

LOCAL NAMES

English (red mango, Indian tamarind, brindleberry); Sinhala (kana goraka, honda goraka); Thai (korakkaipuli)

BOTANIC DESCRIPTION

Garcinia quaesita is a medium to large evergreen lactiferous tree to 20 m high and up to 60 cm dbh. The crown is round with drooping branches. The bark is blackish and rough, cracked and peeling to exude dark-yellow latex.

Leaves dark green, 5-12.5 by 2.5-7.5 cm, oblanceolate to subovate

Flowers white, on axil of upper leaves; male flowers clustered and female solitary.

Fruit a small yellow, purple or reddish globose, with 7-13 very deep vertical grooves. Flesh is mild to distinctly acid and is acclaimed to be exquisitely luscious and delicious.

Seeds 6-8, ovoid-oblong, 2.5 cm long and 1.6 cm wide, clinging to the flesh

The generic name is after L. Garcin (1683-1751), a naturalist and a correspondent of Linnaeus.

BIOLOGY

G. quaesita is androdioecious and takes 6-8 years to reach sexual maturity. It flowers during the hot season while the fruits ripen during rainy season in Sri Lanka.

ECOLOGY

It is found in wet and intermediate evergreen forests and home-gardens in hot and wet tropical climates.

BIOPHYSICAL LIMITS

Altitude: up to 2000 m

Soil type: It can grow in a wide range of soil conditions in the hot and wet tropical climates.

DOCUMENTED SPECIES DISTRIBUTION

Native: India, Malaysia, Philippines, Sri Lanka

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 edible fruits have a distinctive sweet acid taste. Dried fruits of are widely used as a spice in the preparation of fish curries. The dried rind is a condiment especially in Sri Lanka, India and Malabar. It is used as a metabolic regulator (against obesity).

Timber: The grey, close-grained wood produces a non-durable of low quality (600-700 kg/m³). The heartwood is distinctly hard and durable in old trees. The wood is used for posts, matchboxes and splits while the timber is used in cheap boxes

Gum or resin: The tree yields a translucent yellow resin, which does not form an emulsion with water. The latex is soluble in turpentine and gives a yellow varnish, used in painting and dyeing

Latex or rubber: The dried rind used for polishing gold and silver, is a substitute for acetic and formic acids in the coagulation of rubber latex

Lipids: The seeds have very high oil content. They contain up to about 31% of edible fat, rich in oleic acid

Medicine: The fruit rind and extracts of *Garcinia* are used in traditional medicinal recipes especially in the Ayurvedic system. Leaves are astringent and anti-pyretic. A decoction of the fruit rind is taken for rheumatism and bowel complaints. It is used as a decoction for washing ulcers and a gargle in weak and spongy gums. Internally, it acts as a stomachic and is used in anorexia and chronic dyspepsia. In veterinary medicine, it has been used as a rinse for diseases of the mouth in cattle

Other products: *G. quaesita* and chromium picolinate, used together, curb the appetite to reduce food intake. This makes it a powerful ingredient of weight loss therapy

SERVICES

Erosion control: When intercropped with other crops home-gardens, it holds together soil thus controlling soil erosion

Shade or shelter: It can be a good shade plant

Ornamental: It is a good ornamental tree when planted along road avenues

TREE MANAGEMENT

Planting is done at a spacing of 10-12 m at the beginning of the rainy season, enriched with organic matter and topsoil and left to weather. The young tree is put in place very carefully to avoid root injury and given a heavy watering. Partial shading should be maintained for 3-5 years. Where a moist planting site is not available, irrigation ditches should be dug to make it possible to maintain an adequate water supply. The trees are irrigated almost daily during the dry season. Small inner branches should be pruned from the old unproductive trees to stimulate bearing

GERMPLASM MANAGEMENT

The seed storage behaviour is recalcitrant. Seeds should be stored in their fruit at room temperature or in moist peat moss

PESTS AND DISEASES

The marketability of this tree's products in the cottage industry has been hampered by fungal infestations. In addition, a leaf-eating caterpillar, identified as a member of the tussock moth family (Lymantridae), attacks new shoots in India.

FURTHER READNG

Babu AM and Menon ARS. 1990. Distribution of gum and gum-resin ducts in plant body: certain familiar features and their significance. *Flora Jena*. 184(4): 257-261.

Barrett OW. 1994. The mangosteen and related species. *WANATCA Yearbook*. 18: 54-63.

Chacko KC and Pillai PKC. 1997. Seed characteristics and germination of *Garcinia gummi-gutta* (L.) Robs. *Indian Forester*. 123(2): 123-126.

George ST, Latha AKB., Mathew KL. 1992. Pattern of flowering and flower development in kodapuli (*Garcinia cambogia* Desr.). *Indian Cocoa, Arecanut and Spices Journal*. 16(2): 68-70.

Larkin GM, Prosky L, et al. 1997. Committee on Food Nutrition. *Journal of AOAC International*. 80(1): 137-146.

Mathew KL and George TS. 1995. Dormancy and storage of seeds in *Garcinia cambogia* Desr. (Kodampuli). *Journal of Tropical Agriculture*. 33(1): 77-79.

Rai SN. 1984. Bole, branch, current year twig, leaf and root biomass production in tropical rain (wet evergreen) forests of western Ghats of Karnataka (India). *Indian Forester*. 110(9): 901-914.

SUGGESTED CITATION

Orwa C, A Mutua, Kindt R, Jamnadass R, S Anthony. 2009 *Agroforestry Database: a tree reference and selection guide version 4.0* (<http://www.worldagroforestry.org/sites/treedbs/treedatabases.asp>)