



### Review on various aspects of utility of *Amlika*

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#### Abstract

Known as '*imli*' in India, the sweet and sour fruit forms a part of many Indian recipes as well as *Ayurvedic* formulations. The name *tamarindus* comes from the Arabic Tamar-Hindi, meaning 'date of India', and refers to the date-like pulp inside the pods. According to folklore the sailors used to eat tamarind fruit as a complement to their otherwise starchy diet, in the belief that eating it would prevent scurvy. According to Tamarind has a pacifying effect on the *Vata* and *Kapha doshas*. On the other hand, it increases the *pitta dosha*. In Ayurveda, tamarind is used for healing in all forms – the leaves, fruit, bark, oil, and even ashes. To boost health, tamarind fruit can be added to daily diet. Here are the top tamarind benefits of health.

**keywords:** Tamarind, health benefits, *Amlika*

#### Introduction

*Tamarindus indica* L., commonly known as the tamarind tree, is one of the most important leguminous tree species *Tamarindus indica* L., commonly known as the tamarind tree, is one of the most important leguminous tree species *Tamarindus indica* L., commonly known as the tamarind tree, is one of the most important leguminous tree species *Tamarindus [Tamarindus indica* L. (*T. indica*)], belongs to the family *Leguminosae* (*Fabaceae*), commonly known as Tamarind tree, is one of the fruit tree species that is used as traditional medicine. The name *tamarindus* comes from the Arabic Tamar-Hindi, meaning 'date of India', and refers to the date-like pulp inside the pods. According to folklore

the sailors used to eat tamarind fruit as a complement to their otherwise starchy diet, in the belief that eating it would prevent scurvy. Tamarind has been cultivated in India for centuries and was taken by the Spanish conquistadores to the West Indies and Mexico in the 17th century. It is now widely grown in the tropics as an ornamental to provide shade as well as for the fruit.

#### **Cultivation:**

It needs dry climate so the region it is commonly seen extends Africa to Senegal in west, Sudan and Ethiopia in east, Mozambique and Madagascar in south. It is also thought that the plant came to India from Africa. Thailand, Bangladesh, Indonesia in Asia; Mexico, Costa Rica in America are some of the countries in which this plant is mostly encountered.

#### **Plant Description:**

*Tamarindus indica* (*T. indica*) is evergreen tree that can reach 24 m height and 7 m girth that has pale yellow and pink flowers. Tamarind leaves are green in colour and is longitudinal in shape. The bark is brownish, grey, peeling off in flakes. Leaves are even-pinnate, consisting of 10-18 pairs of small leaflets, rather close together. Petioles and rachis up to 12 cm long; leaflets oblong, up to 30 by 10 mm; opposite, pink or reddish when young, membranous, glabrous, with an obtuse apex and unequal base. The inflorescence

is a terminal raceme, yellowish orange to pale green, consisting of a narrow turbinate calyx tube with four imbricate segments. There are three unequal petals, the upper cordate about 1 cm long, and two lateral petals, narrowed towards the base. There are three fertile stamens, the base conical; ovary linear, about 7 mm long, pubescent, on a stalk adnate to the calyx tube. Pods are oblong, slightly curved, up to 15 cm long and reddish brown. The seed is glossy, dark brown, embedded in a thick, sticky aromatic and acid brown pulp.

#### **Botanical Classification:**

**Species:** *Tamarindus indica*

**Family:** *Leguminosae (Fabaceae)*

#### **Aspects of Ayurvedic Properties**

Synonyms:

English: Tamarind

Hindi: *Lmli*

Sanskrit: *Tintiri, Amlika*

*Ras-Amla*

*Virya-Ushna*

*Vipak-Amla*

*Guna-Ruksha, Guru*

*Doshagnta- Pacifies vata kapha ; increase pitta*

*Karma-Deepan, Pachan*

Parts Used- Fruits, fruit pulp, seeds, leaves, flowers and bark

अम्लिका चुक्रिकाम्ली च चुक्रा दन्तशठापि च।

अम्ला च चिञ्चिका चिञ्चा तिन्तिडीका च ति

न्तिडी ॥११६॥

अम्लिकाऽम्ला गुरुर्वातहरी पित्तकफासृकृत् ।

पक्वा तु दीपनी रुक्षा सरोष्णा कफवातनुत् ॥१

१७॥.

भावप्रकाश-पूर्वखण्ड-मिश्रप्रकरण

आम्रादिफलवर्ग

#### Chemical Composition:

According to phytochemical analysis results, *T. indica* contains phenolic compounds like catenin, procyanidin B2, epicatechin, tartaric acid, mucilage, pectin, arabinose, xylose, galactose, glucose, uronic acid and triterpen

#### In seeds:

#### Cardenolides And Bufadienolides:

U zarigenin -3-0-0- xylopyranosyl-a-Lyrhamnopyranoside and scilliphaeosidin 3-0-D-glucopyranosyl-Lyrhamnopyranoside have been isolated from the seed

Phytosterols And Triterpenes : ?-Sitosterol, campesterol, stigmasterol and amyirin occur in the seed

*Effect on various Systems of body:*

- **Immune system:** It is commonly used for so many infectious state including malaria and it stimulates the immune system and act on parasitemia
- **Digestive system:** Tannin was also found in *T. indica* that its antiparasitic effect via binding the free proteins in the gastrointestinal canal of the parasite or glycoproteins found outside the parasite and cause the death of it. Studies done by bark and leaf extract of *T. indica* showed its effectiveness and they suggested the usage as an antiparasitic agent.
- **Effects on cardiovascular system:** *T. indica* fruit is rich in polyphenol and flavonoid. It shows moderate antioxidant effect. It increases cholesterol excretion, decreases cholesterol biosynthesis, increases LDL-cholesterol intake from peripheral tissues and prevents triglyceride accumulation in liver. It also prevents LDL-cholesterol oxidative damage, the main risk factor of atherosclerosis.
- **Liver Protective Effect:** Apoptosis (programmed cell death) is the main mechanism in most of the liver diseases. In acute alcohol induced liver toxicity *T.*

*indica* leaves showed anti-apoptotic and liver protective effect. It causes membrane stabilization and decreases glutathione consumption.

- Scurvy, also known as Sailor's disease, occurs due to the deficiency of Vitamin C. The symptoms of scurvy are bleeding gums and nails, fatigue and so on. Tamarind has high ascorbic level acid content that mitigate scurvy.

#### **Therapeutic application:**

- Fruits of *T. indica* are used as an antipyretic and leaves of it used in malaria treatment.
- Potential antifungal effect of *T. indica* fruit also has been shown against *Aspergillus niger* and *Candida albicans*
- **Anti-diabetic effect:** Diabetes mellitus type 1 and type 2 are caused by damage due to chronic inflammation of pancreatic  $\beta$ -cell island. It causes abnormal insulin release, effects insulin receptor and post receptor events and ends with liver, kidney, eye damage. *T. indica* seed extract shows pancreatic  $\beta$ -cell island protective effect with its anti-inflammatory properties, blood glucose regulation, and reversal of

damage to pancreatic tissue. These effects are caused by increase in pancreatic intracellular  $\text{Ca}^{2+}$  level (insulin like effect) and plasma insulin activity rather than decrease in glucose absorption.

- *T. indica* bark extract showed 25% chemical inhibitory effect on *Salmonella typhi*. In the *phytohemagglutinin* presence or absence, it shows *lymphoproliferative* effect.
- It improves lactation: Breast milk is very important towards the growth of an infant. It is the most nutritious intake of a person's life and is very important as it ensures proper physical development of the child. The quality of breast milk is improved when a lactating mother consumes tamarind leaves extracts.
- Provides relief from menstrual cramps: Menstrual cramps are terrible and makes menstruation a very uncomfortable experience. What is worse is that it is recurring phenomena. Tamarind leaf extracts can dampen the cramps as they are analgesic.
- Improves oral health and cures tooth ache: Maintaining oral hygiene is very important. Two of

the most common oral problems faced by people are bad breath and tooth ache. Tamarind leaves are an ideal treatment for both these oral problems.

- **Usage in Panchakarma:** In *vaitaran basti* and *kshar basti*, these two basti are indicated in treating *aamvata*, *anaha*, *udavart*, *krumi* and pulp of ripen tamarind is one of the chief ingredient in preparation on this basti.
- **Chincha Panak** is a very useful Ayurveda herbal recipe especially in summer to prevent and treat dehydration. Pulp of tamarind mix with jaggery, cumin powder, saindhav lavan, and water is all together called Chinchapanak.

### Conclusion

- Tamarind is a common condiment in Indian cooking.
- It is a rich source of essential amino acids, phytochemicals and vitamins.
- The whole plant parts have rich nutritional value and wide usage in medicine.

- In traditional medicine it is used in wound healing, abdominal pain, diarrhoea, dysentery, parasitic infestation, fever, malaria and respiratory problems.

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