



## Poha (Cape Gooseberry)

Scientific name: *Physalia peruviana* L.

Family: Solanaceae

Origin: Peru

Cape gooseberry, called poha in Hawai‘i, was distributed by early explorers and first reported in England in 1774. A commercial crop in many countries, the poha is often used in Hawaiian Regional Cuisine. First noted on the Big Island in 1825, the fruit is common in the wild and cultivated for home and commercial use around the state.

The plant is a low-growing shrub with velvety leaves and yellow, bell-shaped flowers. Mature fruit is round and orange skinned with many edible seeds. It is juicy and sweet with a distinctive flavor.

### Cultivars

Poha is also known as golden berry in many English-speaking countries. In Australia, it is marketed under the cultivar names ‘Golden Nugget’ and ‘New Sugar Giant’. Growers in New Zealand often take cuttings from plants that produce the sweetest fruit for propagation.

### Environment

Poha is commonly found at upper elevations on mountain slopes from 1000 to 4000 feet and is reported to occur as high as 8000 feet. Plants at lower elevations usually produce smaller fruit. Because it is non-native in Hawai‘i and birds distribute its seeds, poha is regarded as an invasive species, although its threat to native species and ecosystems is not well characterized.

The plant’s shallow root system is best adapted to soils with good drainage. The plant is among the first to take root in newly cleared lands and does well in relatively poor soils. Fertile soils favor vegetative growth over fruit production. Poha becomes dormant during extended periods of drought unless irrigated. Harvesting is facili-

tated when plants are spaced 4–6 feet apart in rows and, optimally, trellised or staked. Planting in raised beds has helped ease the labor of harvesting.

### Horticulture

Poha tolerates a wide variety of soils with pH between 5.0 and 6.5. Because of its shallow root system, similar to that of tomato, mulch and organic soil amendments help retain water and nutrients. Plants at the 12 Trees Project were given ¼ cup of 6-6-6 organic fertilizer every 4 months, placed around the drip line. Fruit ripening can take several months, and harvest generally occurs 60–100 days after flowering. Poha should be severely pruned after harvest, and plants should be replaced after 3–4 years when fruit size and yield diminish.

### Pests and diseases

The broad mite, *Polyphagotarsonemus latus*, feeds by puncturing the stem and sucking the sap from the wound. This will stunt growth, discolor leaves, and deform young foliage. The solanaceous treehopper (*Antianthe expansa*), thrips, and various beetles can also affect the plant. Sooty mold (*Asteridiella acervata*), root-knot nematode (*Meloidogyne* sp.), and bacterial wilt (*Pseudomonas solanacearum*) are among the pathogens that can affect poha. In general, good field sanitation, appropriate horticultural practices, and an integrated pest management program can prevent crop damage.

### Propagation

Poha is usually started from seed but can be started from stem cuttings 6–8 inches long. A rooting hormone will help induce rooting. Young seedlings are susceptible to



**Papery fruit sacks (and a praying mantis)**

high temperatures, and it is advisable to plant them in the late afternoon or during cloudy weather. Seedlings should be kept moist and shaded.

### **Harvesting and yield**

Poha is harvested every few days, when the husks are dry and turn to a straw color. It is often picked in the afternoon, when there is little moisture. Many growers shake the bush so that the dry husks fall and are easily picked up from the ground. Plastic sheets are sometimes placed under the plants to catch the fallen fruit.

Plants at lower elevations (300–700 feet) under irrigation produce small fruit in large quantities, sometimes more than 1000 fruits per plant. Higher elevations (700–3000 feet) without irrigation produce an average of 300 large fruits per shrub. Averages in South America are 3000 pounds of fruit per acre. Laborers harvest 10–12 pounds of in-husk fruit per hour.

### **Postharvest quality**

Poha will last up to several months dry and in-husk. Large commercial producers store them in-husk at 33°F. They will keep more than a year when husked and frozen. The husks are kept on when shipping the fruit, and it should be stored dry.

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

In Hawai‘i, poha fruit is often sold husked in local groceries and farmers’ markets. In Japan, the fruit, grown



**Poha flower**



**Harvesting poha at the 12-Trees Project orchard**

in South America, is sold in-husk in small blister packs. In Hawai‘i, poha can wholesale to restaurants for as much as \$3.50 in-husk and \$7.00 husked, but it is often found cheaper in grocery stores. Jam manufacturers and restaurants throughout Hawai‘i continuously seek fresh and fresh-frozen husked poha.

### **Food uses and nutrition**

Poha is often eaten fresh and made into jelly and jam or canned whole for culinary purposes. In Europe, the fresh fruit is dipped into chocolate or used to decorate cakes. It is also used in sauces.

Poha is a source of phosphorus, which helps the body process vitamins and aids in the conversion of food to energy. The primary benefit of phosphorus is the building of bones and teeth, when balanced with calcium and magnesium. Poha also contains a cross-section of bioflavonoids (vitamin P), which help with anti-inflammation and act as natural blood thinners.



**Husked poha fruits**

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

Moisture .....	78.9 g
Protein .....	0.054 g
Fat .....	0.16 g
Fiber .....	4.9 g
Ash .....	1.01 g
Calcium .....	8.0 mg
Phosphorus .....	55.3 mg
Iron .....	1.23 mg
Carotene .....	1.613 mg
Thiamine .....	0.101 mg
Riboflavin .....	0.032 mg
Niacin .....	1.73 mg
Ascorbic acid .....	43.0 mg

\*Values compiled from various sources.

**Recipe: Poha apple vinaigrette**  
***Chef Sandy Barr***

- 2 green apples
- 1 cup poha
- ½ tsp sage
- 1½ tsp tarragon
- 1 tsp salt
- 1 tsp chopped garlic
- 3 T sugar
- ½ cup white wine vinegar
- ¾ cup vegetable oil

Peel, seed, and quarter apples. Microwave for 5 minutes.

Place all ingredients except poha and oil in a food processor. Puree well and then, with processor running, slowly add the oil. Add berries last, and process until they are just broken. Yield: 3 cups.

**See also the recipe for poha-loquat salsa, p. 20.**