

# Dessert banana

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**B**ananas (*Musa* spp.) are a great food for people of all ages. They can be eaten as a snack or dessert. They are convenient, tasty, hygienic and available everywhere. Bananas are covered by an easy-to-remove skin that keeps in the nutrients and keeps out germs that can cause illness. They are also easily grown and harvested.

The soft texture of ripe bananas makes them an excellent food for young children (from around six months of age). Ripe bananas may be mashed and used in recipes with root crops such as taro and cassava or with green cooking bananas. They may also be used in modern recipes; for example, mixed with flour to make breads or pancakes.

Imported snack foods are sold in many shops. These highly processed products are often used for snacks and small meals, but most of them contain unhealthy amounts of salt, sugar and fat and have much lower food value than fresh ripe bananas.

## Varieties of dessert bananas

All bananas can be eaten raw or cooked but some are preferred as 'eating bananas' and are consumed uncooked when ripe. Banana specialists call them 'dessert bananas' meaning they are eaten after the main part of the meal. There are also 'cooking bananas'. Pacific farmers still grow many different types of bananas with a great variety of shapes, sizes, and peel and flesh colors.

Some types of banana weigh only 30 grams, whereas some large dessert bananas weigh up to 300 grams. The peel color is often bright yellow but may also be red or orange.

Bananas also vary greatly in taste and texture. Some are much sweeter than others. Some have a very creamy texture and can be eaten with a spoon.

Unfortunately, some banana varieties are disappearing from Pacific farms because of alternative land uses,



cultural changes and neglect. However, Pacific countries are working with regional and international programmes to try to save these varieties by conserving them in collections and promoting their use.

## Plant growth structure

Banana plants grow from an underground stem called a corm. The corm sends up a shoot called a sucker. This grows into a mother plant that dies after it fruits. The trunk of the banana plant is mostly rolled leaf bases. Bananas are usually propagated by planting out suckers.

Different varieties of bananas have differences in plant structure. Some are short and some are tall (3 to 8 metres or 8 to 15 feet). For most varieties, the growing

bunches of bananas droop down, but Fe'i bananas, which are unique to the Pacific, have bunches that grow upwards and purple sap. (The whole set of fruit is called a 'bunch', a cluster of fruit a 'hand' and a single fruit a 'finger'.) There are also differences in the leaves of banana varieties.

Banana plants grow well throughout the Pacific. However some, such as Fe'i bananas, grow best in rich soils and moderate shade and do not grow well on the dry sandy soils of atolls.

## Harvesting

Banana plants fruit after one to one and a half years depending on the variety and growing conditions. They fruit throughout the year but are more likely to fruit during warmer weather.

Bananas may be harvested when three-quarters of the fruit on the stem are full size. To ripen the bananas, hang the bunch in an airy place. Ripe bananas give off ethylene gas, which promotes ripening. Thus, various methods are used to ripen them more quickly, such as placing green fruit in bags with ripe bananas.







## Nutrition

Bananas are rich in the energy that the body needs for warmth, work and play. Sportsmen and sportswomen use them to quickly boost their energy during exercise. The energy comes from the fruit sugar and starch in the bananas. Green bananas have higher levels of starch. As bananas ripen, the starch turns to sugar. Ripe bananas have the same energy value as green ones, but more of the energy comes from sugar, which the body can use more quickly.

The nutrient content of different varieties of dessert bananas varies greatly. Banana varieties with yellow/orange flesh are rich in provitamin A carotenoids, the precursors to vitamin A. This vitamin is important for protecting against infection and for good vision and eye health. Cooking does not destroy carotenoids and may even help the body use them more effectively. Consuming carotenoid-rich food may help to protect against diabetes, heart disease and cancer.





Comparison of the nutrient content of 100 gram (g) edible portions of banana, sweet biscuit and apple.

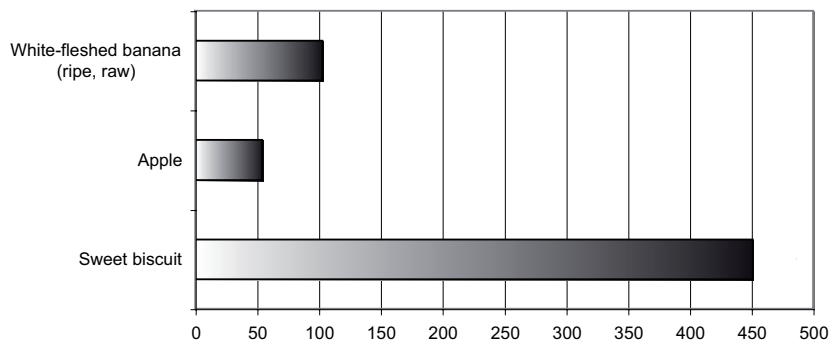
	Kcal*	Fibre (g)	Calcium (mg)	Potassium (mg)	β-carotene equivalents** (μg)	Riboflavin (mg)	Niacin (mg)	Vitamin C (mg)	Vitamin E (mg)
Ripe banana common varieties (white-fleshed, raw <sup>1</sup> )	100	0.8	11	241	46	0.08	0.7	17.3	0.4
Ripe banana, cream-fleshed, raw/cooked <sup>2</sup>	na	na	na	na	85-205	na	na	na	na
Ripe banana, yellow-fleshed, raw/cooked <sup>2,3</sup>	na	na	6.5	269	232-892	na	na	na	na
Ripe banana, yellow/orange-fleshed, raw/cooked <sup>2-4</sup>	na	na	68.6	253	565-2473	0.47-14.30	22.6	na	1.55
Ripe banana, orange-fleshed, raw/cooked <sup>2-4</sup>	na	na	na	na	1450-8508	1.76	na	na	na
Sweet biscuit <sup>1</sup>	451	2.0	31	103	6	0.02	1.6	0	0.3
Apple <sup>1</sup>	54	2.0	5	107	10	0.01	0.1	5	0.4

<sup>1</sup>Dignan et al. 2004; <sup>2</sup>Englberger et al. 2003a; <sup>3</sup>Englberger et al. 2005b; <sup>4</sup>Englberger et al. 2005; na= not available.

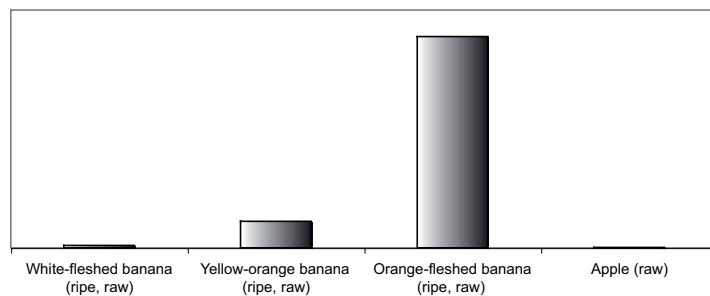
\*Energy expressed as kilocalories. \*\*This unit is the sum of beta-carotene and one-half the sum of other provitamin A carotenoids.

Note: weights of bananas vary. A white-, cream- or yellow-fleshed banana weighs ~50–150 g. The yellow/orange-fleshed *Karat* Fe'i banana weighs ~100–300 g. The orange-fleshed *Utin Iap* Fe'i banana weighs ~50–70 g. A sweet biscuit weighs ~7 g. An apple weighs ~130 g.

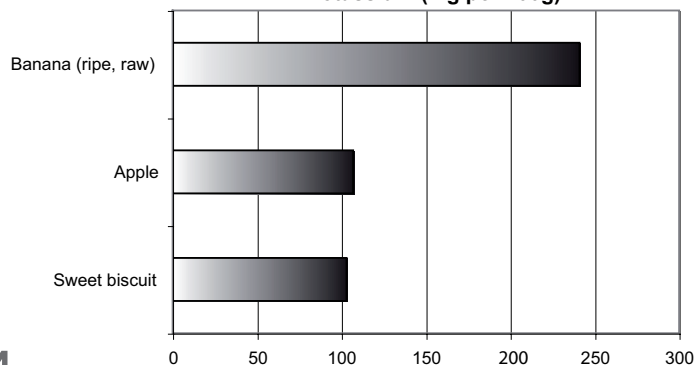
Energy (kcal) per 100g



β-carotene equivalents per 100 g



Potassium (mg per 100g)





One type of Fe'i banana (called *Karat* in Pohnpei) is very rich in riboflavin (see table). When someone eats one of these bananas, their urine may become very yellow, probably due to the rich riboflavin content. This is a harmless side-effect. One *Karat* provides more than the estimated daily requirements for an adult or child. *Karat* bananas are also rich in niacin (a B vitamin), alpha-tocopherol (vitamin E) and calcium. Bananas are a good source of vitamin C, which is important for fighting against infection and helping the body to use iron. The banana bud is also rich in Vitamin C and provitamin A carotenoids.

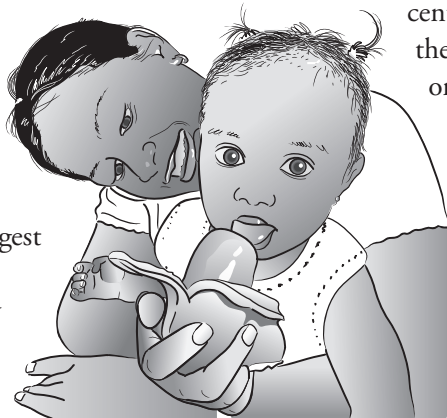
In addition to carotenoids and vitamins, bananas are rich in vital minerals, such as potassium, which is important for regulating our metabolism and maintaining normal blood pressure. Bananas contain many of the nutrients lost during diarrhoea, so they are a good food for people to eat at this time.

The bar graphs show the nutrient content of a white-fleshed banana compared to an apple or sweet biscuit. Bananas are clearly a better choice because they have much higher food value.

## Infant food

Ripe bananas are an excellent first food for infants. (Infants should be given only breast milk for the first six months, but after this other foods should be given.) They are very easy to digest and making infant food at home with locally grown bananas is easy and saves money. Infants can be fed either raw, mashed ripe banana, or the ripe banana can be cooked.

In some countries, there are fears that certain banana varieties should not be fed to children because they 'cause worms'. This is not true. Bananas are very safe as long as the peel is still intact before they are used; they rarely cause any problems. However, good hygiene must always be observed: check that the peel is not broken, store the bananas in a pest-free environment, and wash the hands before preparing food and feeding infants.



## Using dessert bananas

Dessert bananas can be used in many ways:

- Eaten fresh and raw as a snack or dessert
- Boiled, steamed, baked, or fried
- Prepared as drinks, smoothies and shakes
- Mashed and baked with coconut cream
- Mashed with other food crops such as taro or cassava, or in other traditional recipes
- Added to fruit salads, ice creams or other desserts
- As a sandwich filling or spread
- As infant food
- Dried in slices for snacks

Other parts of dessert banana plants can also be used:

- Banana leaves can be used for wrapping and food presentation
- Banana flowers can be prepared for eating
- The stem and fibre can be used for medicinal purposes

## Dried bananas

1. Choose firm, ripe bananas of any kind. Ripe cooking bananas can also be used. Avoid overripe bananas as they do not dry well.
2. Peel bananas and cut into slices about 1 centimetre thick. If the slices are too thin, they fall apart during the drying process or stick to the drying tray. If they are too thick, they do not dry properly in the middle. All the slices should be about the same thickness so they dry in the same time. The slices can be tossed in lime/lemon juice at this stage to minimize the browning (oxidation) shown by some varieties (such as *Cavendish*) during the drying process.
3. Dry the banana slices on trays either in the sun, in an oven, or in a dehydrator. Be sure to cover the slices well during drying to protect against flies and other pests.
4. Store in airtight containers or sealed plastic bags.

Dried bananas make a delicious inexpensive snack and are convenient for carrying. Selling dried bananas is a good way to make money using a local food. Dried bananas can also be soaked and added to dishes such as porridge before cooking.





## Taiwang (Pisang kelat) banana pancake

- 3 cups flour
- 3 teaspoons baking powder
- 2 cups water, or as needed
- 1–2 cups ripe Taiwang banana (4–8 bananas)
- Oil for frying

1. Mix flour and baking powder.
2. Add water to the flour mixture and mix into a soft dough (slightly more or less water may be needed).
3. Mash banana and mix into the flour and water mixture.
4. Coat the frying pan with enough oil for lightly frying, or use a non-stick pan.
5. Add a few spoonfuls of batter and fry, one side at a time.

Note: the *Taiwang* banana is a very sweet banana when ripe. No added sugar is needed. Other dessert bananas can be used, although it is good to use bananas with deep yellow or orange flesh for their rich nutrient content.



## Three banana fruit salad

- 2 ripe yellow/orange-bananas, such as Karat, or 5 orange-fleshed bananas, such as Utin Iap
- 10 ripe yellow-fleshed bananas, such as Taiwang or Sucrier
- 10 white-fleshed bananas, such as Lady Finger
- ¼ cup fresh citrus juice, such as kalamansi or lime

1. Select three banana varieties with different coloured flesh, for example, yellow, orange and white.
2. Peel and cut fingers into bite-size pieces or slices. Put in a bowl, add juice and mix.
3. Leave to marinate for a few hours or even overnight in the refrigerator before serving.

Note: orange- and yellow-fleshed bananas are rich

in provitamin A carotenoids and protect against diabetes, heart disease, cancer, vitamin A deficiency and anemia. All bananas are rich in vitamin C, which is important for good health.

## Banana rice

*Six to eight servings:*

- 2 cups rice (uncooked)
- 12 ripe bananas
- 1 coconut

1. Wash rice.
2. Peel and slice bananas.
3. Put rice and bananas in a saucepan. Add water to 5 centimetres (2 inches) above the rice and boil gently until cooked.
4. Grate coconut, add a little water, and squeeze out the cream.
5. When the rice is cooked, mix in the coconut cream.
6. Serve hot or cold with greens or other vegetables.

## Giant swamp taro with banana

(Rodima wus, recipe from Mwaoakilloa. Pohnpei, FSM)

- 3 cups giant swamp taro (about 2 medium-sized giant swamp taro)
- 3 cups ripe banana
- 2 cups coconut juice (about 2 coconuts)

1. Peel and grind raw taro. If possible, use yellow-fleshed varieties with high carotenoid content.
2. Peel and pound ripe banana until well mashed.
3. Add coconut juice to taro and banana and mix well.
4. Put the mixture into a baking tin and bake for about 1 hour.
5. Serve.

## References

Dignan et al. 2004. The Pacific Islands Food Composition Tables. 2nd ed. Rome, FAO.

Englberger et al. 2003a. Micronesian banana, taro, and other foods: newly recognized sources of provitamin A and other carotenoids. *Journal of Food Composition and Analysis* 16:3–19.

Englberger et al. 2003b. Further analyses on Micronesian banana, taro, breadfruit and other foods for provitamin A carotenoids and minerals. *Journal of Food Composition and Analysis* 16:219–236.

Englberger et al. 2006. Carotenoid and vitamin content of *Karat* and other Micronesian banana cultivars. *Journal of International Food Science and Nutrition*. In press.