

South Pacific Commission

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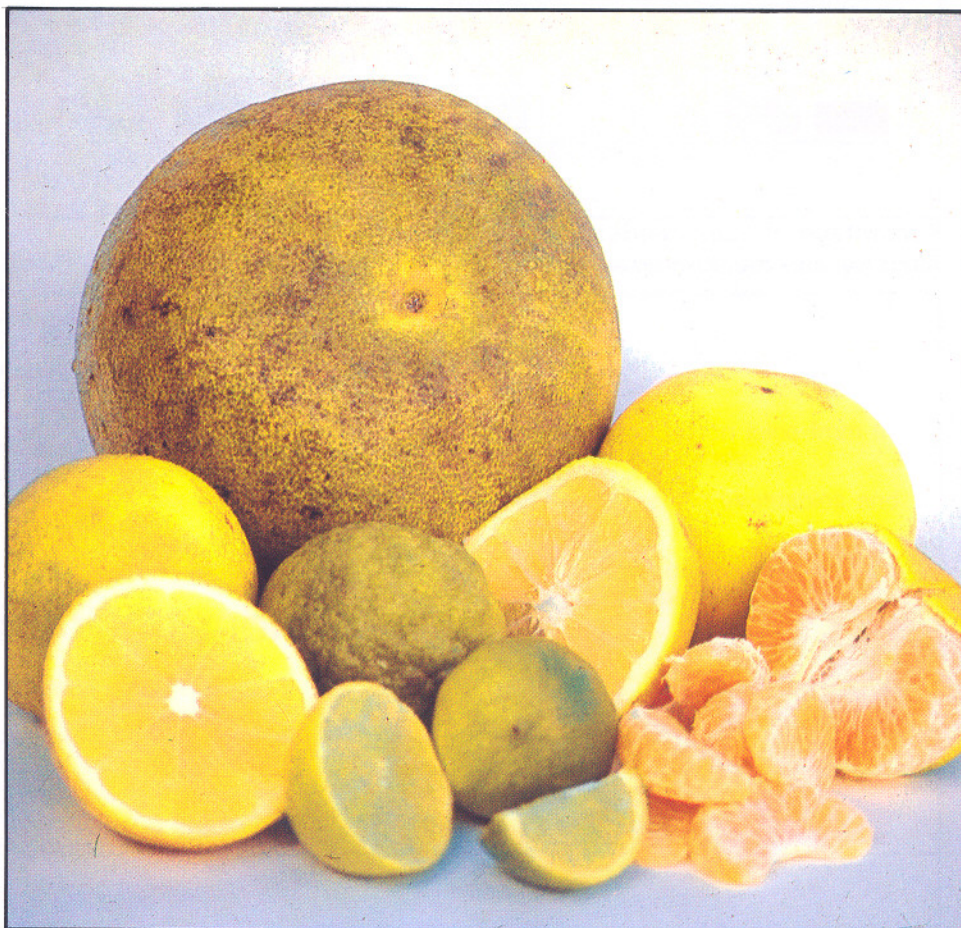
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Citrus fruits

Fruits with flavour

Oranges, mandarins, grapefruits, pomelos, kumquats, lemons and limes are all citrus fruits grown in the Pacific Islands. Whether sweet or sour and acid, these nutritious fruits are enjoyed for their flavours. They can be eaten alone or with other foods so that the citrus gives that food a special flavour.

Many parts of citrus — the fruit, juice, peel and leaves — can be used. Using all parts of a fruit means that none of its food value is wasted. Citrus is a valuable local food because of its wide use as a flavouring.

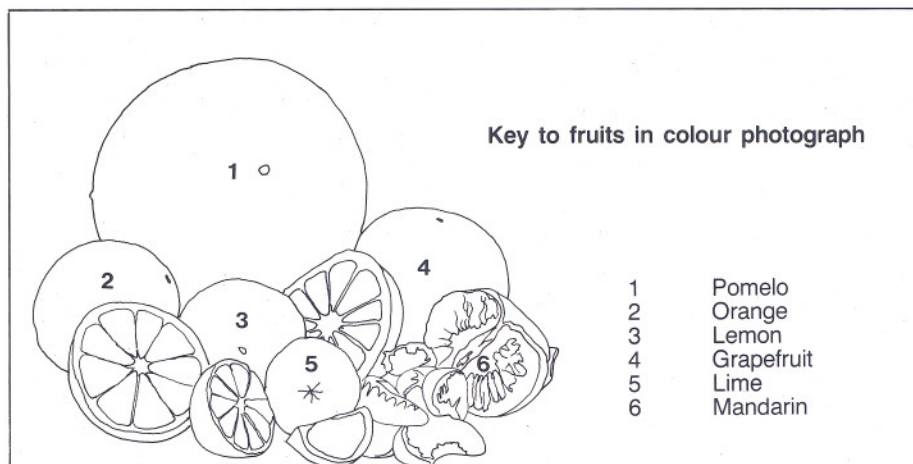


A large variety

Citrus fruits belong to the family with the scientific name *Citrus*. They grow on trees that have dark-green, waxy leaves and sweet-smelling flowers.

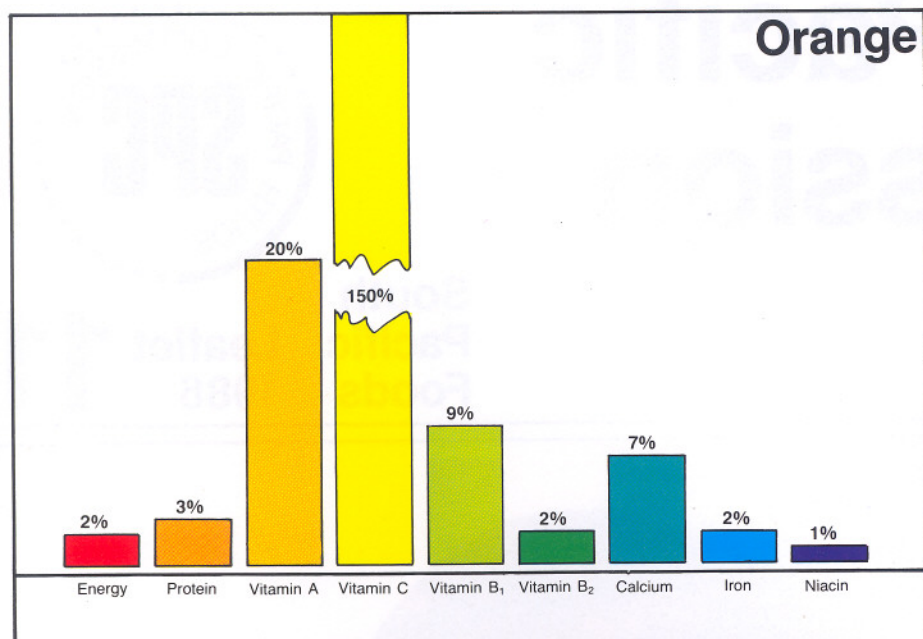
Citrus trees grow only on some Pacific Islands. The roots of citrus trees must be able to get water at a depth of 1.2 metres (4 feet) in order

to grow well. They need plenty of water, especially when the fruit is growing. The water must be salt free, which is why citrus trees do not grow well on most atolls.

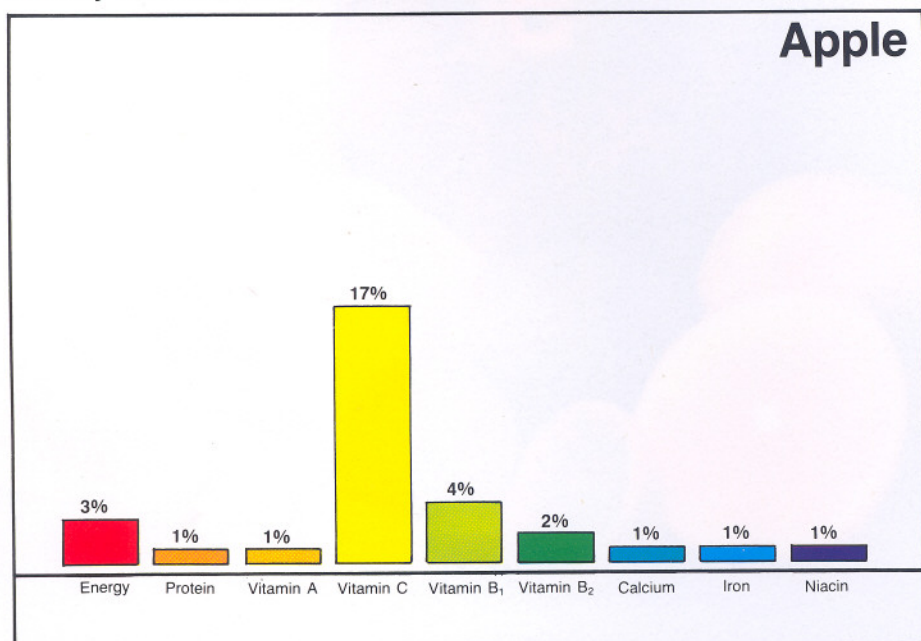


Citrus trees are planted from the seeds of ripe fruit. Wash and dry the seeds and plant them 1 cm (½ inch) deep in a partly shady place. When the plants are 20 cm (8 inches) high, they are ready to be transplanted. Choose only those plants that are healthy. Plant them in a sunny place where there will be enough room for them when they are fully grown.

The size of citrus fruits varies from small limes to large pomelos. Citrus fruits should be picked when ripe.



Percentage of daily needs of an adult woman, filled by one medium-sized orange¹



Percentage of daily needs of an adult woman, filled by one medium-sized apple¹

Local fruits are best

Citrus fruits are protective, health-giving foods because they contain vitamins the body needs to stay healthy. They are good sources of **Vitamin C**, which keeps body tissues strong, helps the body to use iron, and helps chemical actions in the body. There is a lot of Vitamin C in the peel of citrus fruits as well as the flesh.

Because of its high Vitamin C content, the juice is good for babies. The stronger flavoured citrus juices should have water added to them so that babies will like the taste.

Citrus is also a fair source of **Vitamin A** which is needed for proper growth, healthy eyes and protection from disease.

Eating locally grown citrus is better than eating expensive imported fruits for two reasons. Locally grown citrus is cheaper and has better food value for the money spent. Many people think that imported fruits are better than local fruits. This is not true. An example is shown in the bar charts. It is easy to see that apples, for example, do not contain as much Vitamin A and Vitamin C as oranges.

Many people buy expensive imported oranges rather than buying local oranges. They are paying more money to get the same food value. The main difference between the two kinds of oranges is that the imported oranges have been sprayed with chemicals and wax to make them a shiny and bright orange colour. Why spend money on beauty that is only skin deep? It is food value that is important.

Preparation and uses

Fruit — Citrus fruit may be eaten straight from the tree, squeezed to make juice or used in cooking and baking.

Eating citrus fruit directly from the tree is the best way to take advantage of the Vitamin C in them. Peel the fruit, remove the white skin (pith) if it is bitter, and separate it into sections. For larger citrus fruits, remove the thin coverings that hold the sections together.

Juice — Citrus juice has many uses and makes delicious drinks. To get the most juice from a fruit, roll it on a hard surface, pressing gently while rolling. Cut and squeeze out the juice.

Lemon and lime juice in particular have many uses that are both food and non-food related. Rust stains on cloth can be removed by rubbing lemon or lime juice into the stained area. Before it dries, rinse the area well with water.

Lemon or lime juice can be used as a flavouring for fish, green leaves, soups and curries. It is a good substitute for vinegar. In a low salt diet, lemon or lime flavouring can hide the fact that there is little salt. Also, it can be used in baking when vanilla flavouring is not available.

Lemon or lime juice helps keep fresh fruits and vegetables from turning brown. For this reason it can be used when freezing fruits. Dip the prepared fruit in lemon or lime juice and freeze. When the fruit is unfrozen, it will not go brown too quickly.

Making your own lemonade saves money spent on expensive cordials and soft drinks.

To make lemonade:

1. Wash and peel 1 lemon. Boil the peel in 2 cups of water to which 1 tablespoon of sugar has been added. Boil for 5 minutes.
2. Cool and remove the peel.
3. Add the juice and pulp of the lemon. Taste and add a little more sugar if needed.
4. Serve cool.

1. From Food composition tables for use in the Pacific Islands, South Pacific Commission, 1983.

Peel — The peel of citrus fruit can be used as flavouring. It can be added to baked foods, soups, meats, sauces and desserts. To prepare citrus peel, use a small grater. Only grate off the coloured part of the peel. The white part (pith) underneath can have a bitter, unpleasant taste.

Never use the peel of imported oranges. These have been sprayed with chemicals and wax, which are harmful to your health.

Leaves — Citrus leaves are useful as well. They may be used to make a leaf tea or added to the pot when brewing regular tea. Lemon leaves are especially good for this kind of tea. Only the older, dark-green leaves should be used. Tear them into boiling water. They contain minerals that the body needs. If added to warm milk, crushed citrus leaves can make a nutritious drink for children.

Citrus leaf tea is good to drink in the evening because it contains no caffeine, which is found in tea and coffee. Caffeine can keep you from sleeping well.

To make lemon leaf tea:

1. Crush 10 lemon leaves into 6 cups of boiling water. Boil for 5 minutes. Cool for a few minutes.
2. Remove leaves and add 1½ cups milk, if desired, to the warm lemon tea and serve.

Storage and preservation

The best way to keep citrus fresh is to leave the fruit on the tree. If citrus is picked for storing, care must be taken. The peel should not be scratched or bruised, and the fruit should be picked when dry. Cut the fruit from the tree and make sure the stems are cut close to the fruit. Store in a cool place and check often to see if there are any bad pieces of fruit amongst them.

Citrus juices can be preserved by **freezing** them for later use. Lemon or lime juice can be frozen in ice-cube trays. When frozen, remove cubes from trays and store in plastic bags or airtight containers in the freezer. The cubes can be easily used as flavourings.

Drying grated citrus peel makes it available for later use. Grate the citrus peel and spread it on a tray. Dry the grated peel in the sun or in a solar dryer. When it is dry, store it in an airtight container.

Note: Other citrus fruits can be used instead of those listed in the following recipes when they are out of season.

Pacific ambrosia

Six servings:

9 oranges
1 medium pineapple
1 cup grated coconut
½ cup thick coconut cream
Sugar to taste

1. Peel, seed and section oranges.
2. Peel, core and cut pineapple into pieces.
3. Mix the oranges, pineapple and grated coconut and leave in a cool place for a few hours.
4. Add the coconut cream, mix and serve.

Citrus fruit drink

Four servings:

2 tablespoons lemon juice
2 tablespoons lime juice
¼ cup orange juice
4 cups of water
Sugar to taste

1. Mix juices with the water.
2. Add a little sugar to taste if needed.
3. Serve cool with a slice of orange.

Kokoda

Six servings:

½ kg (1 lb) or 2 cups fresh fish
1 cup lemon or lime juice
1 tomato
2 coconuts
1 spring onion
1 carrot (optional)
1 small green pepper
1 small onion
1 small chilli (optional)
Salt to taste

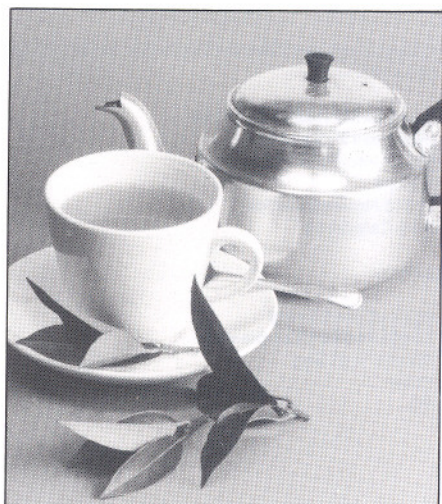
1. Clean the fish, remove all the bones, skin and any dark flesh.
2. Cut up the fish into even-sized cubes.
3. Cover with lemon juice. Save some juice for seasoning. Leave until the fish is tender and white (2 to 3 hours).
4. Grate the coconuts and squeeze out the coconut cream.
5. Chop the tomato (outside only), pepper and onion very finely. Grate the carrot.
6. Drain off the lemon juice from the fish when it is ready.
7. Add the chopped vegetables and mix well.
8. Add coconut cream, lemon juice and a little salt to taste.
9. Serve cool.

Lemon soup

Six servings:

3 cups chicken stock
¾ cup cooked rice
2 eggs
3 tablespoons lemon juice

1. Boil chicken stock. Add rice and remove from heat.
2. Beat eggs and lemon juice together in a large bowl until just mixed.
3. Add 2 tablespoons of the hot stock to the egg mixture. Stir well.
4. Pour the egg mixture into the hot stock very slowly, stirring all the time.
5. Reheat gently for 1 to 2 minutes.
6. Serve at once.



Citrus leaf tea is a refreshing drink that contains no caffeine.

Salad with citrus dressing

Six servings:

6 cups salad vegetables
1/3 cup citrus juice
1/2 cup vegetable oil (optional)
1/2 teaspoon grated citrus peel

1. Put the citrus juice, peel and vegetable oil in a bowl and mix well.
2. Wash and chop all the vegetables. Put into a bowl.
3. Pour citrus dressing over the vegetables.
4. Serve.

Lemon leaf punch

Sixteen servings:

20 lemon leaves
8 cups water
Skin of one pineapple
2 teaspoons tea leaves
4 tablespoons grated fresh ginger
1 cup sugar
8 cups fresh fruit juice (e.g. citrus, pawpaw, pineapple or mango)

1. Put all the ingredients except the fruit juice into a pot and bring to the boil. Boil for 5 minutes.
2. Strain and cool.
3. Add fruit juice and taste. Add extra lemon juice or a little sugar if desired.
4. Serve cold with slices of lemon.

Tropical banana dessert

Six servings:

6 ripe bananas
1/2 cup grated coconut
1/4 cup lemon juice

1. Peel ripe bananas and arrange in a greased baking dish.
2. Sprinkle grated coconut on top of the bananas.
3. Pour lemon juice over the coconut.
4. Bake in a moderate oven for 20 minutes until topping is brown.

Chicken with oranges

Four to six servings:

1.5 kg (3 1/2 lb) chicken
3 tablespoons cooking oil
1 medium onion, chopped
1 cup orange juice
3 oranges, peeled and sliced
2 cloves garlic, chopped (optional)
Salt to taste

1. Heat cooking oil in a frying pan. Add chicken and cook until well browned on all sides.
2. Remove chicken. Pour off all but 2 tablespoons drippings.
3. Add onion and garlic to oil. Cook until tender.
4. Add browned chicken and orange juice. Cook covered for about 45 minutes until tender.
6. Serve with orange slices.

Citrus baked fish in coconut cream

Four servings:

1 medium whole fresh fish
1/2 tablespoon ground black pepper (optional)
1 lemon
1 mandarin or orange
1/2 cup coconut cream
Salt to taste

1. Wash and clean the fish and place on a softened banana leaf.
2. Thinly slice the lemon and mandarin or orange.
3. Arrange alternate slices of lemon and mandarin or orange on the fish from head to tail.
4. Sprinkle with black pepper and pour the coconut cream around the fish.
5. Wrap the fish well in about three layers of softened banana leaves and bake in a moderate oven for 40 minutes or in an earth oven for about 1 hour.
6. Serve hot with cooked root crops, breadfruit or banana.

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

Leaflet 1 – Taro
Leaflet 2 – Pawpaw
Leaflet 3 – Mango
Leaflet 4 – Guava
Leaflet 5 – Cassava
Leaflet 6 – Green leaves
Leaflet 7 – Banana
Leaflet 8 – Coconut
Leaflet 9 – Breadfruit
Leaflet 10 – Pineapple
Leaflet 12 – Pumpkin
Leaflet 13 – Sweet potato
Leaflet 14 – Yam
Leaflet 15 – Nuts and seeds
Leaflet 16 – Legumes
Leaflet 17 – Fish
Leaflet 18 – Seafoods

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