

HAWAII COOPERATIVE EXTENSION SERVICE

Hawaii Institute of Tropical Agriculture and Human Resources

University of Hawaii at Manoa

COMMODITY FACT SHEET SP-1(A)

VEGETABLE



SWEET POTATO

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Photo by Gary Morihara

Botanical name: *Ipomoea batatas*

Hawaiian: 'uala

Samoan: umala

Filipino: kamote

Description

There are many varieties of sweet potato. They differ in flesh texture and color, skin color, and leaf shape. Sweet potatoes may be coarse and dry or smooth and moist. The flesh is white, lavender, or orange. The skin is white, tan, orange, red, or purple. Sweet potato leaves range from heart-shaped to five-lobed. A few varieties grow as bushes, but most are vines.

The moist, orange-fleshed types are often called yams. The true yam, however, belongs to a different family.

Both the leaves and the root of the sweet potato can be eaten. Sweet potato leaves are generally not

available at supermarkets but can be found at open markets, swap meets, and some small ethnic markets.

If you wish to grow your own sweet potatoes, ask your local county extension agent for information.

Nutrition Information

All sweet potatoes are not equally nutritious. In some varieties, however, both the roots and the leaves are good sources of vitamins A and C. One small baked sweet potato of the golden-flesh variety supplies between 600 and 10,000 International Units of carotene, which the human body converts to vitamin A. The darker the flesh, the higher the carotene content.

An average, unseasoned sweet potato weighing 100 grams provides 141 calories. It also provides more than one and one-half times an adult's recommended dietary allowance (RDA) for vitamin A and more than one-third of the adult allowance for vitamin C. Thiamin (vitamin B₁) and iron are also provided in significant but smaller amounts (see Fig. 1).

Because the leaves are much lower in carbohydrate than is the root, a 5/8 cup serving of boiled sweet potato leaves provides only 32 calories. It also provides more than one-third of an adult's RDA for vitamin A and a smaller but still significant amount of protein, riboflavin (vitamin B₂), and phosphorus (see Fig. 2). The raw leaves contain larger amounts of some nutrients than do the cooked leaves. When cooking sweet potato leaves, you can prevent the loss of vitamins and minerals by saving the cooking water and using it in soups or stews.

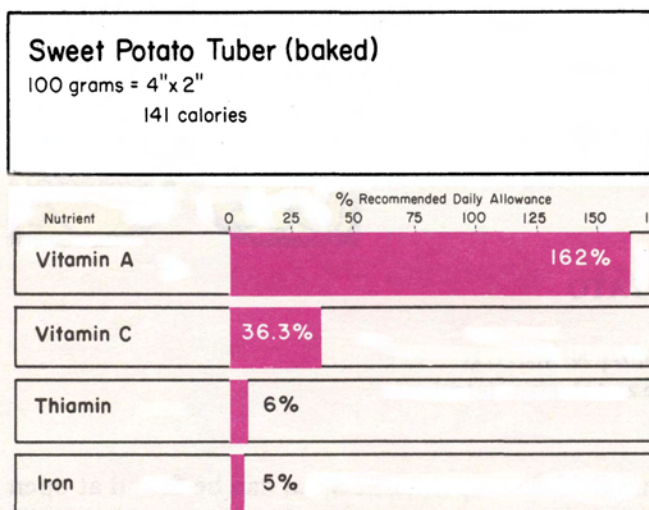


Figure 1. Major nutrients in 100 grams baked sweet potato tuber, given as percentage of U.S. RDA.

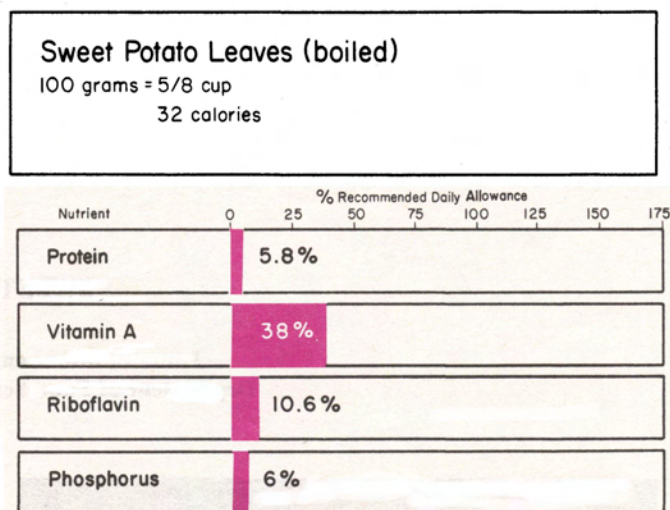


Figure 2. Major nutrients in 100 grams boiled sweet potato leaves, given as percentage of U.S. RDA.

Preservation

Fresh sweet potatoes don't keep well. If you have a lot, you may want to preserve them by canning, freezing, or drying.

One bushel (55 pounds) of sweet potatoes will provide 18 to 22 quarts of canned potato and 34 to 38 pints of frozen potato. Sweet potatoes should be cured before processing to ensure good flavor. Sweet potatoes are a low-acid food and should not be canned unless pressure canning equipment is available. Consult a textbook or guide to canning low-acid foods.

To freeze sweet potatoes, follow these steps:

1. Wash the potatoes and cook them until almost tender.
2. Peel after cooking.
3. To prevent the darkening that occurs in freezing, dip the sweet potato into a solution of ½ cup

lemon juice or 1 tablespoon citric acid in 1 quart of water. Two teaspoons of orange or lemon juice may be added to each quart of mashed sweet potatoes.

4. Pack sweet potatoes, leaving ½ inch headroom.
5. If desired, a light sugar syrup (½ to ¾ cup sugar dissolved in 4 cups water) may be added to whole or sliced sweet potatoes before freezing.
6. Seal and freeze.

Sweet potatoes may also be dried. Cook them thoroughly, then slice into 1/8-inch slices or strips. Consult a guide on drying techniques to find out which method is best for the resources that you have. After drying, sweet potatoes should be conditioned and pasteurized. Condition them by storing the dried vegetables in a covered non-aluminum container for 10 days, stirring them once or twice a day. Pasteurize by heating the dried sweet potato for 10 minutes at 175°F.

Nutrients in 100 g sweet potato leaves and 100 g sweet potato tuber

Nutrient	Boiled sweet potato leaves	Baked sweet potato
Calories	32	141
Protein	3 g	2 g
Calcium	24 mg	40 mg
Phosphorus	60 mg	—
Iron	.6 mg	.9 mg
Vitamin A	1898 IU	8100 IU
Thiamin (vit. B ₁)	.07 mg	.09 mg
Riboflavin (vit. B ₂)	.18 mg	.06 mg
Niacin	.7 mg	.6 mg
Ascorbic acid (vit. C)	1 mg	22 mg

Recipes

Roasting is the most common way to prepare sweet potatoes. First rub the potato with oil, then prick it with a fork, and bake at 350° F. for about 1 hour, or until tender.

Koele Palao (Crustless Sweet Potato Pie)

- 4 c. raw sweet potatoes
- 1 t. salt
- 3 T. sugar
- 2 c. coconut cream
- 2 T. margarine
- ½ c. flaked coconut

1. Boil unpeeled sweet potatoes until tender.
2. Peel, then mash until smooth, adding salt, sugar, and coconut cream.
3. Turn into a 9-inch greased pie plate.
4. Bake at 400° F for 20 to 25 minutes, or until very delicately browned.
5. Melt margarine in a skillet and lightly brown the coconut.
6. Sprinkle browned coconut over pie. Serve hot or cold. May be served as a side dish or dessert. Refrigerate unused portion. Yield 6–8 servings.

Korean-Style Sweet Potato Leaves

- 1 T. sesame oil
- ¼ t. cayenne pepper
- 2 T. fresh grated ginger
- ¼ t. salt
- 2½ T. lemon juice
- 1 T. honey
- 1 lb. sweet potato leaves and stems, cut into bite-sized pieces
- 1 T. roasted sesame seeds

1. Combine the first four ingredients and quickly saute them in a wok.
2. Add lemon juice, honey, and sweet potato stems; stir-fry until the stems are almost tender.
3. Add leaves and stir-fry until they are slightly wilted.
4. Serve hot with a sprinkling of toasted sesame seeds. Yield: 6 servings.

Other Uses

Industrially, sweet potatoes have been used in the manufacture of textiles, cosmetics, paper, and adhesives. A permanent dye can be made from some sweet potato skins.

The leaves and stems are given to animals as food. Sweet potato leaves are often fed to tilapia fish. The Maoris of New Zealand boiled the entire plant and used the remaining liquid to treat acne and other skin eruptions.

For More Information

About Filipino Foods. 1978. Home Economics Circular 347, CTAHR. 6 pp.

Hertzberg, R., B. Vaughan, and J. Greene. 1973. *Putting Food By*. Brattleboro, VT: The Stephen Greene Press.

Sweet Potatoes. 1978. Home Garden Vegetable Series 12, CTAHR. 2 pp.

References

Food Composition Table for Use in East Asia. 1972. FAO, DHEW. National Institute of Arthritis, Metabolism, and Digestive Diseases.

Nutritive Value of Foods. 1971. Home and Garden Bulletin No. 72, USDA.

Patton, Stacy. 1979. *The Feasibility of Diet Quality Improvement Using Tropical Vegetables* (Master's thesis).

United States Recommended Daily Allowances (US-RDA). 1974. DHEW Publication No. (FDA) 74-2010.