

Albizia lebbeck (L.) Benth.

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FABACEAE (BEAN FAMILY)

Albizia lebbeck (L.) Benth.

Acacia, acacia amarilla, algarrobo de olor, amor platónico, aroma, aroma francesa, barba de caballero, barba di junkuman, black ebony, bois noir, cabellos de ángel, canjuro, carbonero de sombr'o, casia amarilla, chachá, coracáo de negro, dormilón, East Indian walnut, forestina, guarmuche, koko, lebbek, lebbek albizia, lengua de mujer, lengua viperina, muche, músico, pisqu'n, samán, shack-shack, singer-tree, siris-tree, tcha-tcha, tibet-tree, vieille fille, West Indies-ebony, whistling-bean, woman's-tongue (Little and Wadsworth 1964)

The genus *Albizia* comprises approximately 150 species, mostly trees and shrubs native to tropical and subtropical regions of Asia and Africa (Allen and Allen 1981, National Research Council 1979). *Albizia lebbeck* is native to deciduous and semideciduous forests in Asia from eastern Pakistan through India and Sri Lanka to Burma. The tree has been introduced as an ornamental and plantation tree throughout the tropics and northern subtropics, including the Greater and Lesser Antilles, Central America, Colombia, Venezuela, and Brazil (Adams 1972, Grisebach 1864, Hutchinson and Dalziel 1958, Little and Wadsworth 1964).

Albizia lebbeck is a fast-growing, medium-sized deciduous tree with a spreading umbrella-shaped crown of thin foliage and smoothish, finely fissured, grayish-brown bark. Depending on site conditions, annual height growth ranges from 0.5 to 2.0 m; on good sites, individual trees attain an average maximum height of 18 to 25 m and 50 to 80 cm d.b.h. (Parrotta 1988a, Troup 1921). The species grows well from sea level to 1500 m on sites receiving between 500 and 2500 mm annual rainfall and tolerates both light frosts and drought (Troup 1921, Venkataramany 1968). While it grows poorly on heavy clay soils, it tolerates saline, sodic, and lateritic sites. The tree grows best on moist, well-drained soils (Bangash 1977, Troup 1921).

Albizia lebbeck, a valued timber species within its native Asian range, was previously exported to Europe under the trade name East Indian walnut (Allen and Allen 1981, Troup 1921). Its light yellowish-brown to light brown heartwood has a specific gravity of about 0.55 to 0.90 and is coarse-grained, strong, and relatively durable. It seasons and works well and is used for furniture, flooring, veneer, paneling, carving, posts,

and a variety of agricultural implements. The cut bark yields a reddish-brown gum that is used as a substitute for gum arabic obtained from *Acacia senegal* Willd. (Farooqi and Kapoor 1968, National Research Council 1979). Its leaves, seeds, bark, and roots are all used in traditional Indian medicine (Chopra and others 1956, Kirtikar and others 1935). In its native range, the species is sometimes planted as a shade tree in coffee, tea, cardamom, and cacao plantations. It is also pollarded to use as a host for the lac insect (Macmillan 1962, Venkataramany 1968).

Flowers usually appear with new leaves over an extended period beginning at the end of the dry season; in the Caribbean region this season occurs between April and September (Little and Wadsworth 1964). Flowering can occur on trees as young as 10 months (Parrotta 1988a). The fragrant, cream-colored flowers develop on lateral stalks in rounded clusters 5 to 7.5 cm across the many threadlike, spreading, whitish-to-yellow stamens tipped with light green, borne at the ends of lateral stalks 4 to 10 cm long. The fruits, flattened pods 10 to 20 cm long and 2.5 to 3.8 cm broad, are produced in large numbers and each contains several seeds. Immature pods are green, turning straw-colored on maturity, usually 6 to 8 months after flowering. The dry pods remain on the tree well into the following flowering season. Seeds are released from the mature, dehiscent pods while still attached to the tree or from windblown pods that later split open or decompose. Under natural conditions, insect attack is responsible for high seed predation (Parrotta 1988a).

The mature pods may be collected by hand from the ground or low branches or clipped with pruning poles. Seeds

are easily extracted from the pods by hand or by crushing the pods and winnowing. *Albizia lebbbeck* seeds are small, oblong, approximately 9 by 7 mm long and broad, compressed, and light brown in color with a smooth, hard testa. Seeds average from 7,000 to 11,000 per kg (Parrotta 1988a).

Seeds may be sowed without pregermination treatment, although soaking the seeds in boiling water for 1 minute, followed by cool water for 24 hours, increases germination rate and uniformity. Germination of freshly extracted seeds in Puerto Rico was 60 to 90 percent; after 1 year of cold storage at 5 to 10 °C, percentage germination dropped to 12 percent (Parrotta 1988a). However, seeds can be stored for up to 5 years in sealed containers at room temperature with only moderate reduction in percentage viability (Troup 1921, Venkataramany 1968).

Germination is epigeal, and generally occurs between 4 to 20 days after sowing, with peak germination a 12 to 18 days (Parrotta 1988a). Germination and early seedling development are favored by sowing seeds just below the soil surface in a loose, moist medium under light shade or full sun (Troup 1921, Venkataramany 1968). If inoculated with *Rhizobium* or sowed in soils that contain these nitrogen-fixing bacteria, lateral roots quickly develop large, branched nodules. In Puerto Rico, seedlings raised in plastic sleeves under light shade reached plantable size (20 to 30 cm) in 3 months (Parrotta 1988a). Seedlings develop a long, stout taproot at an early age, are drought-tolerant, and require only minimal weeding during the first months after outplanting.

