

South Pacific Commission

Community
Health
Services

South
Pacific
Foods

Leaflet
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5



Cassava

A popular plant

The cassava plant (also called manioc, manioke, tavioka, mendoka, tapioca) was brought to the Pacific during the last century. The plant was probably spread to the Pacific from Mexico by the Spanish and from Brazil by the Portuguese. Its roots have become a staple food on some islands. Its leaves are also eaten in some areas and are very nutritious. It is also an important livestock food, especially for pigs.

Because it is easy to grow and simple to prepare, cassava is becoming a very popular food crop. It also has a variety of other uses, such as in making glue, starch or fuel.

People in the Pacific are already growing a lot of cassava, so everyone should know the best ways to use this plant in his or her diet.

An easy crop

The cassava plant has the scientific name *Manihot esculenta*. It belongs to the Euphorbiaceae family, a very large and diverse family containing useful plants that give us castor oil, rubber, laxatives and different ornamental shrubs. Many different varieties of the plant grow in the Pacific.



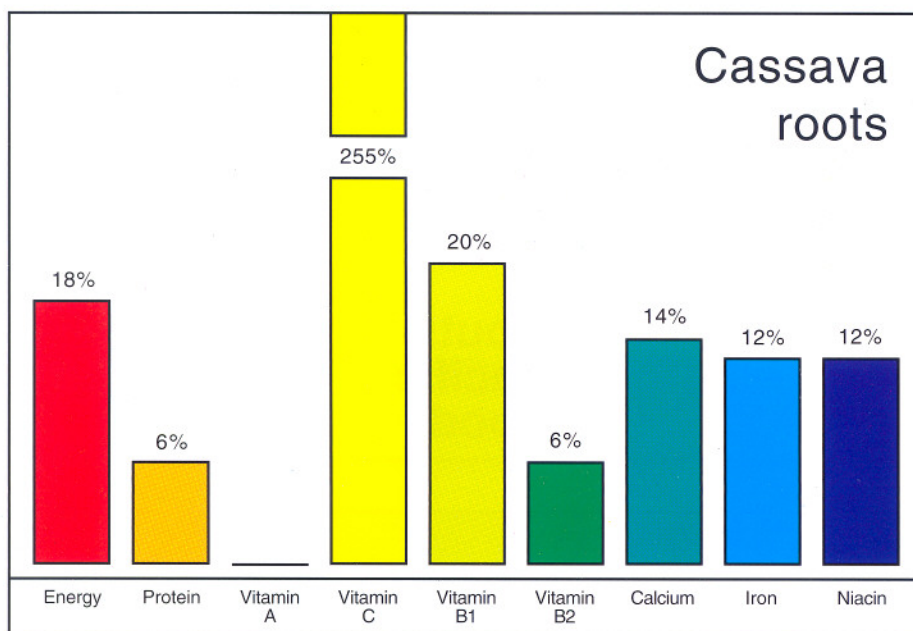
The sweet kinds (which are lower in cyanide) are a better choice than the bitter ones when cassava is grown as a food. The plant is grown from cuttings taken from the base of the stem. They can be planted at any time of the year.

Cassava grows best in light, sandy soil where extra water drains off easily. But it can also grow in dry or poor soil where other crops cannot grow. It grows well when planted among coconuts or other crops. During periods of drought, the cassava plant shed its leaves as a survival mechanism. The plant can grow up to about 1.5 metres and there are many varieties with different stem colours and leaf shapes.

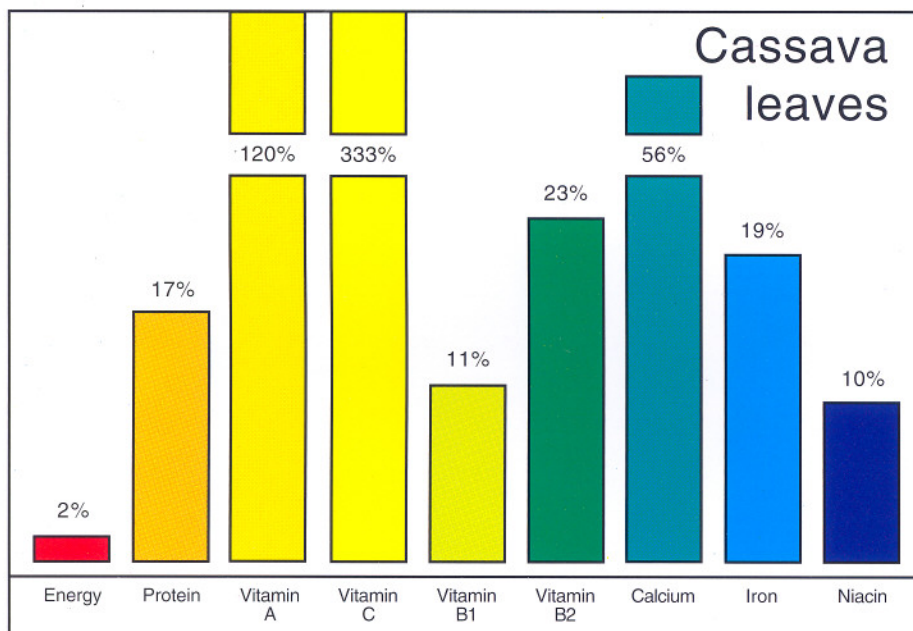
About six to nine months after planting, most varieties are ready for harvesting.

When the roots are harvested, the young leaves can also be pulled off for use as a vegetable. However, a few young leaves can be picked from the cassava plant before harvesting, but if too many are taken, the roots will not grow properly.





Percentage of daily needs of an adult woman, filled by one cup of cooked cassava root.



Percentage of daily needs of an adult woman, filled by one serving (about 1/2 cup after cooking) of cassava leaves.

An energy food

The roots

The cassava root is not as nutritious as taro, yam, sweet potato, bananas or breadfruit, but it does have some nutritional value. It contains a lot of carbohydrate which can provide the body with energy. It is a good source of **Vitamin C**, **potassium** and **dietary fibre**. The body needs energy for warmth, work and play. Vitamin C keeps body tissues strong, helps the body use iron, and helps wounds heal and fights infections. Potassium helps in maintaining a good balance of bodily fluids in the blood. Dietary fibre prevents constipation by helping the body to have regular bowel movements. It also tends to lower cholesterol levels in the blood and helps prevent heart diseases.

Cassava does not contain the good-quality protein which the body needs to grow and be strong. So meals containing cooked cassava must also include foods high in protein such as meat, fish, eggs, beans and dark green leafy vegetables.

When mashed cassava is used for feeding infants, high-protein foods should be added to it. Babies and small children who do not get enough protein can suffer from serious malnutrition.

The leaves

A very nutritious addition to cassava root at meal times is cassava leaves. As the bar charts show, cassava leaves provide high amounts of **Vitamin A** and **Vitamin C**. Half a cup of cooked cas-

sava leaves would provide half of the daily Vitamin A needs of a young child. Vitamin A is needed for proper growth, healthy eyes and protection from disease. People should be encouraged to use this valuable food whenever it is available. Cassava leaves also have a fair amount of dietary fibre.

Storage and preservation

The best way to use cassava roots is cook them immediately after harvesting. After being dug up, the roots begin to rot very quickly and will stay fresh only for a few days.

Sometimes a lot of cassava must be harvested at once, for example, after a flood. When necessary, cassava can be preserved in various ways.

Covering with sawdust: In some parts of the Pacific, cassava roots are placed in shallow pits surrounded by damp sawdust. The pit is then covered with soil. This way the roots remain fresh for several months.

Drying: The cassava roots can be peeled, washed, and sliced thinly, then spread in the sun to dry. In hot, sunny weather, the slices will take only one day to dry. Dried cassava will keep for several months if stored in a clean air-tight container. The dried cassava can later be cooked in water or pounded into flour.

Fermenting: Cassava can be preserved by a type of chemical change called fermentation. Fermentation increases the amount of B vitamins in the cassava. One way to ferment cassava is to make *Bila* (fermented grated cassava).

To make bila:

1. Peel, wash, and cut cassava into large pieces. Place the pieces in an enamel, clay or plastic pot, bowl or basin. Do not use iron or aluminium. Cover the cassava completely with water. Make sure no part of the cassava sticks out above the water or it will turn black.
2. Put a lid on and leave the cassava for about 4 or 5 days to ferment. As the cassava ferments, it will start to smell strongly and bubbles will rise in the water. The warmer the place it is left, the quicker it will ferment.
3. When the cassava becomes very soft to the touch, drain the water and spread the cassava out in the sun to dry for a few hours.
4. Pound the cassava with a stone and take out the stringy fibre.
5. Mix the fermented cassava with a little grated fresh cassava, if desired. (This will keep it from being too sticky.) Add grated coconut, mix well and divide into serving portions.

Cassava balls

Three to four servings:

- 2 cups mashed cooked cassava
- 1 medium onion
- 1 teaspoon chopped fresh herbs (e.g. parsley, basil, sage) or ½ teaspoon dried herbs
- 1 egg
- ¼ cup cooking oil

1. Peel and chop the onion.
2. Mix together the mashed cassava, onion and herbs.
3. Lightly beat the egg. Add to the cassava mixture and mix well to form a smooth mixture.
4. Form mixture into small balls.
5. Lightly fry the cassava balls in cooking oil until golden brown.

Note: A finely chopped fresh chilli or clove of garlic can be used instead of the herbs. You can also add minced or shredded cooked meat or tinned fish.

Cassava meatloaf

Four servings:

- ½ kg (1 lb) minced meat
- 1 cup grated raw cassava
- 1 onion, finely chopped
- ½ teaspoon black pepper
- ¼ cup chopped green leaves
- Oil

1. Mix together all the ingredients except the oil.
2. Form mixture into a long roll, put into a greased baking tin and brush with oil. Or wrap rolled mixture in oiled foil and put into greased baking tin.
3. Bake in a slow oven (to 300°F or 150°C) for 1½ hours.

Note: Instead of baking, the cassava meatloaf may be wrapped in banana leaves and steamed.

Cassava bibinka

Four to six servings:

- 2 eggs
- 2 tablespoons melted butter or margarine
- 3 cups grated raw cassava
- Sugar to taste
- ½ cup thick coconut cream
- ½ cup scraped young coconut
- 4 tablespoons chopped nuts, if desired
- 60 g (2 oz) cheese, if desired

1. Beat eggs, then add coconut cream, grated cheese, and chopped nuts.
2. Add cassava and young coconut and mix well. Add sugar to taste.
3. Line a pan or cake tin with a banana leaf and pour in mixture.
4. Bake in a moderate oven (to 350°F or 180°C) for about 40 minutes.
5. When almost brown, brush with 2 tablespoons melted butter or margarine and sprinkle with a little sugar.
6. Continue baking until golden brown.
7. Serve cold as a dessert.

Banana pudding

Six to eight servings:

Pudding:

- 12 ripe bananas
- 1 cup grated raw cassava
- Water

1. Peel and slice the bananas, put them in a pot, cover with water, and bring to the boil.
2. Cook 20–30 minutes, then mash thoroughly.
3. Add grated cassava, sprinkling in a little at a time and stirring often. Cook until mixture thickens (about 3 minutes).

Coconut cream

- 2 coconuts
- 1 cup water

4. Grate the coconuts, add water, and squeeze out the coconut cream using clean coconut husk or cloth. Strain the cream through a sieve.
5. Serve the banana pudding with coconut cream.

Note: Pudding can also be served plain or with milk or cream.



This leaflet is the fifth in a series devoted to the uses of local Pacific foods. Other leaflets available in this series are: •

- Leaflet 1 – Taro (revised)
- Leaflet 2 – Pawpaw (revised)
- Leaflet 3 – Mango (revised)
- Leaflet 4 – Guava (revised)
- Leaflet 6 – Green leaves (revised)
- Leaflet 7 – Banana
- Leaflet 8 – Coconut
- Leaflet 9 – Breadfruit
- Leaflet 10 – Pineapple
- Leaflet 11 – Citrus fruits
- Leaflet 12 – Pumpkin
- Leaflet 13 – Sweet potato
- Leaflet 14 – Yam
- Leaflet 15 – Nuts and seeds
- Leaflet 16 – Legumes
- Leaflet 17 – Fish
- Leaflet 18 – Seafood

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