

Jackfruit

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Jackfruit tree with fruit

Scientific classification

Kingdom: Plantae

(unranked): Angiosperms

(unranked): Eudicots

(unranked): Rosids

Order: Rosales

Family: Moraceae

Tribe: Artocarpeae

Genus: Artocarpus

Species: *A. heterophyllus*

Binomial name
<p><i>Artocarpus heterophyllus</i> Lam.^{[1][2]}</p>
Synonyms ^{[3][4][5]}
<ul style="list-style-type: none"> • <i>Artocarpus brasiliensis</i> Ortega • <i>A. integer</i> auct. (not to be confused with <i>A. integer</i> Spreng.) • <i>A. integrifolius</i> auct. • <i>A. integrifolius</i> L.f. • <i>A. maximus</i> Blanco • <i>A. nanca</i> Noronha (nom inval.) • <i>A. philippensis</i> Lam.

The jackfruit (*Artocarpus heterophyllus*, also known as jack tree, jackfruit, or sometimes simply jack or jak)^[6] is a species of tree in the *Artocarpus* genus of the mulberry family. It is native to parts of South and Southeast Asia, and is believed to have originated in the southwestern rain forests of India, in present-day Kerala, coastal Karnataka and Maharashtra.^[7] The jackfruit tree is well suited to tropical lowlands, and its fruit is the largest tree-borne fruit,^[8] reaching as much as 80 pounds (36 kg) in weight, 36 inches (90 cm) in length, and 20 inches (50 cm) in diameter.

The jackfruit has played a significant role in Indian agriculture for centuries. Archeological findings in India have revealed that jackfruit was cultivated in India 3000 to 6000 years ago. It is also widely cultivated in Southeast Asia.

Thailand and Vietnam are major producers of jackfruit, a lot of which are cut, prepared and canned in a sugary syrup (or frozen in bags/boxes without syrup), and exported overseas, frequently to North America and Europe.

In other areas, the jackfruit is considered an invasive species as in Brazil's Tijuca Forest National Park in Rio de Janeiro. The Tijuca is mostly an artificial secondary forest, whose planting began during the mid-19th century, and jackfruit trees have been a part of the park's flora since its founding. Recently, the species has expanded excessively; its fruits, which naturally fall to the ground and open, are eagerly eaten by small mammals such as the common marmoset and coati. The seeds are dispersed by these animals, which allow the jackfruit to compete for space with native tree species. Additionally, as the marmoset and coati also prey opportunistically on bird's eggs and nestlings, the supply of jackfruit as a ready source of food has allowed them to expand their populations, to the detriment of the local bird populations. Between 2002 and 2007, 55,662 jackfruit saplings were destroyed in the Tijuca Forest area in a deliberate culling effort by the park's management.

Aroma[edit]

Jackfruit are known for having a distinct aroma. In a study using five jackfruit cultivars, the main jackfruit volatile compounds that were detected are: ethyl isovalerate, 3-methylbutyl acetate, 1-butanol, propyl isovalerate, isobutyl isovalerate, 2-methylbutanol, and butyl isovalerate. These compounds were consistently present in all the five cultivars studied, suggesting that these esters and alcohols contributed to the sweet and fruity aroma of jackfruit.

Ripe jackfruit is naturally sweet with subtle flavoring. It can be used to make a variety of dishes, including custards, cakes, halo-halo and more. In India, when the Jackfruit is in season, an ice cream chain store called "Naturals" carries Jackfruit flavored ice cream.

Ripe jackfruit arils are sometimes seeded, fried or freeze-dried and sold as jackfruit chips.

The seeds from ripe fruits are edible, are said to have a milky, sweet taste, and may be boiled, baked or roasted. When roasted the flavor of the seeds is comparable to chestnuts. Seeds are used as snacks either by boiling or fire roasted, also used to make desserts. For making the traditional breakfast dish in southern India: idlis, the fruit is used along with rice as an ingredient and jackfruit leaves are used as a wrapping for steaming. Jackfruit dosas can be prepared

The edible jackfruit is made of soft, easily-digestible flesh (bulbs); A portion of 100 g of edible raw jackfruit provides about 95 calories and is a good source of the

antioxidant vitamin C, providing about 13.7 mg.^[23] Jackfruit seeds are rich in protein. The fruit is also rich in potassium, calcium, and iron.^[24]

Seeds

In general, the seeds are gathered from the ripe fruit, sun-dried, then stored for use in rainy season in many parts of South Indian states. They are extracted from fully matured fruits and washed in water to remove the slimy part. Seeds should be stored immediately in closed polythene bags for one or two days to prevent them from drying out. Germination is improved by soaking seeds in clean water for 24 hours. During transplanting, sow seeds in line, 30 cm apart, in a nursery bed filled with 70% soil mixed with 30% organic matter.^[25] The seedbed should be shaded partially from direct sunlight in order to protect emerging seedlings.

Boiled Jackfruit seed is also edible. Seasoned with nothing more than salt, this snack is very popular in Java.

Wood

The wood of the tree is used for the production of musical instruments. In Indonesia, hardwood from the trunk is carved out to form the barrels of drums used in the gamelan, and in the Philippines its soft wood is made into the body of the kutiyapi, a type of boat lute. It is also used to make the body of the Indian string instrument veena and the drums mridangam, thimila and kanjira; the golden, yellow timber with good grains is used for building furniture and house construction in India. The ornate wooden plank called avanipalaka made of the wood of jackfruit tree is used as the priest's seat during Hindu ceremonies in Kerala. In Vietnam, jackfruit wood is prized for the making of Buddhist statuary in temples.^[26]

Jackfruit wood is widely used in the manufacture of furniture, doors and windows, and in roof construction. The heartwood is used by Buddhist forest monastics in Southeast Asia as a dye, giving the robes of the monks in those traditions their distinctive light-brown color.^[27]

Commercial availability

Outside of its countries of origin, fresh jackfruit can be found at Asian food markets, especially in the Philippines, Thailand, Vietnam, Malaysia Cambodia and Bangladesh. It is also extensively cultivated in the Brazilian coastal region, where it is sold in local markets. It is available canned in sugary syrup, or frozen, already

prepared and cut. Dried jackfruit chips are produced by various manufacturers. In northern Australia, particularly in Darwin, jackfruit can be found at outdoor produce markets during the dry season. Outside of countries where it is grown, jackfruit can be obtained year-round both canned or dried. It has a ripening season in Asia of late spring to late summer.^[28]

There are established jackfruit industries in Sri Lanka and Vietnam, where the fruit is processed into products such as flour, noodles, papad and ice cream. It is also canned and sold as a vegetable for export.^[24]

Production and marketing

The marketing of jackfruit involved three groups: producers, traders (middlemen) including wholesalers, and retailers.^[29] The marketing channels are rather complex. Large farms sell immature fruits to wholesalers of which could help cash flow and reduces risk, whereas medium sized farms sell fruits directly to local markets or retailers.