



Scientific Name: *Albizia lebbbeck*

Synonyms: *Acacia lebbbeck*, *Mimosa lebbbeck*, *Mimosa sirissa*, *Mimosa speciosa*

Common Name: lebbbeck, woman's tongue, siris tree, fry-wood, Ebano-oriental

Botanical Family: Fabaceae

Characteristics: Lebbbeck is a deciduous, woody, perennial tree growing from 3-15m (9-50 feet) tall in cultivation and upwards of 30 m (98 feet) in open areas (1, 5). It produces a shade-producing canopy at least as wide as the plant is tall (1,5). Bark is rough, grey and flaking on the outside with the inner bark being redish (5). Young stems are initially green and glaucous or pubescent but become grey with age (5). Stems are unarmed (5). Leaves are bipinnately compound, 30 cm long (12 inches) with dark green adaxial and light green abaxial surfaces (4). There is a round, depressed gland at the base of each leaf. Each leaf has 2-4 pairs of pinnae with 3-11 elliptic-oblong leaflets which are 2-6 cm long (1-2 inches) and 0.5-3.5 cm (0.3-1.25 inches) broad with an entire margin and rounded or somewhat asymmetric base (1,5, 6). Mimosa-like flowers are 5-6 cm (2-2.5 inches) in diameter, comprised of 5 pale yellow petals fused at the base, and surrounded by shorter pale green sepals below and many showy 1.5-3cm (0.5-1 inch) filamentous stamens protruding from the corolla (1). Flowers are housed on inflorescences are globe-shaped with 15-40 pale yellow fragrant

flowers. Ovary is superior with a single locule (6). Legume pods produced on the plant are 30 cm (9 inches) long and 5 cm (2 inches) wide, dark yellow-brown at maturity, and have an undulating wave along the suture lines (1, 5, 6). Each pod contains 5-15 flat, rounded free moving seeds that rattle when the pods, which persist on the tree for several months, shake in the wind (1, 5).

Natural History: *Albizia lebbek* mainly grows in the Indian subcontinent and Myanmar (Burma) and is also widely distributed in Western and Southeast Asia, Australia, Northern and West Africa, throughout the Caribbean, Central America, and the northern and eastern regions of South America (3). It is widely naturalized within sub-humid, semi-arid tropics and subtropical areas where there is a marked dry season and a reliable rainy season. It is found from sea level up to an altitude of 2,150 m elevation (4,5). *Albizia lebbek* is a common street tree in the Middle East and Northern Africa (3). According to the Miami-Dade (Florida) Resources Management website, it was planted along a 5-mile avenue from the Nile to the Great Pyramids to commemorate the opening of the Suez Canal in the 1880's. Plant explorer Dr. David Fairchild was enthralled by these trees and introduced them to Florida in 1899 where they quickly established. In parts of south and Central Florida, this plant invades tropical hammocks, disturbed pinelands, and canopy gaps in the rockland hammocks (1). In some southern counties in Florida, the plant appears in "prohibited and controlled" plant species lists (2). It spreads as a result of its production of amounts of seeds and by asexual propagation by adventitious suckers that create dense stands of the plant. The Center for Invasive and Aquatic Plants does not consider the plant a problem in north Florida (1).

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Natural History of the UA Campus Arboretum Specimens: The two trees on the UA campus are another legacy of Warren Jones. He remembered gathering the seeds from a cultivated tree in a small town on the Baja California peninsula where it was valued for its shade. Now well established, the campus trees have the classic spreading shape of an open-crowned legume. They are situated on a southern and western exposure, respectively to protect from cold injury in Tucson's winters. They are reported to withstand freeze injury to -5C (20F) but, after experiencing -9C (15F), in 2011 and after extreme die back the canopy recovered beautifully within 5 years. The campus specimen on the western exposure did, however, require pruning to restore its structure. Despite the species' invasive reputation, no additional plants have been recorded.

Cultivation Notes:

Albizia lebbek is most easily propagated from seed. To harvest seeds, harvest pods early in summer after they have turned yellow, then sun dry them until they become brittle and make a rattle sound when shaken (4) Storage of pods is discouraged due to the high risk of insect (eg. bruchids) and fungal attack. When dry, the indehiscent pods must be mechanically beaten with a flail to extract seeds (4). Seeds can then be dried in the sun before final seed cleaning to remove pod segments and other plant debris (4). Scarification to resolve hard seed coat dormancy is sometimes not needed, but for improved germination, consider pouring boiling water over the seeds and allow them to sit in the hot water for 3 minutes before pouring off the water and soaking the seeds in cool water overnight (4,5). Seedlings should be encouraged to develop a broad root zone both to support stabilization, to optimize water uptake and to reduce soil erosion by the plant's shallow root system.

Ideal daytime temperatures for growth range from 19°C (65F) to 35°C (95F), with an annual rainfall of more than 300 mm (12 inches) and well-drained loamy soils (4,5). It may, however, withstand lower and more irregular rainfall conditions as it is commonly reported, for example to grow on a

wide diversity of soils such as acid, alkaline or saline soils, eroded soils and even in the high-iron and aluminum laterite soils of tropical areas (4, 5). Heavy clay and water-logged soils should be avoided (4,5). The tree is also reported to be tolerant of alkaline soils, salinity, and salt spray (4). Tops of young plants are killed by frost, but plants will coppice and sprout new shoots from the base in Spring (5).

Although in wetter climates *Albizia lebbbeck* is more common, even rather invasive, it is a tree that we might consider for commercial use where temperatures are mild and where drip irrigation is available. Wide spacing of drip emitters should augment root expansion while judicious scheduling of landscape water could reduce the potential for excessive spread of the plant.

Ethnobotany: *Albizia lebbbeck* has dozens of uses throughout the tropical latitudes. Reforestation and firewood plantations top the list; the wood is dense and strong. Wood makes fine material for cabinet wood furniture and veneer. The foliage and pods are used for fodder. Reports from the Purdue University New Crops website show high crude protein and carbohydrates from both seeds and leaves (4). Bark contains saponins and tannins used respectively in making soap and tanning leather (5). The combination of this legume tree's abilities to fix nitrogen (it nodulates readily without mycorrhizal inoculation!), to form a broad canopy and produce copious leaf and flower litter create ideal conditions to improve soil nutrition and soil structure (4). The soil moisture preserved under the broad canopy promotes decomposition of fallen leaves and mineralization of organic matter, allowing for its own benefit as well as documented improvements in yields of adjacent plants (4). In addition, it is often used as the overstory tree for tea groves, coffee and cardamon plantations (4). The shallow root system supports its use for erosion control (4, 5). Additionally, the shallow and extensive root system binds soil making it useful for erosion control in agriculture or in riverbanks (4). In coastal areas, its ability to withstand saline sprays suits it for both coastal erosion control and as a shelter belt for less salt tolerant plants (4,5). Folk remedies include treatments for boils, cough, eye ailments, flu, lung problems, and leprosy. A 2020 meta-analysis of published research findings showed evidence for use of the phytochemicals in *A. lebbbeck* for pharmacological treatment of respiratory, skin, gastrointestinal, oral disorders, eye, urinary, genital, anorectal, inflammatory, and neurological disorders, and venereal diseases (3).

Resources:

1. [Center for Aquatic and Invasive Plants](#)
2. [Miami Dade Code of Ordinances 24-49.9](#)
3. [Albizia lebbbeck monograph](#)
4. [Purdue New Crops Node 334](#)
5. [Tropical Forests](#)
6. [Levy Preserve](#)