

# **Edible Plants for Hawai'i Landscapes**

Melvin Wong
Department of Tropical Plant and Soil Sciences

ost people love to grow plants that have edible parts. The choice of which plants to grow depends upon an individual's taste, so selecting plants for a land-scape is usually a personal decision. This publication gives a broad overview of the subject to provide a basis for selecting edible plants for Hawai'i landscapes.

The list of fruits, vegetables, and plants with edible parts is extensive, but many of these plants do not make good landscape plants. For example, mango, litchi, longan, and durian trees are popular because of their fruits, but they are too large to make good landscape trees for most urban residential situations. However, they can be and often are planted on large houselots, particularly in rural areas, and in circumstances where landscape design aesthetics are not of paramount importance.

Some of the plants with edible parts that are used extensively in tropical landscapes are coconut, allspice, strawberry guava, kukui, natal plum, honeysuckle, and daylily.

The normal coconut palm (Fig. 1a) is expensive to maintain, requiring pruning of the fruits for safety reasons and the old leaves for aesthetic reasons. The 'Dwarf Samoan' variety (Fig. 1b) is preferable because it is easier to maintain, and some prefer its fruit quality to the common type.

The female allspice (Fig. 2) and the strawberry guava trees are considered invasive because birds eat the fruits and spread the seeds through their excretions. The allspice tree is used as a street tree, and the strawberry guava is used in Japanese-style gardens.

The natal plum (Fig. 3a, b) is commonly grown as a hedge, but the fruits have a milky sap that makes people think the fruits are poisonous.

The flowers of honeysuckle and daylily (Fig. 3) are edible but these plants are not usually grown for that purpose.

The kukui tree (Fig. 5a, b, c) is a hardy tree that will add greenish-white to the landscape.

Other less common but attractive plants with edible parts include sapodilla, 'Tahitian' breadfruit, 'Kau' macadamia, mangosteen, orange, lemon, lime, kumquat, jaboticaba, surinam cherry, tea, coffee, cacao, clove, bay rum, bay leaf, cinnamon, vanilla, noni, pikake, rose, variegated red Spanish pineapple, rosemary, lavender, ornamental pepper, society garlic, nasturtium, calabash gourd, ung tsoi, sweetpotato, land cress, Tahitian taro, and edible hibiscus.

Sapodilla (Fig. 6a, b, c) is a compact tree with sweet, edible fruits. 'Tahitian' breadfruit (Fig. 7) is a compact tree that is not as large and spreading as the common Hawaiian breadfruit. The 'Kau' macadamia is an attractive, conical, vertical tree with good quality nuts, although homeowners should consider that macadamia nuts in the landscape can attract rats. Roses, pikake, honeysuckle, and orange and lemon trees produce fragrant, edible flowers. Society garlic (Fig. 7) has edible flowers and is attractive as an accent next to rocks. Surinam cherry (Fig. 8) and jaboticaba (Fig. 9) produce desirable fruits, make good hedge plants, and can be pruned in bonsai style. Cinnamon (Fig. 10), coffee (Fig. 11), tea, cacao (Fig. 12), bay leaf, bay rum, ornamental pepper (Fig. 13), tamarind, pepper vine, lavender, clove, lime, and vanilla are attractive plants that can be harvested as, variously, culinary herbs and spices or to make beverages.

Tahitian taro, ung tsoi (Fig. 14), and land cress (Fig. 15) are groundcovers with edible foliage. Tahitian taro (*Xanthosoma brasiliense*, Fig. 16) is not a true, Hawaiian *Colocasia* taro. It can be grown as a high groundcover and lends a "tropical" effect. The leaves are low in acridity and need not be cooked for as long a time as *Colocasia* taro leaves when prepared as luau. Two harvestable,

vining groundcovers are ung tsoi (*Ipomoea aquatica*) and sweetpotato (*Ipomoea batatas*), although the sweetpotato weevil can become a problem if they are grown in the same area over and over again. Ung tsoi can be used as an ingredient in stir-fry dishes. Land cress makes a good addition to soup.

Edible hibiscus (*Abelmoscus manihot*, Fig. 18) is an herbaceous shrub with attractive, large, dark green, edible leaves. Calabash gourd (*Lagenaria leucanthe*, Fig. 19a, b) can be used as a vigorous, attractive, annual groundcover that produces an edible squash. In Hawai'i, people tend to not like plants that need to be replanted annually.

The tea plant also makes a handsome hedge. Unlike durian, the mangosteen tree produces quality fruits and is not exceptionally large. The variegated, red Spanish pineapple (Fig. 20) can add color to landscapes.

Durian cannot be generally recommended for residential landscapes because the tree is large and the fruits have an onerous smell, but many people from Southeast Asia cherish this fruit. Other favorite fruit trees in SE Asia include jackfruit (*Artocarpus heterophyllus*), soursop (*Annona muricata*), atemoya (*Annona cherimola x Annona squamosa*), lansone (*Lansium domesticum*), rambutan (*Nephelium lappaceum*). Akee (*Blighia sapida*) although an attractive tree cannot be recommended because its fruits are poisonous in both the unripe and over-ripe stages, and only people who know this plant well can safely eat the fruit.

In Filipino household gardens you will almost always find the horseradish tree (*Moringa oleifera*). Many parts of this plant are eaten. You may also find the bilimbi (*Averrhoa bilimbi*) and the otaheite gooseberry (*Phyllanthus acidus*), the fruits of which are tart and usually pickled.

There is a yellow passion fruit seedling vine (Fig. 21a, b) that has excellent quality fruits and very attractive, dark green foliage. The fruits have high acidity and sugar levels that make them very good to eat fresh off the vine. The vine requires a trellis system for best growth. Unfortunately, these plants are seldom found at nurseries.

Many of the plants on the "recommended" list can be grouped into tropical, Japanese, and contemporary theme gardens. Tropical gardens can include 'Dwarf Samoan' coconut, thornless peach palm, warabi fern, Tahitian taro, ornamental taro, variegated red Spanish pineapple, variegated cassava, vanilla, variegated golden bamboo (Fig.

22), and the yellow passion fruit vine seedling. Coconut is a very versatile food source in the tropics. The water in the fruit is a refreshing drink, and the milk obtained by squeezing the grated endosperm is used in many tropical dishes and for making a desert called haupia.

Japanese gardens can include bonsai strawberry guava, allspice, jaboticaba, or surinam cherry trees, bamboo, and society garlic next to rocks as an accent. Effective use of these plants depends on the gardener's aesthetic sense and landscape design and maintenance abilities

Less commonly eaten plants with landscaping potential include palms for heart-of-palm, bamboo shoots, and fern shoots called warabi. Many palm species have edible heart, sometimes called "cabbage" (apical bud and underdeveloped leaf bases and leaves). In Brazil, Paraguay, and the Dominican Republic, where palms are numerous in the wild, palm heart has been harvested to such an extent that the ecology has been negatively affected. The following palms with edible hearts can be found in Hawai'i landscapes:

Archontophoenix alexandrae (alexander)
Areca catechu (betel nut)
Bactris gasipaes (peach)
Caryota urens (wine)
Coco nucifera (coconut)
Hyophorbe lagemcaulis (bottle)
Livistonia rotundifolia (footstool)
Lodoicea maldivica (coco de mer)
Normanbya normanbyi (black)
Rhopalostylis sapida (feather duster)
Roystonia oleracea (South American royal)
Sabal palmetto (cuban palmetto)
Satakentia liukiuensis (sataki)
Syagrus romanzoffianum (queen).

Peach palm is commercially grown for harvest of palm heart (Fig. 23a, b) in Costa Rico and Hawai'i because the plant grows rapidly and reproduces by division; there is a thornless variety that might be preferable for land-scape uses. Coconut palm heart also can be eaten.

Bamboo shoots are commonly eaten in China and Japan. Since Chinese and Japanese foods are popular in Hawai'i, bamboo shoots are a common ingredient in many local dishes. Most of the bamboo shoots used are canned and shipped from Southeast Asia. The four gen-

era used for commercial edible bamboo shoots are *Arundinaria*, *Bambusa*, *Dendrocalamus*, and *Phyllostachys*. In Hawai'i, *Bambusa vulgaris* var. *aureo variegata* is used commonly as an ornamental plant. This species is edible, but like all bamboos the shoots need to be cooked properly before being eaten.

Fern shoots for consumption are obtained from *Pteridium aquilinum* var. *decompositum* (Hawaiian bracken fern) and *Diplazium esculentum*. Both are called warabi. Bracken fern has cancerous properties and a nerve poison, so it should be eaten infrequently and in moderate quantities. *Diplazium esculentum* is not known to have these antinutritional qualities, so it can be eaten freely. Both warabi are prepared like asparagus.

Varieties of taro (*Colocasia esculentum*) from Hawai'i are numerous, but three are particularly recommended: 'Apuwai', 'Bun Long', and 'Ulaula Kumu'.

'Apuwai' is all green and husky. The corms mature in 9–12 months and make a good, light colored poi, while the leaves make good luau.

'Bun Long' has been commercially grown in Hawai'i for a long time. This variety is very versatile. The corms mature in 9–12 months and are used to make poi, table taro, and Chinese taro cakes. The leaves make up a large part of the market for luau leaves. The foliage is spreading and stocky.

'Ulaula kumu' is the more ornamental of these three taros because of the decorative, light red petioles with dark, reddish edges. The corms mature in 8–12 months. It is grown primarily by homeowners for poi or table taro.

Soursop (*Annona muricata*, Fig. 24) and star fruit (*Averrhoa carambola*, Fig. 25) are small trees with delicious fruits that are popular in Hawai'i and Southeast Asia. Both can be used fresh or made into drinks. The date palm (*Phoenix dactylifera*, Fig. 26) was used in larger landscapes such as in Kapi'olani Park and the Waikiki Zoo. The fruits are the well known sweet dates. Miracle fruit (*Synsepalum dulcificum*, Fig. 27) plants are slow growing but can become attractive shrubs. When eaten (without the seed) miracle fruits make other sour fruits taste sweeter; this effect lasts for about an hour after the miracle fruit is eaten.

# References and further reading

- Clay, Horace F., and James C. Hubbard. 1977. The Hawaii garden, tropical exotics. University of Hawaiii Press, Honolulu.
- Clay, Horace F., and James C. Hubbard. 1977. The Hawaii garden, tropical shrubs. University of Hawai'i Press, Honolulu.
- Creasy, Rosalind. 1999. The edible flower garden. Periplus Editions (HK) Ltd., Boston and Singapore.
- Farrelly, David. 1984. The book of bamboo. Sierra Club Books, San Francisco.
- Frowine, Steve. 1988. Oriental vegetables. Fine Gardening, no. 2, p. 42–46.
- Hodge, W.H. 1973. Fern foods in Japan and the problems of toxicity. Amer. Ferns J. 63(3):77–80.
- Jones, David. 1984. Palms in Australia. Reed Books, New South Wales, Australia.
- Mulherin, Jennifer. 1988. Spices and natural flavoring. MacMillan, New York.
- Neal, Marie C. 1965. In gardens of Hawaii. Special publication 50. Bishop Museum Press, Honolulu.
- Palmer, Daniel D. 2003. Hawaii ferns and fern allies. University of Hawaii Press, Honolulu.
- Phillips, Roger, and Nicky Foy. 1990. Herbs. Random House, New York.
- Piggott, Audrey G. 1988. Ferns of Malayasia in colour. Tropical Press, Kuala Lumpur, Malaysia.
- Rauch, Fred D., and Paul R. Weissich. 2000. Plants for tropical landscapes. University of Hawai'i Press, Honolulu.
- Whitney, L.D., F.A. Bowers, and M. Takahashi. 1939. Taro varieties in Hawaii. University of Hawai'i, Hawaii Agricultural Experiment Station, Bulletin no. 84.
- Wilson, K.A. 2005. Athyriaceae. In: G.W. Staples and D.R. Herbst (eds.), A tropical garden flora. Bishop Museum Press, Honolulu.

# Landscape plants with edible parts

#### Fruits and nuts

Aleurites moluccana kukui

Ananas comosus 'Variegated Red Spanish'

variegated red Spanish pineapple

Annona muricata soursop

Averrhoa carambola 'Seremban Tai'

Seremban Tai star fruit

Averrhoa carambola 'Sri Kembangan'

Sri Kembangan star fruit

Artocarpus altilis 'Tahitian'
Bactris gasipaes
Capsicum annum
Tahitian breadfruit
peach palm
ornamental pepper

Carissa macrocarpa Natal plum
Chrysophyllum caimto star apple
Citrus limon 'Sun Gold' variegated lemon

Citrus latifolia Bearss lime
Cocos nucifera 'Samoan' dwarf Samoan coconut

Coffea arabica Arabica coffee
Eriobotrya japonica loquat
Eugema aromatica clove

Eugema aromaticacloveEugenia paniculatabrush berryEugema unifloraSurinam cherryFortunello japonica 'Meiwa'Meiwa kumquat

Fortunello japonica 'Nagami'

Garcinia mangostana

Lagenaria leucanthe

Macadamia integrifolia 'Ka'u'

Nagami kumquat

mangosteen

calabash gourd

Ka'u macadamia

Manikara zapota sapodilla Morinda citrifolia noni

Musa acuminata 'Santa Catarina Prata'

dwarf Brazilian banana

Musa acuminata 'Taiwan' Valery banana Myrciaria cauliflora jaboticaba

Myriciaria cauliflora jaboticaba
Myristica fragrans nutmeg
Pachira aquatica Malabar chestnut

Passiflora edulis forma flavicarpa

seedling of yellow passion fruit

Phoenix dactyliferadate palmPimenta dioicaallspicePiper nigrumpepper vinePsidium cattleianumstrawberry guava

Psidium cattleianum forma lucidum

yellow strawberry guava

Synsepalum dulcificum miracle fruit
Tamarindus indica tamarind
Theobroma cacao cocoa
Vanilla fragrans vanilla

### Edible flowers

Chrysanthemum x Grandiflora Chrysanthemum x monifolium Chrysanthemum 'Garland' Chrysanthemum 'Shungiku'

Citrus limon 'Sun Gold' variegated lemon Citrus sinensis orange

Coriandrum sativum
Chinese parsley
Cucurbita spp.
Squash
Dianthus spp.
dianthus
Hemerocallis spp.
daylilies

Jasminum sambac pikake
Lavandula angustifolia English or French lavender
Lonicera japonica honeysuckle

Raphanus sativus radish
Rosa spp. rose
Rosmarinus officinalis rosemary

Tropaeolum majus nasturtium Tulbaghia violacea society garlic

## Edible foliage, stems, or roots

Abelmoscus manihotedible hibiscusAlocasia macrorrhiza'ape (edible stem)Babarea vernaland cress (used like watercress)Bactris gasipaespeach palm (heart)

Bambusa vulgaris var. aureo variegata

golden bamboo (shoot)

Cinnamomum zeylanicum cinnamon tree
Citrus hystrix Kaffir lime

Cocos nucifera 'Samoan'

Samoan coconut (palm heart)

Colocasia esculenta 'Apuwai' Apuwai taro (edible foliage,

poi, table taro)

Colocasia esculenta 'Bun Long'

Bun Long taro (edible foliage, poi, table taro)

Colocasia esculenta 'Ulaula Kumu'

Kumu taro (edible poi, table taro, ornamental red petiole)

Diplazium esculentum edible fern shoot (warabi)

Ipomoea aquatica ung tsoi (edible foliage and stem)

Ipomoea batatas sweetpotato

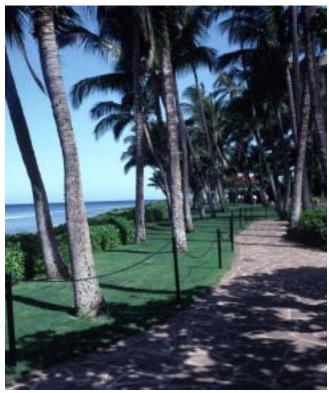
Laurus nobilis bay leaf (leaves used as herb)

Manihot esculenta variegated cassava (roots used for vegetable, flour, or tapioca)

Pteridium aquilinum var. decompositum

Hawaiian bracken fern (edible shoot or warabi)

Thea sinensis tea
Xanthosoma atrovirens yautia (edible roots)
Xanthosoma brasiliense
Xanthosoma sagittifolium
Xanthosoma violaceum
tea
yautia (edible roots)
Tahitian taro (edible foliage)
yautia (edible roots)
yautia (edible roots)



1a. Cocos nucifera, coconut



2. Pimenta dioica, allspice



1b. Cocos nucifera 'Samoan', Samoan coconut



3a. Carissa macrocarpa, Natal plum



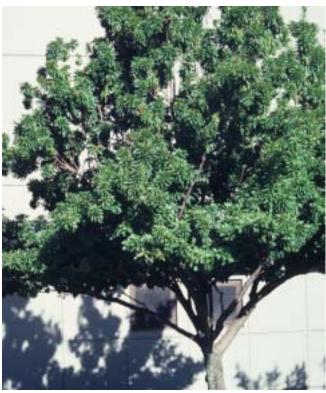
3b. Natal plum flower



5. Aleurites moluccana, kukui



4. Hemerocallis species, daylily



6a. *Manikara zapota*, sapodilla



6b. Sapodilla



6c. Sapodilla fruit, cut to show seed



7. Artocarpus altilis 'Tahitian', Tahitian breadfruit



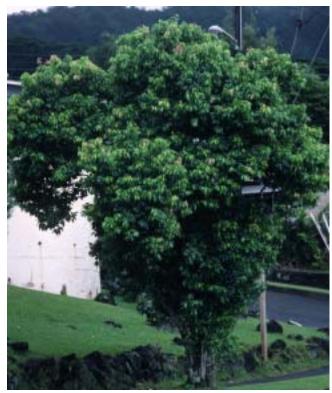
8. Tulbaghia violacea, Society garlic



9. Eugema uniflora, Surinam cherry



10. Myrciaria cauliflora, jaboticaba



11. Cinnamomum zeylanicum, cinnamon tree



12a. Coffea arabica, Arabica coffee



12b. Arabica coffee cherries



14. Capsicum annum, ornamental pepper



13. Theobroma cacao, cocoa, cacao



15. Ipomoea aquatica, ung tsoi



16. Barbarea verna, land cress



17. Xanthosoma brasiliense, Tahitian taro



18. Abelmoscus manihot, edible hibiscus



19a. *Lagenaria leucanthe*, calabash gourd, flowers and foliage



19b. Calabash gourd



21a. *Passiflora edulis* forma *flavicarpa*, seedling of yellow passion fruit, flowers and foliage



20. *Ananas comosus* 'Variegated Red Spanish' pineapple



21b. Seedling of yellow passion fruit, two fruits from the same plant



22. *Bambusa vulgaris* var. *aureo variegata*, variegated golden bamboo



23b. Bactris gasipaes, peach palm



23b. Peach palm trunk



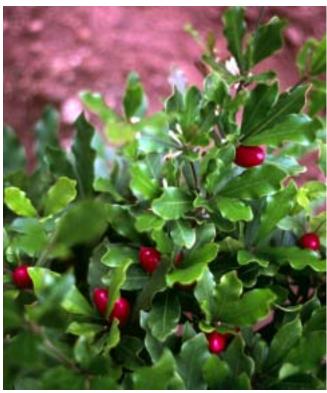
24. Annona muricata, soursop



25. Averrhoa carambola, star fruit



26. Phoenix dactylifera, date palm



27. Synsepalum dulcificum, miracle fruit