UNIVERSITY OF COPENHAGEN

Københavns Universitet

Albizia lebbeck - 7

Jøker, Dorthe

Published in:
Seed Leaflet

Publication date:
2000

Document version
Publisher's PDF, also known as Version of record

Citation for published version (APA):
Jøker, D. (2000). Albizia lebbeck - 7. *Seed Leaflet*, (7).

Download date: 17. Nov. 2026

Forest & Landscape

SEED LEAFLET

No. 7 September 2000 *(revised 2005)*

Albizia lebbeck (L.) Benth

Taxonomy and nomenclature

Family: Fabaceae - Mimosoideae
Synonyms: *Acacia lebbek* (L.) Willd., *Mimosa lebbeck* L., *Mimosa sirissa* Roxb.
Vernacular/common names: East Indian walnut, Indian siris, woman's tongue, rattle pod, kokko (trade name).

Distribution and habitat

Indigenous to South-East Asia and Australia. It has been widely cultivated and is now pantropical. It grows well in areas with 600-2500 mm rain/year but tolerates as little as 300 mm. The altitudinal range is 0-1800 m and mean annual temperature 20-35ºC.

Grows well on fertile, well-drained loamy soils but poorly on heavy clays. It tolerates acidity, alkalinity, heavy and eroded soils, and waterlogged soils. It is nitrogen-fixing, tolerant to drought and older trees can survive grass fires and intense night frost. While fire and frost will kill off aboveground growth of young trees, new growth will normally follow.

Uses

Albizia lebbeck is one of the most promising fodder trees for semi-arid regions. It has leaves during a large part of the rainy season and digestibility of the twigs is considerably higher than that of most fodder trees. The concentration of crude protein is about 20% for green leaves, 13% for leaf litter and 10% for twigs. *In vitro* digestibility is about 45% for mature leaves, 70% for young leaves and 40% for twigs. Leaves, flowers and pods fall to the ground gradually during the dry season and can be browsed on the ground.

It is an excellent fuelwood and charcoal species and the wood is suitable for construction, furniture and veneer. The shallow root system makes it a good soil binder and recommendable for soil conservation and erosion control.

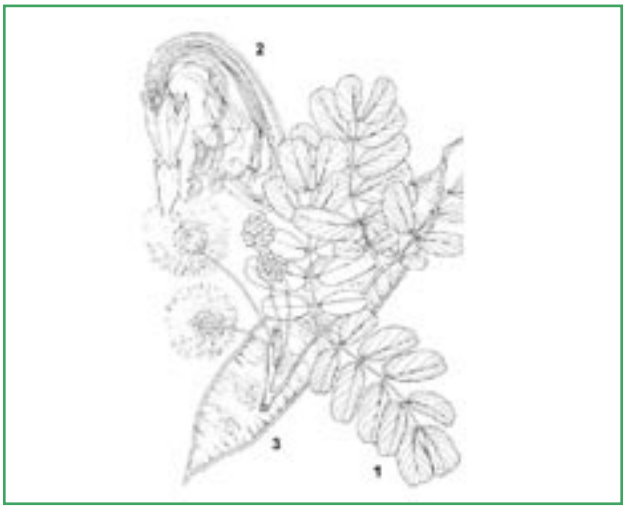
Seedlings and cuttings are planted as initial shade for cocoa in the nurseries or on-farm. It is also used in rehabilitating old cocoa farms or on improved fallows intended for cocoa cultivation due to its nitrogen-fixing abilities.

Botanical description

Deciduous tree, 15-20m tall sometimes up to 30m. Bark grey, corky, fissured and somewhat flaky. Leaves compound, bipinnate with 2-4 pairs of pinnae each with 2-11 leaflets. Flowers in large heads, 5-7.5 cm wide; each flower green or creamy white, fragrant, with many 1.5-2 cm long stamens.

Fruit and seed description

Fruit: pods are pale straw to light brown at maturity, 15-25 cm long, 3-5 cm wide, papery to leathery, flat and not raised or constricted between the seeds. The pods are indehiscent.
Seed: brown, flat, 8-10 x 6-7 mm. The 6-12 seeds are placed transversely in the pod. There are 7,000-12,000 seeds per kg.



1, Flowering branch; 2, flower; 3, fruit. From: Plant Resources of South-East Asia. No 5:3.

Flowering and fruiting habit

The growth pattern follows the seasonal changes. It stops growing early in the dry season, loses the leaves 2-3 months later and remains leafless for 1-2 months only. Towards the end of the dry season growth continues and flowering begins. Flowering and seed setting occur in the wet season and unless the trees have been frequently coppiced, they will produce large amounts of seed every year. Mature pods remain on the tree for 3-4 months.

Within its natural area of distribution flowering occurs September-October and pods mature in May-July in the beginning of the dry season. In India flowering is in March-May, fruits mature in August-October. In Sudan it flowers March-May and fruits May-August. In Tanzania ripe pods can be found July-December with a peak in August-October. Flowers are pollinated by insects.

Harvest

The pods are mature when they have turned light yellow and should be harvested when the last patches of green are disappearing. It is important that collection is not delayed as the mature pods can very quickly be infested by insects. It is possible that early collection followed by after-ripening in the shade could minimise the damage.

Processing and handling

Even when the pods are collected early, many are infested by insects and temporary storage should be as short as possible as the insects develop during this phase. If the pods are collected when they are still green, the bags should be kept open during transport to ensure ventilation. Pods are dried directly in the sun until they rattle and become brittle. The seed is extracted by beating or in a flailing thresher which is very effective for this species. After extraction the seed is dried directly in the sun and pod segments and debris is removed in a seed cleaning machine.

Storage and viability

Seed storage is orthodox and viability is maintained for several years in hermetic storage at room temperature with low moisture content.

Dormancy and pretreatment

The seed is hard coated but pretreatment is not always necessary. If the seed coat is very thin, boiling water may be harmful. For other seed lots pretreatment with boiling water for 3-10 seconds is optimal. After immersion in boiling water the seeds are left to cool in the water for 24 hours.

Sowing and germination

Can be established by direct sowing, using container-grown stock or as bare-rooted seedlings or stump plants. When sown directly, it is necessary to weed the rows for several years. To reduce the field establishment period, seedlings can be raised in nursery beds for one year or more and transplanted as stumps with about 25 cm root and 10 cm shoot.

For production of bare rooted seedlings or stumps, seeds are sown in lines about 15 cm apart with the seeds spaced about 2 to 3 cm in lines and about 1 cm deep. About 40 g seed is required for sowing 1 m^2 of nursery bed. Germination starts within a few days and is complete in a month. Best seedling development is obtained in full sunlight.

Phytosanitary problems

The seeds can be heavily attacked by insects, but it is not known whether insect attacks proceed during storage.

Selected readings

Burrows D, Prinsen J, 1992. *Performance and palatability of various Australian trees and shrubs*. Nitrogen Fixing Tree Research Reports, 10: 33-35.

Hocking D, ed., 1993. *Trees for drylands*. New Delhi, India: Oxford and IBH

Kumar N, Toky OP, 1994. *Variation in chemical contents of seed, and foliage in Albizia lebbek (L.) Benth. of different provenances*. Agroforestry Systems, 25(3):217-225.

Larbi A, Smith JW, Kurdi IO, Adekunle IO, Raji AM, Ladipo DO, 1996. *Feed value of multipurpose fodder trees and shrubs in West Africa: edible forage production and nutritive value of Millettia thonningii and Albizia lebbeck*. Agroforestry Systems, 33(1):41-50

Lowry JB, Prinsen JH, Burrows DM, 1994. *Albizia lebbeck - a promising forage tree for semiarid regions*. In: Gutteridge RC, Shelton HM, eds. Forage tree legumes in tropical agriculture. Wallingford, UK: CAB International, 75-83.

Mannetje L, Jones RM, eds, 1992. *Plant Resources of South-East Asia. No. 4. Forages*. Wageningen, Netherlands

Padma V, Satyanarayana G, Reddy BM, 1994. *Effect of scarification treatments on the germination of Leucaena leucocephala, Albizia lebbeck and Samanea saman [Albizia saman]*. Seed Research, 22(1):54-57.

Sosef MSM, Hong LT, Prawirohatmodjo S, eds, 1998. *Plant Resources of South-East Asia. No 5(3). Timber trees: lesser-known timber*s. Leiden, Netherlands; Backhuys Publishers.

Tree habit. Photo: David Lea, CSIRO Forestry and Forest products.

THIS NOTE WAS PREPARED BY
DANIDA FOREST SEED CENTRE

Author: Dorthe Jøker

Forest & Landscape Denmark
Hørsholm Kongevej 11
DK-2970 Hørsholm
Denmark

Phone: +45-35281503
Fax: +45-35281517
Email: SL-International@kvl.dk
Website: www.SL.kvl.dk