

## ***Mellitia (Pongamia) pinnata***



### **Common names**

Pongamia (native wisteria, Indian beech)

Arbre de pongolote (French), bangkong (Indonesian, Javanese), Báni (Filipino), biansu (Indonesian, Malay), Coqueluche, dalkaramcha (Tamil), day lim (Vietnamese), d[aa]y m[aa]s u (Vietnamese), d[aa]y kim (Vietnamese), day mau (Vietnamese), dok kom koi (Lao), Gal-karanda (Singhala), hongee tree (Cantonese), Indian beech (English), kacang kayu laut (Malay), kanji (Hindi), karanda (Sinhala), karanj (Hindi, Bengali, Sanskrit), karanja (Hindi, Bengali, Sanskrit), karauini (Nepali), karum tree (English), kerong, khayi (Thai), kh[oor] (Vietnamese), ki pahang laut (Indonesian), ko:m ko:y (Thai), kona (Sinhala), kranji (Indonesian), magul-karanda (Singhala), malapari (Malay), melapari (Indonesian), mempari (Malay), mullikulam tree (English), naktamala (Sanskrit), papar (Hindi), pari- pari (Malay), pongam (Tamil, English), , pongu (Malay), poona (Tamil), pungai (Tamil), pungam (Tamil), punka or punku (Tamil), s[aa]m hoa (Vietnamese), (English), shui huang pi (pinyin, China), thinwin (Indomal.), thiuwia (Burmese), um al shuur (Arabic), vesi ne wai, vesivesi, yinam (Thai)

**Trade names:** Pongamia, kanji, pongam, karanga



## General Information

Pongamia is a tree legume (supplies nitrogen to the soil) with roots that extend laterally and vertically to as much as 15 m. The implication is that this species can access water and nutrients from deep in the soil and will also hold the soil in place in the event of potential wind or water erosion. The oil is a commercial entity in India where the potential of the oil to replace mineral diesel oil were recognized in the 1930s. This species can grow and produce oil in semi-arid conditions, and is a proven component of agroforestry farming systems. Elite germplasm, adapted for northern Australia (north of about 30 deg S), is available. Exploited for oil across Asia and in Australia. Grown as an ornamental in Australia.



Pongamia seeds are similar in size to faba beans: one per pod

Region of origin: S Asia

Geographic Range (current): Across Asia and the Pacific, Australia, E Africa, Florida, Hawaii.

Geographic range (potential international): Southern USA to northern South America, most of Africa

Potential geographic range (USA): Frost free areas of southern states, including California

Endemic in USA: Yes

Climatic zones: Moist, semi-arid and arid tropics and subtropics

Altitude range (m/ft): 0-2000+/0-6500

Frost tolerance: some

Rainfall range mm/in: 300-2000/12-70

Range of preferred soil types: non-sandy soil

Tolerance to water logging: yes

Tolerance to drought: yes

Tolerance to salt: yes

Phyto-remedial properties/heavy metal sequestration: yes (uniquely)

Years to first seed: 2-3 for advanced genotypes

Years to 90% maximum seed production: 4-5

Optimum height in plantation (m/ft): 10/30

Optimum canopy width in Plantation: 10/30

Longevity (consider gap filling after this number of years): 100+

Tree per ha/acre: 200/80  
Weight of pods per tree per year: 20-50 kg  
Seed weight as percentage pod weight: 40-50%  
Weight of seed per tree per year: 10-25 kg  
Oil content of seed (%): 35-40%  
Oil/ha kg: 700-2000  
Press cake /ha kg: 1200-3000  
Hulls/ha kg: 2000-5000

Potential as a component in an agroforestry enterprise: potential has been realized



Pongamia (3 year old) with intercropped pigeonpea

Compatible with grazing – combination of Pongamia trees and lucerne, or another forage legume, is a sustainable and low labour cost farming system.

Palatability: bitter taste and an emetic; oil cake is an excellent supplement to stock food, even better after basic processing; source of bioneutrals and organic pesticides. Livestock will not browse

More information:

[www.treeoilsindia.com](http://www.treeoilsindia.com)

Steve Csurhes and Clare Hankame (2010) Pongamia: *Millettia pinnata* syn. *Pongamia pinnata*. *Weed Risk Assessment* Department of Employment, Economic Development and Innovation Biosecurity Queensland. Australia