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Topical Fruit Apple of the Poor's People (*Psidium guajava* L.)

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ABSTRACT- Guava (*Psidium guajava* Linn.) is important for its food and nutritional values through out the world of the tropical fruit. The whole plant consists of medicinal properties such as fruit, leaf and other parts of the plant are also used in traditional system of medicine. So that, each part of guava tree contained the economic importance because it is cheap and used in several food dishes and also cultivated on the commercial level. Guava plant is considered to the process of the biological activity and medicinal application of guava so thatthe fruit considered as the poor man apple of tropics. The guava plant parts are used for the treatment of various skin allergy such as patches in your chick, dullness of the face etc. In the investigation, nutritional value of each part of guava fruit and medicinal properties of the fruit, these was obtained from various valuable parts and have been used to provide collective information on its multi purpose applications for human beings.

Key words: Fruit, Fever, Hexanal, Anti-Inflammatory, *Psidium guajava* L.,

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INTRODUCTION

The tree of guava is a small tropical fruit which grows up to 35feet height it is mostly growntheir fruit in tropical region. It belongs to the Myrtaceae family, withapproximately133 genera and more than 3,800 species. The guavaleavesand barkof the tree have numerous medicinal uses that are still employed [1]. Due to the medicinal importance of guava plant evidenced in the various studies noticed in a recent review article by [2], there is a strong incentive for further research into the activities of guavaplant extract against common infectious diseases considering the medicinal research that the plant is readily available in the tropics and within the reach of the local populace. The guava is a large tropical shrub or small shade tree. It is origin from Mexicoand widely distributed in Mexico and Central America.

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Commonly it is called by the name such as Guava, goiaba, guayaba, djamboe, djambu, goavier, gouyave, goyave, goyavier, perala, bayawas, dipajayajambu, petokal, tokal, guave, guavenbaum, guayave, banjiro, goiabeiro, guayabo, guyaba, goeajaaba, guave, goejaba, kuawa, abas, bayabas, jambubatu, pichi, posh, enandi.

At biochemical point of view the fruits contain vitaminC, vitamin A, iron, calciumand phosphorus. The fruit of guava are 5times richer in vitamin C than citrus fruit such as oranges. The acids such as phosphoric, oxalic acid, malic acids and manganese and saponins combined with leanolic acid is also present. Morin-3-O-lyxo pyranoside and morin- 3-O-α-L-arabopyranoside, flavonoids andquercetin.

The fruit have essentialoil which consists of hexanal, 2-hexenal , 2,4-hexadienal, 3-hexenal, 2-hexenal, 3-hexenyl acetate and phenol, while β-caryophyllene, nerolidol, 3-phenylpropyl acetate, caryophyllene oxide, pentane-2-thiol, 3-penten-2-ol and 2-butenyl acetate, 3-hydroxy-2-butano 3-methyl-1-butanol, 2,3-butanediol, 3-methylbutanoic acid, (Z)-3-hexen-1-ol, 6-methyl-5-hepten-2-one, imonene, octanol, ethyl alcohol (which is found in pink guava fruit). The pink guava consists of sweet smell due to active aromatic constituents such as acetate (3-penten-2-ol and 2-butenyl acetate). The main differences between the aroma of the commercial guava smell and the fresh fruit pure due to the presence of acetic acid, 3-hydroxy-2-

butanone, 3-methyl-1-butanol, 2,3-butanediol, 3-ethyl butanoic acid, (Z)-3- hexen-1-ol, 6-methyl-5-hepten-2-one, limonene, octanol, ethyl octanoate, 3-phenylpropanol, cinnamyl alcohol, α-copaene, and an unknown component. (E)-2-Hexenal seems to be more significant to the aroma of the commercial essence than of the fresh fruit puree.

Varieties

The guavahave numerous varieties of guava fruit such as Lucknow 49 (roundish Ovate), Allahabad Safeda (roundish) and seedless fruits are known to be excellent varieties while Banarsi (round), Chitridar (Sub-globose), Apple colour (spherical), Behat coconut (round), Hafshi (spherical), Safed jam (roundish), etc. are considered to be good. The variety red the (roundish ovate) is known as poor quality fruit.

Propagation

The propagation was occurring by freshly extracted seeds, layering (both air and pot), grafting, budding and through root tissue culture and cuttings [3].

Through cuttings under ordinary conditions may not be done however, the propagation with cuttings has been used in large amount (93.3 percent roiling) under mist condition, i.e., with the use of p-hydrobenzoic acid (200 ppm) and IBA (5000 ppm) [4].

According to pot layering method the raising guava plant from the old and unproductive guava trees which is head back very near to the ground level. Newly shoots are placed in the rich rooting medium pots. A cut is made in bent shoot and this portion is buried in the soil. This method is applied during Dec-Mar, and can also be followed during rainy season. Regular irrigation of pot is a must. The best result is seen with IBA treatment (6000 ppm) in lanolin paste [5].

The propagation was occurring in rainy season through air layering. During layering process old plant shoots of about 1.5 cm diameter are taken and a ring of bark 2.5-3.0 cm is removed covered it with black polythene. After 6-7 weeks the polythene is removed and the ring is covered by sphagnum moss followed by polythene strip rapping for rooting. Now these layers can be removed in 30-45 days and planted in containing almost equal parts of soil and compost. However, guava plants raised from seeds show great variability and, therefore, vegetative propagation of selected clones has been recommended [6]. Effectiveness of the leaf extract against *Staphylococcus aureus* was shown to antibacterial property and also useful against *Streptococcus* in other species.

Anti-inflammatory effect:

According to pawoedema model the anti-inflammatory and analgesic activities of 70% ethanolic extract was used in rats byusing the guava leaves.Extracts which exhibited anti-inflammatory activity and analgesic activity by using the Randall-Selitto method. The essential oil has also been proven to use in anti-inflammatory effect. The essential oil, steam-distilled from the leaves of *P. guajava* leaves, was given orallyto the rats due to its effects on the exudative and proliferative phases of the inflammatory reaction. The essential oil (0.8 mg/kg) significantly reduced oedema formation. The essential oil (0.4 and 0.8 mg/kg) significantly reduced granuloma formation in human body [7]. Another paper confirmed the anti-inflammatory activity and also showed significant anti-pyretic activity and anti-arthritic activity in rats. In Peru it is assumed that it is good for oedemato inhibit paw oedema induced by Carrageenan in rats.

Antispasmodic

This plant is among the aromatic anti-spasmodics, adecoction of the young leaves and shoots is prescribed in the West Indies for febrifuge and anti-spasmodic both. In India and Ghana the stem and twigs as well as bark are considered astringent. In West Indies it is used as a febrifuge, anti-spasmodic bath, worms disease and diabetic diseases by the use of shoots and young leaves.

Conjunctivitis

Flowers are also used as a poultice for conjunctivitis and other eye infection which is also applied to painful eye conditions such assun strain, conjunctivitis or eye injuries.

Coughs

Boiled with lemon grass to make a decoction that is drunk for coughs. A decoction is also taken in Senegal for tracheabronchitis. The leaves are alsoused for cough in Peru.

Diabetes

The leaves are also used for several other ailments in cluding diabetes. The leaf infusions are used in the Capture for diabetes disease The Water in which the fruit is soaked is good for thirst in diabetes.

Malaria

The leaves are used as an ingredient in thepreparationof fever "teas". They are also used as part of the pot herb used in steam treatment for malaria. Indeed, the main ethno therapeutic use in Africa. *Psidium guajava* stem bark extract contained anthraquinones, flavonoids, seccoirridoids and terpenoids and was found to beeffective for the treatment and/or prophylaxis of malaria in Kwa Zulu Natal province of South Africa. The *in vitro* anti-plasmodial assay was carried out using a chloroquine-sensitive strain of malaria parasite [8].

Rheumatism

Pulped leaves are made up into a suppository in Congo for treating piles. The pounded leaves in India are used for rheumatism.

Skin use

The benefits are many and the plant can provide

astringency, wound healing and skin damage repair properties that follow from the ethno pharmaceuticals traditions of the plant.

The antimicrobial properties oftheplant may also be of benefit in the product applications, which is used in other purposes. In Mexico, the leaves are said to be are media for itches. The leaves of the guava tree indecoction are used as a wash for ulcers and especially where an astringent remedy is needed.

In the Amazon, a decoction of the bark and/or leaves or a flower infusionis used topically for wounds ulcers and skin sores. The use of the flowers may beapplicable in eye products for their soothing effect.

The Solvent extraction of the *Psidium guajava* leaves had an anti-allergic activity. The study was perform in single-blind challenge test of *Psidium guajava* cream in 46 atopic dermatitis patients. Improvementof clinical symptoms (activity of eczemapruritus, sleep disturbance, etc) and various inflammatorymarkers were evaluated to examine the effect of the0.45% *Psidium* cream after 4-8 weeks. The acute clinical symptoms were improved. *Psidium* cream may be a valuable adjunctive in the management of atopic dermatitis. In the Philippines the astringent, un-ripe fruit, and the cortex of the bark and roots though more often the leaves only in the form of a decoction, applied for washing ulcers and wounds [9]. Ground up with kaolin and water to paste, they applied in Ghana to the body as an ointment formeasles [10]. In Brazil guava is used indecoction externally for skin ulcers.

Vaginal disorders

In Uruguay, a decoction of the leaves is used as avaginal and uterine wash, especially in leucorrhoeawhere it can be infused and applied as a douche [11]. The leaves of the guava tree in decoctionare recommended for uterine hemorrhage. The same decoction is used as a wash for vaginal and uterine problems and especially where an astringent remedies needed [12]. Water in which the leaves havebeen boiled is taken in Senegal to assist menstruation.

In Peruvian medicine the leaves are used for vaginal discharges, menstrual pain and hemorrhages. In Brazil guava is considered anastringent and diuretic and is used for the sameconditions as in Peru. A decoction is used externallyfor vaginal irritation and discharges."

Gout: Fruits are recommended for gout [11].

Kidney problems

The young leaves and shoots are used for inflammation of the kidney and kidney problems [12]. In India the leaf decoction used in nephritis (an in-flammation of the kidney).

Parturient

A combined decoction of leaves and bark is given to expel the placenta after childbirth.

Main Actions (in order): anti-dysenteric, antiseptic, antibacterial, antispasmodic, cardio tonic (tones, balances, strengthens the heart).

Main Uses

In dysentery (bacterial and amebic), diarrhea, colic, and infantile rotavirus enteritis.

In a broad-spectrum anti-microbial, bacterial, fungal, candidal, and amebic infections.

To balance, protect and strengthen the heart (and for arrhythmia and some heart disease).

Ina cough suppressant, analgesic (pain reliever), and febrifuge (reduces fever) forcolds, flu, sore throat, etc.

As a topical remedy for ear and eye infections.

Properties/Actions Documented by Research

Amebicide, analgesic (pain-reliever), antibacterial, anti-candidal, anti-dysenteric, antifungal, Anti-malarial, antioxidant, antispasmodic, anti-ulcerous, cardio-depressant, cardio tonic (tones, balances, strengthens the heart), central nervous system depressant, cough suppressant, gastrototonic (tones, balances, strengthens the gastric tract), hypertensive (lowers blood pressure), sedative, vasoconstrictor.

Other Properties/Actions Documented by Traditional Use

Anti-anxiety, anti-convulsant, antiseptic, astringent, blood cleanser, digestive stimulant, menstrual stimulant, nerve (balances/calms nerves), and vermifuge (expels worms).

Cautions: It has a cardiac depressant effect and is contra indicated in some heart condition.

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