



A Literature Review on Banana Leaf

**Karpagavalli.K¹, Nithyamala.I², SriSakthiLogisha.M³, Nivetha.G⁴, Thirugnanam.K⁵,
HarishAnbuSelvan.V⁶, Dinesh.S⁷**

Resident Medical Officer, National Institute of Siddha, Chennai-47

Medical Officer, National Institute of Siddha, Chennai-47

PhD Scholar, Dept of SirappuMaruthuvam, National Institute of Siddha, Chennai-47

Assistant Professor, Dept of VarmaMaruthuvam, National Institute of Siddha, Chennai-47

House Officer, National Institute of Siddha, Chennai-47

Resident Medical Officer, National Institute of Siddha, Chennai-47

Siddha Consultant, Dr Rajkumar's Siddha Clinic, Chennai-44

Abstract

Siddha is a comprehensive medicinal system that has been used for thousands of years and is more than simply a way to heal illnesses. Also, it is a way of delivering medical care that puts an emphasis on sickness prevention via the use of sensible multidisciplinary procedures and plainly stated dietary recommendations. Siddha, an ancient Indian medical practise, is a unique method that places attention on the role that a person's serving bowls and cooking utensils have in their general health and welfare. In India, siddha was practised. It has been shown that using leaves as a plate instead of one made of metal has positive health effects and is more hygienic and environmentally friendly. The leaves are often the easiest and least costly to get when compared to the other plant components. In terms of the breadth and depth of their engagement, the Indians employ banana leaves in a way that is superior to any other item on this list. This essay's existence is supported by the many benefits of eating while seated on banana leaves, which are all discussed in detail in this text.

INTRODUCTION:

In addition to being very beneficial for one's health, banana leaves also have a lot of cultural value. Banana leaves are commonly used to wrap food, adding a particular flavour and serving as a symbol in many cultures. As they are sanitary, loaded with antioxidants, and contain the essential nutrients, banana leaves are often utilised as a natural way to maintain a healthy lifestyle. They are used as serving plates in addition to being used for cooking and decoration. Moreover, banana leaves are used in ceremonies and rituals to foster prosperity, good health, and luck.

Historically, the principal writing surfaces in many countries of South and Southeast Asia were banana and palm leaves. Their scripts have changed as a result of this. the rounded letters common to several Southeast Asian, Sri Lankan, and southern Indian scripts¹⁶.

This results from the nutrients found in banana leaves. Since they are a renewable resource, banana leaves are a great choice for anyone looking to reduce their environmental effect. Banana leaves may be cooked with and used as decorations. Banana leaves contain phytonutrients and have a moisture level of around 60%.

It is thought that using these leaves in lieu of manufactured plates is a far better option than using those plates. People typically eat with their bare hands and sit on the floor adjacent to one another in India. This behaviour is believed to have cultural significance. Family members are only permitted to use the portions of the leaf closest to the stem, while visitors are only permitted to use the portions of the leaf closest to the tip. A whole dinner may fit on the serving sheet that is used to serve the rice, gravies, vegetables, curries, lentils, meat, and pickles. This enables a perfect representation of the dish on the serving sheet. You may apply young leaves directly to inflamed skin².

In south Indian temples, banana leaves are often used as plates to hold flowers and other gifts during puja. While crafting flower garlands for the gods, the priests of temples in Kerala, portions of Tamil Nadu, and parts of Karnataka take special care to use thread formed from the sheaths of banana leaves. Banana trees serve as living refrigerators for the locals of Kerala and certain areas of North Karnataka. Fresh betel leaves, leafy vegetables, miniature fruits, etc. are preserved inside the sheaths of the live banana plant. The information has been properly preserved and has been current for many months³.

The following methods of cooking are often employed in Assamese food: boiling, steaming, frying, baking, grilling, and baking in banana leaf foil⁴.

Tender leaves are used as a cool and soothing treatment for blisters and burns by the tribal people of the western ghats and the peasants of South India, Bihar, Orissa, and other

places. Blisters may be closed using the coconut oil-coated leaves. On occasion, a second bandage made of a dried banana leaf sheath may be used over the dressing. When common salt is scarce, the tribal and hill populations of eastern India utilise an alkaline solution produced from the ash of banana leaf sheath or stalk to season curries. Some impoverished villages of West Bengal, Kerala, and Bihar may also employ this method. It is reported that applying this bandage cures blisters after 4 or 5 days and gives off a pleasant, peaceful sensation. 5,3. After burning the leaf sheath and leaves, the ash is then dissolved in water and given to those who suffer from indigestion, flatulence, and acid reflux. In Jammu, peasants and hill people bandage their stomachs with fresh banana leaves coated in mustard oil when they have diarrhoea or vomiting.

While suffering from eye ailments, the local people of Assam, Meghalaya, and Nagaland may often cover their eyes with a fresh banana leaf for comfort. Rural doctors in Karnataka, coastal Andhra Pradesh, Kerala, Tamil Nadu, and Orissa give patients who spit blood, suffer nasal bleeding (epistaxis), or display indications of heat exhaustion or sunstroke the juice from the banana leaf sheath. The indigenous people of Kerala and their traditional village doctors may cure psoriasis by applying a paste made from crushed fresh leaf sheaths and the resulting juice all over the body in the morning. Those who have been bitten by dangerous snakes are regularly treated by rural physicians in the South Tamil Nadu area using stem pith and banana leaf sheath extracts or pressed juice. According to Geyer et al. (2017), between 1950 and 2015, plastics were burnt in the

amount of 700 million tonnes, recycled in the amount of 500 million tonnes, and disposed of in the amount of 4600 million tonnes (or 55%). Globally, 25% of the plastic waste created in 2015 was burnt, 20% was recycled, and 55% was believed to have been discarded. There have been just 9% of the 9 billion tonnes of plastic ever produced recycled. This has increased global awareness of single-use plastics and led to projections of a sharp increase in plastic production.

According to the United Nations Environment Programme, 12 billion tonnes of plastic are anticipated to be in landfills, the environment, and the seas by 2050. The bulk of this trash is made up of plastic shopping bags, water bottles, food wrappers, and cigarette butts.

Packaging vegetables in banana leaves rather of plastic is a great way to eliminate single-

use plastic. Despite the fact that it looks they use some plastic to attach the label, this method significantly reduces the requirement for plastic. All that is required is a banana leaf covering and a flexible bamboo pole to secure them. Banana leaves are a great alternative to plastic since they are large, thick, and foldable⁶.

The leaves may be used to steam, boil, fry, bake, or grill food. It maintains the heat and prevents the food from losing its original flavour. One of my favourite dishes are these steaming bundles of memory that are warm to the touch. Touch, sight, and taste are all included in the multimodal experience of eating from a banana leaf. L-DOPA is created in the leaves by an enzyme called polyphenol oxidase, which is utilised to treat Parkinson's disease⁷ because it prevents free radical activity.

Table 1: Nutritional value of banana leaf.^{8,9}

Nutrients	Value % dry matter
Carbohydrate	5 %
Fibre	72 %
Lignin	5-10 %
Hemi-cellulose	6-19 %
Pectin	3-5 %
Tannins	0.11 %
Cellulose	60-65 %

Selenium	24.9 %
Potassium	11.6 %
Calcium	8.0 %
Magnesium	1.1 %
Phosphorus	0.7 %

ACCORDING TO SIDDHA ASPECT:

10,11,15

”Tokkiṇu rumiṇṇuṇcu kapōkamumaṇṇu
makkiṇi mattamapala moṭu - tikkiṭukāl
pālaiyilaip pumarumpaṇṇu
pittamuṇcamaṇum
vālaiyilai kkuṇaruvāy”
“Vālai veḷḷappaṇ nanrāmarrilai
kaḷmattim'mā....”¹
Veḷvālai'ilaiyi luṇpatu nanru'enavum,
marravaimattim”.

OTHER LEAVES AND BENEFITS:

PLANTAIN LEAF – Cordial, aphrodisiac, strengthening, improves taste, stimulates the digestion. Useful in the treatment of toxicity.^{10, 11}

TEAK LEAF – Alleviates *Vadham* and *Kabam*. Treat ascites and abdominal tumor, Cures dyspnea, improves taste, and promotes health^{10, 11, 15}.

CALOTROPHIS LEAF – Treats abdominal tumor, pain, poisoning, dyspnea, anaemia and skin disease bur aggravates *Pitham*^{10,11}.

ARTOCARPUS HETEROPHYLLUS LEAF- Elevates reduced *Pitham*, ascitis and intestinal ulcers,^{10, 11, 15}.

WHY BANANA LEAVES ARE HOPE FOR A SUSTAINABLE FUTURE

To serve the meal, anything from a leaf to a plate made of gold, silver, copper, bronze, or any other metal is acceptable (banana leaves, jack tree leaf, banyan leaves, etc).

Chlorophyll, which protects against skin problems and intestinal ulcers, is found in banana leaves. Banana leaf extract might be used to create sunscreen gel to shield against the sun¹.

The bioactive phytonutrients found in banana leaves may be engaged in a variety of physiological biological processes.

The hypoglycemic effects of N-butanol, aqueous residual fractions, and crude banana leaf extract are similarly comparable. By lowering blood sugar levels, enhancing insulin production, enhancing glycogen storage, and blocking the enzymes that cause AGE and absorb glucose, the leaves of *M. x paradisiaca* regulate glucose homeostasis¹².

According to research in animal models⁷, banana leaves are a rich source of rutin, a substance that controls glucose homeostasis and is a prospective candidate for the development of anti-diabetic drugs.

In phytochemical testing, the crude extract shows significant amounts of phenols,

flavanoids, and proanthocyanidines. It also demonstrates antioxidant, DPPH-scavenging, receptor binding, hydrogen peroxide scavenging, and hydrogen peroxide-induced hemolytic inhibition activity, as well as antibacterial activity.

Banana leaves include polyphenols, such as epigallocatechingallate, a plant-based chemical that is a potent antioxidant that purifies the blood.

The heated meal activates the polyphenols in banana leaves, which are then ingested by the food.

Polyphenols found in banana leaves have anti-proliferative qualities that protect against cancer and heart disease. To serve the meal, anything from a leaf to a plate made of gold, silver, copper, bronze, or any other metal is acceptable (banana leaves, jack tree leaf, banyan leaves, etc).

According to an animal study, banana leaves may have anti-diabetic properties (Kappel et al., 2013). When given extract from banana leaves, diabetic animals may have generated more insulin and had lower blood sugar levels. Rutin, a flavonoid molecule, may have a role in regulating blood sugar levels. Rutin, an antioxidant, may have anti-diabetic qualities⁷. Regrettably, the results are subpar since this research used animals. So, evidence for the potential of banana leaves in the fight against diabetes must come from human research. If you have diabetic issues, see a doctor as opposed to self-medicating¹⁴. Moreover, banana leaves include more calcium, citric acid, beta-carotene, and vitamin A.

According to legend, banana leaves contain anti-bacterial properties that destroy all the

germs in food, reducing the likelihood of becoming ill.

When served with hot food, the waxy layer on banana leaves melts and gives the dish a mild flavour and outstanding taste.

CONCLUSION

Many societies all around the globe associate banana leaves with various cultural, traditional, symbolic, emotional, ceremonial, mystical, and spiritual meanings. Moreover, banana leaves are used in rites and ceremonies to foster luck, health, and fortune.

REFERENCE

1. Wasule D, Kawale A, Pandey D. Determination of Banana Leaf Extract for Sunscreen Property. Intern J for Res Tre and Innov. 2018;3(12):80. Available from: <https://www.ijrti.org/papers/IJRTI1812014.pdf>
2. K. P. Sampath Kumar^{1*}, Debjit Bhowmik², S. Duraiavel³, M. Umadevi⁴, Traditional and Medicinal Uses of Banana, Journal of Pharmacognosy and Phytochemistry, Vol. 1 No. 3 2012
3. P.Pushpangadan, Jeet Kaur & Jyoti Sharma, Plantain Or Edible Banana (*Musa X Paradisica* Var – *Sapiemtum*) Some Lesser Known Folk Uses In India, Ancient Science Of Life, Vol. Ix, No.1, July 1989, Pages 20-24
4. Upasana Sarma^{1*}, Viney Kumar Govila² and Akanksha Yadav, The traditional and therapeutic use of banana and its plant based delicacies in ethnic Assamese cuisine and religious rituals from Northeast India, Sarma et al. Journal of Ethnic Foods (2020) 7:21 <https://doi.org/10.1186/s42779-020-00053-5>

5. Sampath Kumar, Bhowmik D, Duraivel S, Umadevi M. Traditional and Medicinal Uses of Banana. *J of Pharma and Phyto.* 2012;1(3):51–63. Available from: https://www.phytojournal.com/vol1Issue3/Issue_sept_2012/9.1.pdf
6. Muhammad Mainuddin Patwary, Atm Zakir Hossain, COVID-19 Impacts on Waste in Bangladesh, January 2021
7. [Prerana Balasubramanian](#), Going Bananas! The science and tradition of eating on banana leaves, <https://sciencemeetsfood.org/banana-leaves/>
8. Wasule D, Kawale A, Pandey D. Determination of Banana Leaf Extract for Sunscreen Property. *Intern J for Res Tre and Innov.* 2018;3(12):80. Available from: <https://www.ijrti.org/papers/IJRTI1812014.pdf>
9. Rajesh N. Medicinal benefits of *Musa paradisiaca* (Banana). *Interna J of Bio Res.* 2017;2(2):51–4. Available from: https://www.researchgate.net/publication/331149921_Medicinal_benefits_of_Musa_paradisiaca_Banana
10. Durairasan K., Noi Illa Neri, Department of Indian Medicine and Homoeopathy, Chennai, 2008, pg no 184-186, 157-158.
11. Murugesu Mudaliyar, Gunapadam Mooligai Vaguppu, Edition 2008, 228.
12. Virginia D. Kappel,¹ Luisa H. Cazarolli,² Danielle F. Pereira,¹ Bárbara G. Postal,¹ Fernanda A. Madoglio,³ Ziliani da S. Buss,⁴ Flávio H. Reginatto,³ Fátima R. M. B. Silva*,¹, Beneficial effects of banana leaves (*Musa x paradisiaca*) on glucose homeostasis: multiple sites of action, *Revista Brasileira de Farmacognosia Brazilian Journal of Pharmacognosy* 23(4): 706-715, Jul./Aug. 2013
13. Repon Kumer Saha^{1*}, Srijan Acharya¹, Syed Sohikul Haque Shovon, Priyanka Roy², Medicinal activities of the leaves of *Musa sapientum* var. *sylvestris* in vitro, Repon Kumer Saha et al./*Asian Pac J Trop Biomed* 2013; 3(6): 476-482
14. Kappel V, Cazarolli L, Pereira D, Postal B, Madoglio F, Buss Z da, et al. Beneficial effects of banana leaves (*Musa x paradisiaca*) on glucose homeostasis: Multiple sites of action. *Rev Bras de Farma.* 2013;23(4):706–15. Available from: https://www.researchgate.net/publication/260771917_Beneficial_effects_of_banana_leaves_Musa_x_paradisiaca_on_glucose_homeostasis_Multiple_sites_of_action
15. Kannuswamy C. Pathartha Guna Vilakkam (Moola Vargam) Chennai: Rathina Nayakar B & Sons; 2006.
16. Sanford Steever, 'Tamil Writing', in Daniels & Bright, *The World's Writing Systems*, 1996, p. 426