

Vitex cofassus

vitex, leban

Reinw. ex Blume

Verbenaceae

LOCAL NAMES

English (New Guinea teak); Indonesian (sassuwar,gupasa,gofasa); Malay (gofasa,boepasa); Thai (teen-Nok); Trade name (vitex,leban)

BOTANIC DESCRIPTION

Vitex cofassus is a medium to large tree to 40 m tall and 130 cm dbh, usually without buttresses. Bole deeply and strongly fluted with excellent, pale and dense timber.

Leaves opposite with (sometimes without) fine hairs on the lower side.

The terminal Inflorescence contains bisexual flowers; sepals united to form a small cup whereas the petals are united basally to form a small tube with 5 lobes. Corolla whitish to pale purple with 4 stamens inserted on the corolla tube; ovary superior.

Fruit a fleshy drupe, round to oblong, 5-12 mm in diameter, dark violet when mature with 1-4 seeds per fruit.

Seed a pale brown or black, egg-shaped stone (seed +endocarp) with a mosaic texture.

BIOLOGY

V. cofassus is deciduous, shedding its leaves in the dry season. Flowering and fruiting differs according to geographic distribution. In South Sulawesi, flowering usually occurs in the rainy season and the fruits mature between August and November. In general, this species flowers almost annually from the age of 5 years. The flowers are pollinated by insects, possibly bees.

Vitex cofassus

Reinw. ex Blume

vitex, leban

Verbenaceae

ECOLOGY

In its natural range, it has the greatest stocking in moist lowland areas. It is common, as a co-dominant species in lowland forests with distinct wet and dry seasons and very light-demanding.

BIOPHYSICAL LIMITS

Altitude: 0-2 000 m

Mean annual temperature: 22 - 28°C

Mean annual rainfall: 1 500-3 500 mm

Soil type: Grows well on dry limestone soils with clay to sandy soil textures.

DOCUMENTED SPECIES DISTRIBUTION

Native: Fiji, Indonesia, Malaysia, Papua New Guinea, 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.

Vitex cofassus

vitex, leban

Reinw. ex Blume

Verbenaceae

PRODUCTS

Apiculture: It is a source of bee forage.

Timber: *V. cofassus* is a sought after and useful hardwood. It is exported in fairly large amounts from Papua New Guinea and the Solomon Islands, mainly to Japan. The wood is very strong and durable with density of 700-800 kg/m³. Freshly cut wood has a leathery scent and difficult to treat with preservatives. The highly valued timber is used for house construction, boats and domestic utensils such as bowls and platters. In Papua New Guinea, it is highly regarded for the purposes of stringers, keelsons and planking.

Other products: In Papua New Guinea, musical instruments called *garamuts* are made from this tree (hence the name *garamut tree*). They are played to communicate messages and support singing and dancing.

SERVICES

Shade or shelter: It is used as shelterbelt.

Vitex cofassus

vitex, leban

Reinw. ex Blume

Verbenaceae

TREE MANAGEMENT

Planting should be done early in the rainy season at a spacing of 1 m x 3 m. Young trees grow moderately slowly. Survival of young seedlings is enhanced by removing weeds 3-4 months after planting and thereafter annually up to 10 years. Stand establishment is through planting stock and wildings.

GERMPLASM MANAGEMENT

Ripe fruits can be collected from the trees by climbing. In young trees a pole pruner or a long stick can be used to collect the fruits. Collection from the ground should avoid fruits attacked by fungi or insects. The fruits are soaked in water and the pulp removed manually by squeezing the fruit. The seeds (stones) are then washed in water and spread out in a thin layer on trays in the sun for 2-3 days before storage. The seeds storage behaviour is Intermediate. There are about 10000 seeds/kg.

PESTS AND DISEASES

It is susceptible to termite attack.

FURTHER READNG

Bonner FT, Vozzo JA, Elam WW and Land SB. jr. 1994. Tree seed technology. Training course. Instructor's Manual. General Technical Report 50 –106. United States Department of Agriculture.

Kanabibici J. 1990. Comparative susceptibility of rainforest timbers to attack by bostrychid beetles. *Klinkii*. 4(2): 2-18.

Lemmens RHMJ, Soerianegara I, Wong WC (eds.). 1995. Plant Resources of South-east Asia. No 5(2). Timber trees: minor commercial timbers. Backhuys Publishers, Leiden.

Seran D. 1987. Trial on the cultivation of *Vitex cofassus* Reinw. in the lowland area of Andi Pangerang Pettarani Forest Complex, Pare-Pare, South Sulawesi Province. *Jurnal Penelitian Kehutanan (Ujung Pandang)*. 1(1): 9-16.

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>)