Jackfruit

Artocarpus heterophyllus Lam.

Code: TREE-00008 **Local / Vernacular name:** Thatchu

Description

Jackfruit is the largest tree-borne fruit in the world, recognizable by its massive size, spiky green exterior, and thick, bumpy rind. Native to the tropical rainforests of South and Southeast Asia, this versatile fruit belongs to the mulberry family and can grow up to 55 kilograms in weight. When ripe, its bright yellow, fibrous pods are sweet and aromatic, tasting like a blend of banana, mango, and pineapple. When unripe, the fruit has a neutral flavor and a dense, stringy texture that makes it immensely popular worldwide as a plant-based, shreddable meat substitute for savory dishes like curries and tacos. Beyond its culinary uses, jackfruit is highly nutritious—packed with fiber, vitamin C, and potassium—and its protein-rich seeds are also entirely edible when boiled or roasted.

Botanical Details

- Plant Form: It is a monoecious evergreen tree with a dense canopy, typically growing to a height of 15 to 20 meters.
- Foliage: The leaves are dark green, glossy, and leathery, alternating along the branches and measuring up to 20 cm long.
- Exudate: The bark, twigs, and unripe fruit release a sticky, milky-white latex sap when cut or damaged.
- Flower Biology: Separate male and female inflorescences grow on the same tree, with male spikes being smaller and female spikes appearing on thicker twigs or the trunk.
- Rind and Surface: The exterior is a thick, protective rind covered in thousands of hard, blunt, pyramidal spines that change from green to yellowish-brown as the fruit matures.
- Internal Anatomy: The interior consists of a central woody core surrounded by hundreds of individual golden-yellow fleshy perianths (bulbs), each enclosing a single smooth, oval seed.

Uses & Importance

Ecological:

- Biodiversity Support: The tree provides vital food and shelter for diverse wildlife, including fruit bats, birds, monkeys, and insects, which feed on its abundant leaves, nectar, and fruits.
- Soil Conservation: Its extensive, deep root system binds the soil effectively, which prevents soil erosion and stabilizes the ground in tropical, rain-heavy regions.
- Microclimate Regulation: The dense, wide evergreen canopy offers excellent shade, reducing ground evaporation and maintaining soil moisture and a cooler microclimate beneath it.
- Climate Resilience: Being highly drought-tolerant and pest-resistant, the tree thrives with minimal human intervention, making it a reliable, stable anchor for changing tropical ecosystems.

Medicinal:

- **Antidiabetic and Hypoglycemic Properties:** Research published in PMC indicates that jackfruit has a **low glycemic index**, which slows down glucose absorption. Leaf decoctions and fruit extracts contain flavonoids and prenylflavones that have been shown to **improve insulin sensitivity** and help control blood sugar levels. [1, 2, 3]
- **Cardioprotective Action:** The high level of potassium works as a natural vasodilator to **lower blood pressure**, minimizing the strain on the cardiovascular system. Phytochemicals like **resveratrol** help reduce bad LDL cholesterol and prevent plaque deposits in blood vessels. [1, 2, 3, 4]
- **Anticancer and Immunomodulatory Activity:** The tree is rich in key phytonutrients, such as **lignans, saponins, and isoflavones**, which counteract oxidative stress and fight off free radicals. These compounds have shown a potential to inhibit the formation and spread of cancer cells. [1]
- **Anti-inflammatory and Wound Healing:** Extracts from the pulp, leaves, and roots significantly **inhibit inflammatory mediators**. Coupled with its abundant Vitamin C—which is crucial for collagen synthesis—jackfruit accelerates **tissue repair and wound recovery**. [1, 2]
- **Gastrointestinal Health:** The soluble and insoluble dietary fibers found in the fruit and seeds act as a **natural laxative**, preventing constipation. Traditional medicine frequently utilizes jackfruit extracts to **soothe ulcers and reduce stomach acidity**. [1, 2, 3, 4]
- **Antimicrobial and Antiviral Defense:** Bioactive metabolites from the bark, roots, and leaves display **broad-spectrum antibacterial and antifungal activity**. Additionally, its specialized protein, **jacalin**, is extensively researched for its immunological attributes, notably its antiviral activity. [1, 2, 3]

Would you like to focus on how **traditional systems of medicine like Ayurveda** utilize different parts of the tree, or explore the specific **precautions and side effects** to be aware of?

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Cultural:

- Symbol of Prosperity: In many South Asian cultures, the tree is considered auspicious and a symbol of good luck and abundance because a single tree yields a massive amount of food year-round.
- Religious and Festive Rituals: The leaves and wood are integral to Hindu ceremonies; the leaves are used to make traditional ritual cones (*kumbham*), while the durable sacred wood is used to carve deity idols and temple ornaments in South India.
- Culinary Heritage: It is a deeply rooted comfort food woven into regional traditions, celebrated through staples like *Chakka Pradhaman* (a festive payasam pudding in Kerala) and *Echorer Dalna* (a traditional Bengali curry during family gatherings).
- Art and Musical Instruments: The vibrant yellow timber, known for its resonance, is the culturally preferred wood for crafting sacred traditional musical instruments such as the South Indian *mridangam* and *veena*, as well as the Indonesian *gamelan*.

Location

GPS: 12.97160000, 77.59460000

Directions: https://www.google.com/maps/dir/?api=1&travelmode=walking&destination=12.9716%2C77.5946