

## *Carica papaya* (pawpaw or papaya)



**Botanical description.** Family: Caricaceae

Originates from tropical America. It is not a true tree because it does not produce wood. It is a tree-like herb. It grows rapidly, producing fruit in less than one year, and can produce fruit throughout the year.

It continues to flower, except during severe water shortage. It is evergreen, and can survive drought. Plants are either male or female, or, occasionally, both together.

It requires plenty water, but the soil must also be well-drained, as it cannot tolerate waterlogging. It grows in a wide temperature range, but is killed by frost. It grows up to an altitude of 1,500m.

### Propagation and care

From seed. Either a) sow 1 cm deep in sandy soil in trays, and transfer to pots one week after germination, or b) sow directly into well-drained fertile soil. After 6 months, when they flower, remove the males and inferior females.

To dry and store pawpaw seeds: Mix seeds from a ripe fruit with wood ash and squeeze to remove the watery layer, and then dry either for 5 days in direct sunshine or 3 days in the solar drier. Keep in a cool, dry place. If they become too dry, they may lose viability, but if they are too wet, they rot.

Nematodes build up on land used for pawpaw. It is therefore wise to intercrop pawpaw with marigold (*Calendula officinalis*) which repel nematodes, to rotate with other crops, or to work neem cake into

the soil. Be careful, however, because pawpaw plants are sensitive to root disturbance.

### Main constituents

**Enzymes;** papain, chymopapain and papayalysin. These are used by the plant to repel insects, and all help the stomach to digest proteins.

**Alkaloids;** carpaine and pseudocarpaine.

**Vitamins;** provitamin A and vitamins B and C.

**Minerals;** potassium, calcium and magnesium.

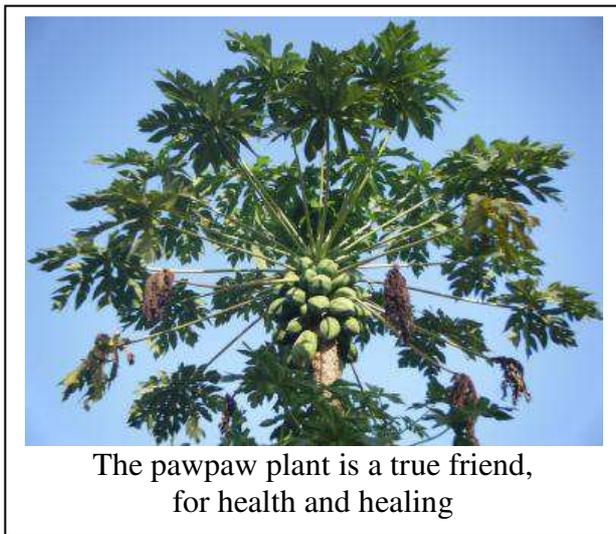
### Caution

Pregnant women may benefit from eating ripe pawpaw fruits, but must not eat papaya seeds or the unripe papaya fruit. The white latex may trigger uterine contractions, leading to a miscarriage.

### Uses of pawpaw

#### A. Nutrition

Eat plenty ripe pawpaw fruits. We need vitamin A for good eyesight, vitamin B for healthy brain and nerve function and all the vitamins, especially vitamin C, to strengthen the immune system so that the body can fight infections. The trace elements in the fruit also contribute significantly to the healthy functioning of our organs. The enzymes aid digestion and help to ensure that our food passes smoothly from the mouth to the bowel, thus ensuring that we can visit the toilet regularly and suffer no build up of toxic materials in the colon.



The pawpaw plant is a true friend,  
for health and healing

The nutrients of papaya together improve blood circulation, and thus help to prevent heart diseases, heart attacks, strokes and colon cancer. In Africa, one should aim to eat one ripe pawpaw every week!

Ripe pawpaw fruits may also be crushed and taken as juice.

In general, a good level of enzymes in the stomach is helped by eating plenty fruit and vegetables and having plenty exercise. Our digestion suffers if we eat too much red meat or suffer stress.

Many people also cook the unripe fruit as a vegetable. In India, the unripe fruit is used to prepare curries which are given to lactating women.

## **B. Strengthening the immune system and preventing diseases**

Provitamin A helps to prevent heart problems, eye problems and infections of HIV positive patients in the later stages. All vitamins help to strengthen the immune system.

Tea from the leaves helps to prevent cancer, malaria, diarrhoea and worms.

The enzymes in papaya stimulate the production of natural anti-oxidants which prevent the build-up of toxins (known as free radicals) in the body. These toxins may encourage the development of early aging, cancer, digestion problems, rheumatism, cancer and diabetes.

The enzymes also help to prevent the development of the symptoms of AIDS in HIV positive people. In general, papaya stimulates the entire metabolism, the nerves and the brain.

**C. To prevent malaria:** Pawpaw leaf tea is also used as a malaria prophylaxis, using either fresh or dried leaves.

- a) Fresh leaves. Pick a medium-large new leaf from near the top of the papaya tree. Cut the stem off. Cut or tear it up, put it in a pan and just cover the leaf with water. Put a lid on the pan and bring it to a boil, boil it for a few minutes and then let it steep for 5-10 minutes. Drink 1/4 cup of the tea, either hot or cold, sweetened or unsweetened. Do this twice a week.
- b) Thoroughly dry some healthy green pawpaw leaves. Prepare a mug of tea by pouring boiling water over quarter of a teaspoon of dried pawpaw leaf powder. Drink such a cup of tea twice a week.

## **D. Treatment for intestinal worms**

The sap of the unripe pawpaw is usually effective with all types of intestinal worms. Wash a knife in boiling water, wash an unripe fruit while it is still hanging on the tree, and make vertical cuts into the skin. Collect the sap directly into a teaspoon or cup.

Caution: This sap is dangerous to the eyes.

This medicine should be taken in the morning on an empty stomach, together with a lot of water. The pawpaw sap paralyses the worms – a laxative must be taken to flush them out of the body.

Possible laxatives are:

1. Eat several very ripe mangoes or pawpaws.
2. Pharmaceutical castor oil.

The treatment should be given once only, but repeated after about a week in order to ensure that all worms are removed. The treatment can also be given when the patient already suffers diarrhoea.

Age	Amount of papaya sap to treat intestinal worms
6 months to 1 year	½ teaspoon
1 year to 3 years	1 teaspoon
4 years to 6 years	2 teaspoons
7 years to 13 years	3 teaspoons
14 years to adult	4 teaspoons

**To prevent worms and amoebas:** Every day chew a piece of pawpaw leaf, about 5cm square in size. Or, at least once a week, chew and swallow one tablespoon of pawpaw seeds. In northern Mozambique, whole schools are treated in this way! Worms seem to hate the taste more than people!

### **E. Cough**

Dig up a few pawpaw roots (not the main root!), wash thoroughly, cut into pieces and boil half a handful in one litre of water for 15 minutes. Filter.

Adults should drink this tea in the course of the day. Children less, depending on their body weight.

### **F. Asthma attacks**

Take up smoking, but of pawpaw leaves! Dry and crush young pawpaw leaves and smoke them in a pipe or as cigarettes - or burn the leaves next to your bed and inhale the smoke. Alternatively, drink tea made from one handful of pawpaw leaves or one handful of asthma weed (*Euphorbia hirta*).

**G. Diarrhoea:** Boil one handful of washed, fresh pawpaw leaves in one litre of water in a saucepan with a lid for two minutes, and then allow to steep for half an hour. Filter and drink the tea in the course of the day.

### **H. Malaria:**

- i) Pour one litre of boiling water over one handful of clean, fresh leaves. Leave to stand for 15 minutes and filter. Drink in portions through the day. In addition, drink 2 litres of lemon grass tea to help to reduce the fever. Continue this treatment for 7 days.
- ii) Treatment from Benin: Wash a big mature pawpaw leaf and wash your hands carefully. Rub the leaf with your two hands in ½ litre of drinking water as if washing a dirty piece of cloth until the leaf is completely destroyed and the water is grass green. Filter and drink over half an hour or so. Repeat twice daily for 2 or 3 days.



### **Ia. Wounds and burns: Washing a dirty wound or burn that shows sign of infection.**

**Use “pawpaw latex water”:** If the wound is dirty, bathe it several times a day, each time with freshly made "pawpaw latex water" with salt. Put a cloth in boiling water, and use it while it is still very hot to wash an unripe fruit that is still hanging on the tree. Fill a container with one litre of cool, boiled water. Add one tablespoonful of salt, and stir to dissolve. Now make vertical cuts in the skin of this green fruit, hold the container directly under the fruit and collect 3 to 5 drops of sap in the water. When using the unripe pawpaw, do not remove the fruit from the plant, because then the sap dries up very quickly. Leave the fruit on the plant, and you can return to use it again time after time.

### **Ib. Wounds and burns: Treating infected wounds, open boils or old, open wounds**

- i) **Use “Pawpaw sugar”:** Mix ten grams of sugar (half a film container) with ten drops of sap from an unripe pawpaw. Make this fresh every day. By “pure” sugar we mean sugar that is taken directly from a new bag from the sugar factory. Apply plenty of this pawpaw sugar to the wound, and as soon as the mixture becomes damp, add more. The wound may require attention in this way several times a day.
- ii) **Use slices of unripe pawpaw:** Put a cloth in boiling water, and while it is still very hot wash an unripe fruit thoroughly that is still hanging on the tree. Clean a knife, put it for some

minutes in boiling water, and then cut a slice of the pawpaw the thickness of a child's little finger. Lay that over the wound, and secure it with a bandage. Leave it for four hours. If it causes much pain, remove it sooner. Administer this treatment 3 times a day for several days until all the pus has disappeared. Alternate this treatment with dressing the wound with sugar alone. After each sugar treatment, return to the tree, discard the first thin slice of the pawpaw which you cut because it is now dirty, then apply the next slice to the wound.

**iii) Use sticks of unripe pawpaw:** Narrow, deep wounds sometimes occur, for example, on the back of bed-ridden patients. Under sterile conditions, a hospital may cut long, thin pieces of unripe pawpaw and insert them into the wound.

**J. Fungal infections:** Use the ringworm bush (*Cassia alata*), pawpaw and oil: Pound one handful young fresh leaves from the ringworm bush, add ten drops of sap from an unripe pawpaw and a tablespoon of castor oil or palm oil. Mix, and rub the affected area three times daily. Make a fresh mixture each morning.

**K. Dengue Fever:** This is a very serious, infectious disease caused by the dengue virus transmitted by the *Aedes* genus of mosquito. It is, however, rare in Africa. It is extremely difficult to treat, even with hospital medicine, but pawpaw leaf juice has been used very successfully as follows: Take two fresh, healthy pawpaw leaves, wash them in cold water and separate the leafy part from the stem and ribs. Pound the leafy part and squeeze it through a filter cloth. You will only get one tablespoon of juice per leaf. Take two tablespoons once a day – it is very bitter. It is recommended not to boil or cook the leaves, nor even to rinse them with hot water.

**L. Washing and cleaning:** Rubbed on the skin, together with plenty of water, pawpaw leaves clean the body very effectively as a natural soap! Equally, they can be used to wash coloured clothes.

**M. Joint pains.** In India joint pains are relieved by warming pawpaw leaves on a fire and placing them externally on the affected area.

**N. Sprains:** Pound a leaf and secure it to the affected area with a bandage or cloth.

**O. Typhoid:** Pawpaw seeds are taken in warm water, or tea made from the leaves, together with garlic.

*For more information about this wonderful plant, see "Traditional and Medicinal Uses of Carica papaya" (2013) by Aravind. G et al, Journal of Medicinal Plants Studies, Volume 1, pp 7-15.*

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