

Artocarpus lakoocha

lakuch

Roxb

Moraceae

LOCAL NAMES

Burmese (myankdok); English (monkey jack); Hindi (lakuch,dhau,dephal,badhal); Malay (tampang); Nepali (badahar,arhar); Thai (lokhat); Trade name (lakuch)

BOTANIC DESCRIPTION

Artocarpus lakoocha is a medium to large deciduous tree with a spreading crown, dropping its leaves for a short time at the beginning of the dry season. The bark is grey and the slash is deep red with milky latex.

Leaves alternate, 10-25 cm long, elliptical, pointed and leathery.

Flowers unisexual-male and female flowers in separate spherical heads but on the same tree. Male flowers are yellow-orange while the female are reddish.

Fruit is a syncarp (the entire female inflorescence forms a fruit), irregularly rounded, green when young, turning yellow at the time of maturity, later brown. The size differs but the diameter is typically 5-10 cm while fruit weights 200-350 g. The number of seeds/fruit varies accordingly, but typically there are 10-30 per fruit.

Seeds irregular and vary in size like the fruits. At maturity, most seeds are about one cm long, more or less flattened and pointed at the embryo end, the seed-coat is thin and white. The seeds contain sticky white latex.

The generic name comes from the Greek words 'artos' (bread) and 'karpos' (fruit) while the species name is derived from the fruit's common name in India.

BIOLOGY

In Nepal the trees flower in April, towards the end of the dry season. Ripe fruits are collected from the end of June to early August in most places but there can be considerable variations. The tree is deciduous, dropping its leaves for a short time at the beginning of the dry season. The fragrant flowers indicate insect pollination. Birds and monkeys usually disperse the seeds



foliage (TopTropicals.com)

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ECOLOGY

It is often found along banks of stream usually in lowland areas and in well-protected spots. In many places the populations are gradually decreasing due to extensive exploitation and poor seed viability.

Young trees withstand moderate shade, but older trees grow best in full light. It grows best on deep permeable soils with a good supply of moisture and does not thrive on poorer sites. Trees can withstand a dry season of up to 3 months. Young seedlings are badly damaged by frost, and the tree should not be planted in frosty areas.

BIOPHYSICAL LIMITS

Altitude: 150-1600 m

Mean annual temperature: 17-24°C

Mean annual rainfall: 700-2000 mm

Soil type: It prefers deep permeable soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: Bangladesh, Bhutan, Cambodia, India, Laos, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand, Vietnam

Exotic:



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

PRODUCTS

Food: The fruits and male flowers are eaten raw, boiled, steamed or roasted.

Fodder: In Nepal it is highly valued as a fodder tree in the lower foothills of the Himalayas. The leaves contain about 16% crude protein and one tree produces between 60 and 200 kg fresh fodder in a year. It is fed to lactating animals and considered one of the most important milk producing forages.

Fuel: The trees are an important source of firewood.

Timber: The wood is hard and termite resistant with a weight of about 640 kg/m³. It is used in heavy construction, poles, beams, furniture boats, wood based materials and plywood.

Latex or rubber: A sticky latex is present in all parts of the tree and has many uses.

Tannin or dyestuff: The tree bark (containing 8-9% tannin) is chewed like betel nut. The wood and roots yield a lavish colour dye.

Lipids: The fat extracted from the seed is a light yellow liquid, viscous at room temperature.

Medicine: The root is an astringent and is used as a purgative; when macerated it was used as a poultice for skin ailments. The bark is used to treat headache.

SERVICES

Shade or shelter: A perennial tree crop that provides beneficial shade and cooler microclimate for humans, plants and animals beneath its canopy.

Soil improver: The tree can be used to provide mulch.

Ornamental: Occasionally grown as an ornamental plant.

Intercropping: It is an important component of traditional agroforestry systems. The trees are integrated into mixed cropping systems with other crop

TREE MANAGEMENT

A. lakoocha needs care and attention. Individual farmers plant few trees on their farms.

For plantations establishment, 1 m x 1 m spacing is recommended with thorough weeding and fertilizer application, for the best production of fodder. In Nepal, plants 18 months old (average 1.6 m in height) yielded 400 kg of fodder per ha.

GERMPLASM MANAGEMENT

When the fruits have turned yellow, the seeds inside are mature. Seeds that are extracted from green fruits have low viability and only ripe fruits should be collected. As the ripe fruits are readily eaten by monkeys and birds, collection must be well timed. The fruits should be collected while still on the trees. Freshly collected fruits and seed have a high moisture content and must be treated gently. They must be packed in bags that allow ventilation, protected from direct sun and brought to the processing site as quickly as possible. The yields are in the order of about 80 kg of fruit/tree. There are 50 g of seed/kg of fruits.

The traditional procedure is to leave the seeds inside the fruit until just before sowing, if a cold storage facility is not available. However, seed stored inside the fruit quickly lose viability within a week. To extract the seeds, the fruits are de-pulped manually with or without water. As the seed-coat is thin, the seeds are fragile and once extracted, must be treated gently.

Seeds are recalcitrant. Mature seeds extracted from yellow fruits have moisture content of 50-55% and do not tolerate drying to low moisture content. They should be stored at 5°C. If the seeds are extracted before storage they should be dried slightly and never below 40% moisture content. There are 1600-5000 seeds per kg

PESTS AND DISEASES

A fungus species (*Pseudocercospora artocarpi*) is reported to attack this species in its native range.

FURTHER READNG

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SUGGESTED CITATION

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