

A Review of Guava (*Psidium Guajava*)

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Abstract: *Guava (Psidium guajava Linn.) typically acknowledged for its meals and dietary values at some point of the world. A variety of chemical substances isolated from plant life like quercetin, guaijaverin, isoflavonoids, gallic acid, catechin, epicatechin, rutin, naringenin, kaempferol flavonoids and galactose-unique lecithins have proven promising pastime. Toxicity research in mice and different animal fashions in addition to managed human research display leaf, seed, pulp, pores and skin and culmination distinct extract in distinct attention are enables to save you cancer, regulating blood Pressure, and treating diarrhea. Much of the conventional makes use of had been established through clinical research. The plant has been extensively studied in phrases of pharmacological pastime of its essential additives and the effects display antioxidant, antipyretic, antifungal, antimicrobial, hypotensive analgesic and anti inflammatory effect.*

Keywords: *Psidium Guajava, Antidiabetic, Antibacterial, Hepatoprotective, Contractile.*

I. INTRODUCTION

Guava (*Psidium guajava* L.) is a member of the large Myrtaceae or Myrtle family, believed to be originated in central America and the southern a part of Mexico (Somogyiet al. 1996). It is alleged to be the fourth maximum essential fruit in phrases of region and manufacturing after mango, banana and Citrus. India is the important global manufacturer of guava (Jagtianiet Al. 1998). It has been in cultivation in India for the reason that early 17th Century and regularly becamea crop of industrial significance. Guava is pretty hardy, prolific bearer and relatively remunerative even with out lots care. It is broadly grown all over the tropics and sub-tropics along with India viz., Uttar Pradesh, Bihar, Madhya Pradesh, Maharashtra, Andhra Pradesh, Tamil Nadu, West Bengal, Assam, Orissa, Karnataka, Kerala, Rajasthan and plenty of extra states. Guava is regularly advertised as “super-fruits” which has a great dietary significance in phrases of nutrients A And C with seeds which can be wealthy in omega-3, omega-6 polyunsaturated fatty acids and specifically nutritional fiber, riboflavin, in addition to in proteins, and mineral salts.

The excessive content material of nutrition C (ascorbic acid) in guava makes it a powerhouse in fighting unfastened radicals and oxidation which can be key enemies that motive many degenerative diseases. The anti-oxidant distinctive feature in guavas is thought to assist lessen the danger of cancers of the stomach, esophagus, larynx, oral hollow space and pancreas. The nutrition C in guava makes absorption of nutrition E lots extra powerful in lowering the oxidation of the LDL ldl cholesterol and growing the (good) HDL ldl cholesterol. The Fibers in guavas sell digestion and simplicity bowel movements. The excessive content material of nutrition A in guava performs in essential position in keeping the excellent and fitness of eyesight, skin, teeth, bones and the mucus membranes. With the converting purchaser attitudes, needs and emergence of latest marketplace merchandise, it has emerge as imperative for manufacturers to expand merchandise, that have dietary in addition to fitness benefits.



Fig.1 Guava Fruit(*Psidium guajava*)



In this context, guava has wonderful digestive and nutritive value, high-quality flavor, excessive palatability and availability in abundance at slight rate. The clean fruit has restrained shelf existence consequently it's miles necessary to make use of the fruit for making distinct merchandise to increase Its availability over an prolonged length and to stabilize the rate for the duration of the glut season.Guava may be fed on clean or may be processed into juice, nectar, pulp, jam, jelly, slices in syrup, fruit bar or dehydrated merchandise, in addition to being used as an additive to different fruit juices or pulps Leite et al. 2006

1.1 Description

It is a low evergreen tree or shrub 6 to twenty-five toes high, with wide-spreading branches and square, downy twigs, is a local of tropical America. It is a not unusualplace Plants cowl via way of means of roads and in waste locations in Hawaii. Guava is a tropical and semitropical plant. It is widely known withinside the islands for its suitable for eating fruit. It is not unusualplace in the backyards. The branches are crooked, bringing contrary leaves. The plants are white, incurved petals, 2 or three withinside the leaf axils, they may be fragrant, with 4 to 6 petals and yellow anthers. The fruit is small, three to six cm long, pear-shaped, reddish-yellow white ripe.

Psidium guajava fruit (Guava) is an ethnomedicine. It has unique significance withinside the conventional machine of medicinal drug. In Ayurveda, it's far considered as an vital natural medicinal drug for dysentery and diarrhea. In Traditional Chinese Medicine machine, it's far used to deal with many diseases. It has been used because a long time to enhance the fitness of humans.

Table 1: Plant Part and their Uses

Table with 4 columns: Sr. No, Plant Part, Compound, and Ethnomedicinal use. It lists various parts of the guava plant and their associated compounds and medicinal uses.

1.2 Medicinal Uses



Fig. 2 Medicinal Uses of Guava

1.3 Antibacterial Activity

The extract additionally confirmed in vitro antimicrobial pastime towards Escherichia coli, Salmonella typhi, Staphylococcus aureus, Proteus mirabilis, and Shigella dysentaria. Another paper confirmed the effectiveness of the leaf extract towards Staphylococcus aureus [Gnan and Demello]. It changed into proven to antibacterial in any other

have a look at and further to *Staphylococcus aureus* changed into additionally beneficial towards *Streptococcus* spp [Pranee]. The leaves are wealthy in tannin, and feature antiseptic properties [Hernandez]. A sturdy antimicrobial motion of guava leaves on Gram-fantastic and Gram-negative organisms has been reported (*Sarcina lutea* and *Staphylococcus aureus*) and additionally stated motion on *Mycobacterium phlei*. The flavone derivatives remoted have been reported to inhibit the boom of *Staph. Aureus* in a dilution of 1:10,000.

The bark become additionally proven to showcase antibacterial effects [Ali et al], it would nicely be that this interest will be attributed to the tannins present [Lutete et al]. The effectiveness of Guava as an antimicrobial become showed by [Abdelrahim et al] four antibacterial compounds have been remoted from leaves of guava (*P. guajava*), New flavonoid glycosides, morin-3-O- α -L-lyxopyranoside and morin-3-O- α -L-arabopyranoside, and regarded flavonoids, guaijavarin and quercetin [Arima and Danno]. *Psidium guajava* leaf and bark tincture become subjected to in vitro sensitivity exams by serial dilution at awareness starting from 5% to 15% towards six test dermatophytes viz. *Trichophyton tonsurans*, *T. rubrum*, *Trichosporon beigeli*, *Microsporum fulvum*, *M. gypseum* and *Candida albicans*. Bark tincture exhibited better efficacy in controlling the mycelial boom of dermatophytes than the leaf Tincture. The tincture confirmed fungicidal belongings in distinctive concentrations however exhibited best fungistatic belongings in case of *C. albicans*. [Dutta et al]. Another paper confirmed desirable impact with the methanolic extract [Rabe and Staden]. A leaf extract enters right into a Nigerian treatment for pores and skin infections, and exam has proven a advantageous motion on Gram-advantageous microbial organisms, however no motion on gram-poor organisms, nor any antifungal motion. Three antibacterial materials were detected withinside the leaves which can be derivatives of quercetine. As withinside the bark polyphenols and plenty of different materials are present [Burkill].

1.4 Malaria

The leaves are used as an factor withinside the training of fever “ teas”. They also are used as a part of the pot herb utilized in steam remedy for malaria. Indeed, the essential ethnotherapeutic use in Africa is stated to be for malaria. *Psidium guajava* stem bark extract contained anthraquinones, flavonoids, secoirridoids and terpenoids and changed into determined to be powerful for the remedy and/or prophylaxis of malaria in KwaZuluNatal province of South Africa. The in vitro antiplasmodial assay changed into carried out the use of a chloroquine-touchy stress of malarial parasite.

1.5 Laxatives

Guava, each end result and leaves comprise enough quantity of nutritional fiber that bureaucracy the bottom for the remedy of constipation. Newer smooth leaves are in particular wealthy in fiber and roughage that’s vital for the prevention and remedy of constipation and hemorrhoids. It has been said that, a hundred gram of guava fruit carries as tons as 36 g of Nutritional fibres. Apart, Guava seeds are effective laxatives additionally and assist in persistent constipation and cleaning the bowel. The fruit is one of the richest reassets of nutritional fiber and Vitamin C which in contrast to different end result is pretty high and simply 1 guava fulfills approximately 12% of day by day recommended consumption of fiber, which makes it extraordinarily useful for maintaining digestive fitness at ease.

1.6 Antispasmodic

This plant is a few of the fragrant antispasmodics; a decoction of the younger leaves and shoots is prescribed withinside the West Indies for febrifuge and antispasmodic baths. In India and Ghana the stem and twigs are taken into consideration astringent (bark as well). In the West Indies it’s far used as a febrifuge, antispasmodic bath (decoction of shoots and younger leaves) [Ayensu]. They are advocated for swollen legs. The younger leaves and shoots are used for The leaves of the guava tree in decoction It has been used for spasms, fevers, worms, diabetes.

1.7 Guava for Cold and Cough

Guava leaves had been observed to be powerful in curing bloodless and cough. Guava is wealthy supply ascorbic acid and iron with the aid of using distinctive feature of which it reduces lungs congestion & mucous formation and on the equal time maintains the respiration tract free of any unfriendly pathogen. Reports claimed that these additives in Guava act like a miracle in curing influenza¹⁴. Fruit mainly the uncooked ones or decoction crafted from tender



Immature leaves is pretty beneficial in relieving bloodless and cough. It works with the aid of using the disintegration of mucus polymers thereby loosening cough and lowering similarly mucus production, keep the respiration tract, throat, and lungs freed from microbes and inhibits current microbial interest because of its astringent properties. Vitamin C is found in true awareness in Guava which has been observed to be very powerful in treating bloodless and cough related to micro organism or virus. Roasted ripe guava is used as a home cure in opposition to severe instances of cough and bloodless and congestion in lots of villages of India. Another record advised that Hydro extract of *Psidium guajava* leaves drastically diminished the coughing frequency which turned into prompted with the aid of using capsaicin aerosol in comparison to the control, inside 15 min after management of the extract.

1.8 CNS

The leaves of the guava tree in decoction is used for spasms, epilepsy or even for cerebral affections [Ticzon]. The cerebral factors of the plant may also be visible withinside the CNS depressant pastime because of the presence of caryophyllene-oxide and β - selinene that has been visible for the plant [Meckes et al] extracts exhibited mostly dose-established antinociceptive consequences in chemical and thermal exams of analgesia. The extracts additionally produced dose-established prolongation of pentobarbitone-induced slumbering time [Shaheen et al]. In India the leaf infusion is used for cerebral infections [Ayensu]. The tincture has been hired via way of means of rubbing it into the backbone of children stricken by convulsions. It has additionally been used as a tonic in psychiatry [Zakaria]. A CNS-depressant pastime became exhibited via way of means of the extract which potentiated the phenobarbitone slumbering time in mice. An extract is used for epilepsy and chorea (any of numerous degenerative apprehensive problems characterized via way of means of spasmodic actions of the frame and limbs).

1.9 Conjunctivitis

Flowers also are used as a poultice for conjunctivitis [Ayensu]. This use is contemplated via way of means of that withinside the Amazon, in which the flora also are mashed and applied to painful eye situations consisting of solar strain, conjunctivitis or eye injuriesa.

1.10 Skin Use

The blessings are many and the plant can offer astringency, wound recuperation and pores and skin harm restore homes that comply with from the ethnopharmaceutical traditions of the plant. The antimicrobial homes of the plant will also be of benefit in positive product applications. In Mexico the leaves are stated to be a treatment for itches. The leaves of the guava tree in decoction is used as a wash for ulcers and specially wherein an astringent treatment is needed [Ticzon].In the Amazon, a decoction of the bark and/or leaves or a flower infusion is used topically for wounds, ulcers and pores and skin sores [Raintree].In addition the antioxidant pastime will offer a worrying surroundings for the pores and skin. A approach of detection for guava is defined withinside the literature. The use of the plant life can be relevant in eye merchandise for his or her soothing impact.



Fig.3 Leaves of *Psidium guajava*

A solvent extraction of the *Psidium guajava* leaves had an antiallergic pastime. The have a look at became achieved in single-blind task take a look at of *Psidium guajava* cream in 46 atopic dermatitis patients. Improvement of medical signs and symptoms (pastime of eczema, pruritus, sleep disturbance, etc) and numerous inflammatory markers have been evaluated to study the impact of the 0.45% *Psidium* cream after 4-eight weeks. *Psidium* cream can be a valuable

adjunctive remedy within the control of atopic dermatitis [Suzuki et al]. In the Philippines the astringent, unripe fruit, the leaves, the cortex of the bark and roots – even though extra regularly the leaves only – within the shape of a decoction, are used for washing ulcers and wounds [Quisumbing]. The leaves of the guava tree in decoction are historically used to heal wounds and Cuts. [Ticzon]. The leaves also are used ulcers, boils, and wounds [Wyk et al]. In India it's far taken into consideration astringent wounds and ulcers [Ayensu]. Locally, decoction of the leaves is used in scurvy and for dangerous ulcers [Nadkarni and Nadkarni]. The decocted leaves are utilized in Mexico for cleaning ulcers. The floor leaves make an extraordinary poultice [Nadkarni and Nadkarni]. Ground up with kaolin and water to a Paste, they're carried out in Ghana to the frame as an ointment for measles [Burkill]. In Brazil guava is utilized in decoction externally for pores and skin ulcers.

1.11 Rheumatism

Pulped leaves are made up right into a suppository in Congo for treating Piles [Burkill]. The pounded leaves in India are used for rheumatism [Ayensu; Quisumbing].

1.12 Gout

Fruits are endorsed for gout [Conway].

1.13 Haemostatic

Said to stem the glide of blood [Ayensu].

II. CONCLUSION

In conclusion, those outcomes display that guava (*Psidium guajava*) has Antioxidant, Anti-diabetic, Antibacterial, Anti-diarrhoeal, Antihypertensive, Analgesic & anti-inflammatory, Anticancer, Antihypertensive, Antifungal, Antipyretic and excessive dietary value. The entire fruit of this plant is fit for human consumption. The fruit may be eaten uncooked or even cooked. Fruits are sliced and used as salads or desserts. Beverages are additionally organized from the pulp of the fruit. Many styles delicacies along with jam, guava paste, and guava cheese are created from the fruit. The leaves also are fit for human consumption and feature medicinal properties. This vital culmination must be cultivated extra to fulfill the dietary requirements at inexpensive value.

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CONFLICT OF INTEREST

The author declared no conflict of interest.

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