

Passion fruit: medicinal uses and taxonomy



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Introduction

Passion fruit is one of the most exotic tropical fruit because of the magic of its aroma and the taste of its fruit. It belongs to the family Passifloraceae and is estimated to have approximately 500 species of *Passiflora*. Within this species, there are two distinct forms, the *P. edulis* f. *flavicarpa* i. e the yellow passion fruit which is in Peru, Brazil and Ecuador, it is also widely distributed in Guyana as well and the *Passiflora edulis* L which is widely known as the purple passion fruit. The purple passion fruit is cultivated in Africa and India. They both differ not only in color but in other features. The purple passion fruit has is less acidic, has a better aroma and flavor, and has slightly higher juice content. The yellow passion fruit on the other hand has a, ore vigorous vine; the fruit is larger and has a thicker wall than the purple type. Thus they both make an excellent juice blend. Passion fruit vine is a shallow-rooted woody, perennial, climbing by attaching its tendrils to objects. The leaves are evergreen, hairless and are alternately arranged, posses 3-lobed when mature, they are finely tooted, grow from 7. 5-20 cm long, deep green and gloss above, paler and dull beneath, the stems and tendrils are tinged with red or purple (mostly the stems and tendrils of yellow passion fruit).

Fragrant flower grow from 5-7. 5 cm wide and is borne at each node. The bloom is clasped by 3 large green leaf-like bracts, consisting of 5 greenish-white sepals, 5-white petals, a fingerlike corona of straight, white-tipped rays, rich purple at the base, 5 stamens with large anthers, the ovary and triple-branched style forms a prominent central structure. The yellow passion fruit flower grows slower with more intense color than the purple passion fruit.

Taxonomic Classification of Passion Fruit

- Kingdom: Plantae
- Division: Magnoliophyta
- Class: Magnoliopsida
- Order: Malpighiales
- Family: Passifloraceae
- Genus: Passiflora
- Species: *Passiflora edulis* f. *flavicarpa* (yellow passion fruit) and *Passiflora edulis* L. (purple passion fruit).

Brief Origin of Passion Fruit

Passiflora spp, in particular the purple passion fruit is native to South America, from Paraguay, Brazil and Argentina; better adapted to tropical highland areas and it is the most popular type to be exported. On the other hand the yellow type is better adapted to tropical low land areas and is the principle type produced in Guyana. The fruit is widely distributed in the market and a small amount is exported to Barbados and Canada. It is one of the best tropical fruit to grow because it comes into production within a year and is referred to as 'fruit cash crop'. Its juice is rich in vitamin A, B5 and C.

“ Passionfruit acquired its name from Spanish missionaries who thought parts of the plant's flower resembled different religious symbols. The Jesuit missionaries who accompanied the Conquistadors to South America saw in its striking flower a means of illustrating the Crucifixion; the 10 petals and sepals represented the apostles, the crown of thorns was seen in the filaments, the five anthers represent the five wounds, the three stigmas were allied with the nails used to pierce the hands and feet of Jesus and the vine's

tendrils were equated with the whips.” ([http://www. passionfruit. org. nz/History. htm](http://www.passionfruit.org.nz/History.htm)).

Medicinal uses and properties of Passion Fruit

The passion fruit leaves together with a small portion of the juice contain the alkaloids, including Harman which is used to lower blood pressure, sedative and antispasmodic action.

The leaves are also use in many countries as medicine.

The flower of passion fruit has a mild sedative and can be use to induce sleep.

Passion fruit flowers have been use in treatment for the nervous system in easily excited children, bronchial asthma, insomnia, nervous gastrointestinal disorders and menopausal problems.

The flower is sometimes used as a mild hallucinogen.

It provides a useful amount of fibres and iron; also use to relieve rheumatism or gout.

It has been used for centuries by indigenous tribes as a sedative or calming tonic.

Used for urinary infections and as a mild diuretic.

The juice of passion fruit reduces cancer cell growth; the phytochemicals in this fruit juice is responsible for the inhibition of the cancer cell growth.

The phenolic acid (known for its anti-microbial activity) and flavanoids present in the fruit are known to possess heart protecting function.

Passion fruit is a good source of both water soluble and fat soluble antioxidants.

Passion fruit possesses antiseptic properties, anticancer effect, and anti-clotting and antioxidant properties.

The fruit is high in carbohydrates and simple sugars, which improves energy performance.

Passion fruit contains plant sterols, which help lowers the level of cholesterol.

Some studies say that the fruit is good for attaining optimum health and weight loss.

Herbalist used passion fruit flower to aid in digestion, as a stress reducer and as an insomnia treatment; the flowers can be use fresh or dried for use in pills, teas and for extraction e. g. tinctures and infusions.

The flowers are also used by Europeans as an effective prescription medication to relieve anxiety disorder.

The flower can also improve symptoms such as shortness of breath after treatment for congestive heart failure.

Plant parts use to prepare supplement obtained from the leaves, flowers and fruit of *Passiflora edulis* and ailment encountered from supplements:

Plant parts use form medicinal purposes

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Ailments

Leaves

Lower blood pressure

Flower

Induce sleep, aid in digestion, as a stress reducer and as insomnia, relieve anxiety disorder, congestive heart failure.

Treatment of nervous system, bronchial asthma, insomnia, nervous gastrointestinal disorders and menopausal problems.

Mild hallucinogen, relieve rheumatism or gout, sedative or calming tonic, mild diuretic.

Fruit juice

Inhibition of the cancer cell growth, heart protecting function, water soluble and fat soluble antioxidants, improves energy performance, lowers the level of cholesterol, optimum health and weight loss.

Medicinal uses of Passion fruit- *Passiflora edulis* as obtained from interviews of Herbal Medicine Practitioners at Bourda Market.

The leaves and flowers of passion fruit can be use as a nerve tonic.

Passion fruit can be taken naturally as a good appetizer.

The fruit can also be use to cleanse upset stomach.

The fruit has a good source of vitamin C and is mixed naturally with water or sometimes added sugar to make a clenching thirst fruit juice.

Passion fruit seeds contains high amount of fiber that the body needs to cleanse the colon, improve digestion, and help prevent heart attack and stroke.

Passion fruit is high in vitamin A which helps the body to remove free radicals that causes skin and tissue damage, and it also help to improve our vision.

Passion fruit can also be use as pig food.

Name of Bush Medicine Vendor: Mugabe Jawanza

Telephone #: 639-1552

Address: Lot 25 Lane Avenue, Georgetown

Date of interview: 23rd April, 2011.

Name of Bush Medicine Vendor: Sharmilla Mohammed

Telephone #: 220-7729

Address: 149 Broad Street, Better hope, Georgetown.

Date of Interview: 23rd April, 2011.

Method of Preparation for the Medicinal uses or uses of *Passiflora edulis* obtained from interviews:

The leaves and flowers are boiled with water and draw to make a nerve tonic.

The fruit can be eaten raw, chopping the fruit in half and eaten (seeds as well as the orange juicy sac in the centre).

Squeeze the juice from the fruit and drink naturally to cleanse the stomach.

Chop of the top of the fruit, scope the pulp into a bowl; rub the pulp through a sieve to extract the seeds; squeeze gently to extract the juice, which is in the form of a rich, natural extract, can be diluted with water or other fruit juice additive and mixed with sugar to form a refreshing drink. This quenches thirst boost up and improve the body's energy.

The seed can be obtained by chopping the fruit and gulping the pulp into the mouth naturally or obtaining it after it was strained to extract the juice. This can be taken to cleanse colon, improve digestion and prevent heart attack and stroke.

The rind of the fruit is chopped, dried and combined with molasses as cattle or pig food.

Non-medicinal uses of Passion Fruit- *Passiflora edulis*

The fruit of *Passiflora edulis* can be use naturally to make juice.

Passion fruit mousse is a common dessert, and passion fruit seed are used to decorate the tops of cakes.

The fruit can be used in many countries to make jams, jellies and butter as well as syrup to use on shaved ice.

The fruit can also be eaten raw with sprinkles of sugar.

The juice of passion fruit can be used to flavor ice-cream and other desserts such as cakes, yogurts, cocktails and cookies.

The juice can be boiled as a thick syrup and use in pastries and can also be added to fruit salads as a dressing or as a fruit.

The fruit is widely use as juice mixes.

Pharmacological effects and risks as obtained from literature search and interviews:

Effects obtained from Literature Sources

Rapid heart rate and rhythm, nausea, and vomiting have been reported as the rare but serious side effect from obtaining supplements of the passion fruit or any part of it. Side effects may also include drowsiness/ sedation and mental slowing. It is advice that person operating or driving heavy machinery should take caution when using *Passiflora edulis*.

The passion fruit flower may increase the risk of bleeding and alter blood tests that measure blood clotting.

Passion fruit flower can also cause the effect of congestive heart failure for the treatment of shortness of breath and difficulty exercising.

Effect obtained from Interviewers

No effect was obtained from the interviews.