ginger, sliced
- Butter to taste



**Surinam cherry ice cubes**  
*Vince Mott*

- 1½ cups Surinam cherry puree
- 1 cup water
- 2 oz sweet light molasses
- 2 oz sugar

Mix together, pour ½–1 oz into small cups or ice cube trays, and freeze.

Place cherry cubes in glasses of Kona Rangpur lime punch just before serving. Mint leaf garnish is optional.