

Tamarind (Tamarindus indica)



Tamarind (Tamarindus indica) (from Arabic: هندی تمر, romanized tamar hindi, "Indian date") is a leguminous tree in the family Fabaceae indigenous to tropical Africa. The genus *Tamarindus* is a monotypic taxon, having only a single species.

The tamarind tree produces edible, pod-like fruit which are used extensively in cuisines around the world. Other uses include traditional medicines and metal polishes. The wood can be used in carpentry. Because of the tamarind's many uses, cultivation has spread around the world in tropical and subtropical zones.

Origin



Tamarindus indica is indigenous to tropical Africa, particularly in Sudan, where it continues to grow wild; it is also cultivated in Cameroon, Nigeria and Tanzania. In Arabia, it is found growing wild in Oman, especially Dhofar, where it grows on the sea-facing slopes of mountains. It reached South Asia likely through human transportation and cultivation several thousand years prior to the Common Era. It is widely distributed throughout the tropical belt, from Africa to South Asia, Northern Australia, and throughout South East Asia, Taiwan and China.

In the 16th century, it was heavily introduced to Mexico, and to a lesser degree to South America, by Spanish and Portuguese colonists, to the degree that it became a staple ingredient in the region's cuisine.

Today, South Asia and Mexico remain the largest consumers and producers of tamarind.

Description



The tamarind is a long-lived, medium-growth, bushy tree, which attains a maximum crown height of 12 to 18 metres (40 to 60 feet). The crown has an irregular, vase-shaped outline of dense foliage. The tree grows well in full sun in clay, loam, sandy, and acidic soil types, with a high drought and aerosol salt (wind-borne salt as found in coastal areas) resistance.

Leaves are evergreen, bright green in color, elliptical ovular, arrangement is alternate, of the pinnately compound type, with pinnate venation and less than 5 cm (2 inches) in length. The branches droop from a single, central trunk as the tree matures and is often pruned in human agriculture to optimize tree density and ease of fruit harvest. At night, the leaflets close up.

The tamarind does flower, though inconspicuously, with red and yellow elongated flowers. Flowers are 2.5 cm wide (one inch), five-petalled, borne in small racemes, and yellow with orange or red streaks. Buds are pink as the four sepals are pink and are lost when the flower blooms.

The fruit is an indehiscent legume, sometimes called a pod, 12 to 15 cm (3 to 6 inches) in length, with a hard, brown shell. The fruit has a fleshy, juicy, acidulous pulp. It is mature when the flesh is coloured brown or reddish-brown. The tamarinds of Asia have longer pods containing six to 12 seeds, whereas African and West Indian varieties have short pods containing one to six seeds. The seeds are somewhat flattened, and glossy brown.

The tamarind is best described as sweet and sour in taste, and is high in acid, sugar, B vitamins and, oddly for a fruit, calcium.

As a tropical species, it is frost sensitive. The pinnate leaves with opposite leaflets give a billowing effect in the wind. Tamarind timber consists of hard, dark red heartwood and softer, yellowish sapwood.

Tamarind is harvested by pulling the pod from its stalk. A mature tree may be capable of producing up to 175 kg (350 lb) of fruit per year. Veneer grafting, shield (T or inverted T) budding, and air layering may be used to propagate desirable selections. Such trees will usually fruit within three to four years if provided optimum growing conditions.

Etymology



The name ultimately derives from Arabic tamr-hindī, meaning "date of India". Several early medieval herbalists and physicians wrote tamar indi, medieval Latin use was tamarindus, and Marco Polo wrote of tamarandī.

Alternative names



The tree is most numerous in South Asia, where it is widely distributed and has a long history of human cultivation. Many South Asian regional languages have their own unique name for the tamarind fruit. In Sanskrit, it is called *thinthrinee*. In Assamese, it is called *teteli*. It is called *tetul* (তটুল) in Bengali. In Oriya, it is called *tentuli*, in Hindi it is called *imli* (इमली); in Rajasthani, it is known as *aamli* (आम्ली); in Gujarati the *aamli*, and Marathi and Konkani चिंच (the *chinch*); in Kannada it is called *hunase* (ಹುಣಸೆ), Telugu *chintachettu* (tree) and *chintapandu* (fruit extract). In Tamil-speaking regions as such in Tamil Nadu and northern areas of Sri Lanka, the tamarind is known as *puli* (புளி). In Malayalam, it is called *vaalanpuli* (വാളൻപുളി) and in Pakistan in Urdu, it is known as *imli* (املی). In Sri Lanka in Sinhala, it is called *siyambala*. Much further west, in Turkey, it is called *demir hindi*.

In Indonesia and Malaysia, tamarind is known as the *asam* (or *asem*) Jawa (means Javanese asam), which in the Indonesian and Malay languages, translates as Javanese sour [fruit] (though the literature may also refer to it as *sambaya*). In the Philippines, tamarind is referred to as *sampaloc*, which is occasionally rendered as *sambalog* in Tagalog and *sambag* in Cebuano. The Vietnamese term is *me*. In Taiwan, it is called *loan-tz*. In Myanmar, it is called *magee-bin* (tree) and *magee-thee* (fruit). The tamarind is the provincial tree of the Phetchabun province of Thailand, where it is called *má kām* (มะขาม). In Laos, it is called *maak-kham* (ມາກຂາມ). In Malagasy, it is called *voamadilo* and *kily*.

In the Cook Islands in the Cook Islands Māori language (also called Māori Kūki Āirani or Rarotongan language), *Tamarindus* is called *tamarene*.

In Ghana, it is called dawadawa. In Malawi, it is called bwemba. In Zambia (nyanja) it is called viwawasha. In Nigeria (Hausa language), it is called tsamiya. In the Kiswahili language of east and central Africa, it is called kwaju. In Somalia it is called "Hamaar".

In Colombia, the Dominican Republic, Mexico, Puerto Rico, Venezuela and throughout the Lusosphere, it is called tamarindo. In the Caribbean, tamarind is sometimes called tamón. In Trinidad and Tobago, however, it is also called tambran.

Tamarind (Tamarindus indica) should not be confused with "Manila tamarind" (Pithecellobium dulce). While in the same taxonomic family Fabaceae, Manila tamarind is a different plant native to Mexico and known locally as guamúchil.

Cultivation

Seeds can be scarified or briefly boiled to enhance germination. They retain germination capability after several months if kept dry.

Although native to Sudan and tropical Africa, Asia and Mexico are the largest consumers and producers of tamarind.

The tamarind has also long been naturalized in Indonesia, Malaysia, the Philippines, and the Pacific Islands. Thailand has the largest plantations of the ASEAN nations, followed by Indonesia, Myanmar, and the Philippines. In India, extensive tamarind orchards produce 275,500 tons (250,000 MT) annually. The pulp is marketed in northern Malaya. It is cultivated all over India, especially in Andhra Pradesh and Tamil Nadu.

Commercial plantations throughout tropical Latin America include Brazil, Costa Rica, Cuba, Guatemala, Mexico, Nicaragua, Puerto Rico and Venezuela.

In the United States, it is a large-scale crop introduced for commercial use, second in net production quantity to India, in the mainly Southern states due to tropical and semitropical climes, notably South Florida, and as a shade and fruit tree, along roadsides and in dooryards and parks.

Culinary uses

<i>Tamarinds, raw</i>	
<i>Nutritional value per 100 g (3.5 oz)</i>	
<i>Energy</i>	239 kcal (1,000 kJ)
<i>Carbohydrates</i>	62.5 g
<i>- Sugars</i>	57.4
<i>- Dietary fiber</i>	5.1 g
<i>Fat</i>	0.6 g
<i>Protein</i>	2.8 g

<i>Thiamine (vit. B₁)</i>	<i>0.428 mg (37%)</i>
<i>Riboflavin (vit. B₂)</i>	<i>0.152 mg (13%)</i>
<i>Niacin (vit. B₃)</i>	<i>1.938 mg (13%)</i>
<i>Pantothenic acid (B₅)</i>	<i>0.143 mg (3%)</i>
<i>Vitamin B₆</i>	<i>0.066 mg (5%)</i>
<i>Folate (vit. B₉)</i>	<i>14 µg (4%)</i>
<i>Choline</i>	<i>8.6 mg (2%)</i>
<i>Vitamin C</i>	<i>3.5 mg (4%)</i>
<i>Vitamin E</i>	<i>0.1 mg (1%)</i>
<i>Vitamin K</i>	<i>2.8 µg (3%)</i>
<i>Calcium</i>	<i>74 mg (7%)</i>
<i>Iron</i>	<i>2.8 mg (22%)</i>
<i>Magnesium</i>	<i>92 mg (26%)</i>
<i>Phosphorus</i>	<i>113 mg (16%)</i>
<i>Potassium</i>	<i>628 mg (13%)</i>
<i>Sodium</i>	<i>28 mg (2%)</i>
<i>Zinc</i>	<i>0.1 mg (1%)</i>

Link to USDA Database entry
Percentages are roughly approximated
using US recommendations for adults.
Source: USDA Nutrient Database

The fruit pulp is edible. The hard green pulp of a young fruit is considered by many to be too sour, but is often used as a component of savory dishes, as a pickling agent or as a means of making certain poisonous yams in Ghana safe for human consumption.

The ripened fruit is considered the more palatable, as it becomes sweeter and less sour (acidic) as it matures. It is used in desserts as a jam, blended into juices or sweetened drinks, sorbets, ice creams and all manner of snacks.

In Western cuisine, it is found in Worcestershire sauce and HP sauce.

*In Karnataka, India, the tamarind, called *hunasa* *hannu*, is used in *saaru* (lentil soup), *sambhar* or *sambar* (vegetable soup), *gojju* (sauce), and several types of chutneys. *Imlichutney* and *pulusu* use it. Along with tamarind, sugar and spices are added to (regional) taste for chutneys or a multitude of condiments for a bitter-sweet flavor. The immature pods and flowers are also pickled and used as a side dish. In regional cuisines, such as Rajasthan, Maharashtra (where it is called *chinchia*), Tamil Nadu (where it is called *puli*) and Andhra Pradesh, use it to make *rasam*, *amtee*, *sambhar*, *vatha kuzhambu*, and *puliyogare*. In Andhra Pradesh and Tamil Nadu, tender leaves of tamarind called *chinthā chiguru* (చింత చిగురు) and *puliyankozhunthu* (புளியங்கொழுந்து), respectively, are used with lentils to make raw chutney. It is also dried and used in place of ripe tamarind for mild flavor. In southern parts of Kerala, mostly along the coastal belt, it is added to fish curries, with ground coconut for flavoring.*

*In Guadeloupe, tamarind is known as *taamarinier* and is used in jams and syrups.*

*In Mexico, it is used in sauces or sold in various snack forms: dried and salted; in sweet, soft clusters, or candied (see for example *chamoy* snacks). *Agua de tamarindo*, a fresh beverage made from tamarind, is popular throughout the country. *Agua fresca* beverages, iced fruit bars and *raspaditos* all use it as the main ingredient. *Jarritos* is a well known export brand soda drink (tamarind is the second most popular flavour of the brand). Mexican tamarind snacks, such as "*Batilongo*", *Pelon Pelo Rico* and *Pulparindo* are available in specialty food stores worldwide. Often in Mexico, tamarind is plucked off the tree and eaten raw.*

*A variant of the traditional Mexican mole sauce is made with tamarind paste in addition to the more traditional ingredients of mole, such as *chile ancho* and chocolate. This version is not very well known outside of the city of Oaxaca.*

*In Jamaica, Trinidad and Tobago, Colombia, Mexico and other Latin American countries tamarind is rolled into balls (5 cm in diameter) with white granulated sugar and a blend of spices to create *tambran* balls.*

A sour, chilled drink made from tamarind is served in Egypt.

A traditional food plant in Africa, tamarind has potential to improve nutrition, boost food security, foster rural development and support sustainable landcare.

*In southern Kenya, the Swahili people use it to garnish legumes and also make juices. In Somalia, it is used to give rice some sour flavour. In Madagascar, its fruits and leaves are a well-known favorite of the ring-tailed lemurs, providing as much as 50% of their food resources during the year if available. In northern Nigeria, it is used with millet powder to prepare *kunun tsamiya*, a traditional pap mostly used as breakfast, and usually eaten with bean cake.*

*In Turkey, it is called *demirhindi*, and is consumed as a sweetened cold drink. It is also available as a fruit, but is not well known by the general population since it is not grown locally and is imported.*

*The Javanese dish *gurame* and more so *ikan asem*, also known as *ikan asam* (sweet and sour fish, commonly a carp or river fish) is served throughout Indonesia, Malaysia and Singapore; some dishes in Manado, Sulawesi and Maluku cuisines use tamarind.*

*In Lebanon, the *Kazouza* company sells a tamarind-flavoured carbonated beverage.*

In Myanmar, young and tender leaves and flower buds are eaten as a vegetable. A salad dish of tamarind leaves, boiled beans, and crushed peanuts topped with crispy fried onions is served in rural Myanmar.

In the Philippines, tamarind is used in foods like sinigang soup, and also made into candies. The leaves are also used in sinampalukan soup.

In Thailand, a cultivar has been bred specifically to be eaten as a fresh fruit: it is particularly sweet and minimally sour. It is also sometimes eaten preserved in sugar with chili as a sweet-and-spicy candy. Tamarind is an essential souring ingredient in the central Thai variant of kaeng som, a sour curry. Pad Thai often includes tamarind for its tart/sweet taste (with lime juice added for sourness and fish sauce added for saltiness and umami). A tamarind-based sweet-and-sour sauce is served over deep-fried fish in central Thailand.

In Vietnam, tamarind is eaten fresh or processed into a sweet, sour and sometimes spicy candy. Tamarind is also one of the main ingredients in the Vietnamese sour soup, Canh chua.

Traditional medicinal uses

Throughout Southeast Asia, fruit of the tamarind is used a poultice applied to foreheads of fever sufferers. Based on human study, tamarind intake may delay the progression of skeletal fluorosis by enhancing excretion of fluoride. However, additional research is needed to confirm these results.

Carpentry uses

Tamarind wood is a bold red color. Due to its density and durability, tamarind heartwood can be used in making furniture and wood flooring.

Metal polish

Tamarind concentrate can be used to remove tarnish from brass and copper.

In temples, especially in Buddhist Asian countries, the fruit pulp is used to polish brass shrine statues, lamps, and other objects, removing tarnish and the greenish patina that forms. In Tamil Nadu in south India tamarind is widely used to clean the copper and bronze utensils.

Horticultural uses

Throughout Asia and the tropical world, tamarind trees are used as ornamental, garden and cash crop plantings. Commonly used as a bonsai species in many Asian countries, it is also grown as an indoor bonsai in temperate parts of the world.

Research

In hens, tamarind has been found to lower cholesterol in their serum, but not in the yolks of the eggs they laid. Due to a lack of available human clinical trials, there is insufficient evidence to recommend tamarind for the treatment of hypercholesterolemia or diabetes.

Памаринд индийский, или Индийский финик (лат. Tamarindus indica)



Памаринд индийский, или Индийский финик (лат. Tamarindus indica) — растение семейства Бобовые (Fabaceae), единственный вид рода Памаринд. Это тропическое дерево, родиной которого является восточная Африка, в том числе сухие лиственные леса Мадагаскара. В диком виде произрастает в Судане, но в настоящее время растение распространено на территории большинства тропических стран Азии, куда он попал благодаря культивированию ещё за несколько тысяч лет до нашей эры. В XVI веке интродуцирован в Мексике и в Южной Америке. Культивируется в тропиках всех континентов.

Описание



Дерево может достигать 20 метров в высоту и остаётся вечнозелёным в регионах без сухих сезонов. Древесина состоит из плотной темно-красной сердцевины (ядровой древесины) и мягкой желтоватой заболони.

Листья очерёдные парноперистосложные, состоят из 10—40 тонких листочков.

Цветки розовые неправильные пятичленные, собраны в соцветия.

Плод — коричневый боб около 20 см длиной и 2—3 см шириной, состоит из мясистого перикарпа и множества плотных семян. Семена могут надрезаться для ускорения прорастания.

Название на различных языках

Тамаринд также называют **индийским фиником**, это перевод с арабского *تمر هندي tamr hindī*. В Малайзии его называют асам на малайском языке и сви бэй на диалекте хоққуен. В Индонезии он также зовется асем (или асам) *Jawa* (означает яванский асам) на индонезийском языке. На Филиппинах его называют — «сампалоқ». В Индии он называется **इमली** имли (на хинди), тетул — **তটুল** (бенгальский), сямбала (сингальский язык), чинтачетту — *Chintachettu* (дерево) и чинтапанду — *Chintarandu* (плоды) на (телугу), а на тамильском **பிளிய** и малаяламе **പുളി** — пули (*puli*). На языке каннада — хунасе **ಹುಣಸೆ**. На малагасийском — воамадило (*voamadilo*). Соответствующий вьетнамский термин — ме. В Таиланде его называют **มะขาม** ма-ххам. Тамаринд является символом тайской провинции Пхетчабун.

Ещё одно название тамаринда, упоминаемое в 6-томной «Жизни растений» под ред. акад. Пахтаджяна — «дакар». На немецком языке название очень похожее — *Tamarinde*. В китайском языке — 甜角, 罗望子, 木罕 (калькирование с тайского) и 酸豆腐.

Хозяйственное значение и применение



Мякоть плода съедобна. Она используется в качестве специи, как в азиатской, так и в латиноамериканской кухнях. Является важным ингредиентом популярных в Великобритании вустерского соуса и фруктового соуса HP (HP sauce). Мякоть зелёных плодов весьма

кислая на вкус и используется в приготовлении острых блюд. Зрелые плоды слаще и могут использоваться для приготовления десертов, напитков, закусок.

Используют консервированную сахарным сиропом мякоть плодов, представляющую бурую вязкую массу приятного кисло-сладкого фруктового вкуса, в которой содержатся волокна мезокарпы и красновато-бурые блестящие гладкие твёрдые семена закруглённо-квадратной формы.

В храмах азиатских стран мякоть тамаринда используют для очистки латунных украшений от окислов, жира и патины.

Древесина имеет насыщенный красный цвет. Благодаря плотности и прочности древесина тамаринда используется для изготовления мебели и напольных покрытий. Из ветвей дерева изготавливали также и розги.

Тамариновое дерево весьма распространено в южной Индии и используется там, кроме всего прочего, для создания тени над дорогами. Деревья облюбовали обезьяны, которые лакомятся спелыми плодами.

Плоды содержат органические кислоты, инвертный сахар, пектиновые вещества. Применяется как лёгкое слабительное, особенно для детей, а настой — как освежающий напиток при лихорадке. Из мякоти получают пектин.

Мякоть, листья и кора применяются также и в медицине. К примеру, на Филиппинах листья традиционно используются для приготовления травяного чая, который снимает лихорадку при малярии. Благодаря своим целебным свойствам тамаринд используется в Аюрведе для лечения болезней пищеварительного тракта.

Тамаринд является неизменным компонентом кухни южной Индии, где применяется для приготовления кузамбу, или самбара, популярного в Тамилнаду жидкого блюда под названием пуликкузамбу, риса пулийодарай и различных вариаций чатни. Тамаринд продаётся в виде сладостей в Мексике (например, пулариндо) и во всевозможных видах в южной Азии: сушёный, солёный, засахаренный, замороженный и т. д.). Пад тай — одно из наиболее популярных блюд тайской кухни, основой вкуса которому придаёт тамаринд.

Тамариновый соус подают к баранине.

В Латинской Америке, особенно в Мексике, а также в среде иммигрантов из Латинской Америки в США этот фрукт весьма популярен и используется во всевозможных видах. Тамарино — твёрдые конфеты и леденцы с характерным ароматом и вкусом.

Тамаринд является официальным деревом Санта-Клары на Кубе и изображён на городском гербе.

Метафора

На мексиканском сленге (особенно в Мехико), «тамариндами» называют регулировщиков дорожного движения из-за характерного цвета их униформы.

