

## Melia azedarach

persian lilac

### LOCAL NAMES

Bengali (mahanim,mahnim,bakarjan,ghora nim); Cantonese (mindī kechil); English (China berry,China tree,Persian lilac,pride of China,pride of India,syringa,azedarach,white cedar,bead tree); Filipino (paraiso,bagaluña,balagaño); French (lilas des Antilles,lilas des Indes,fleurs lilas,Piment d'eau); German (Zedarachbaum,Paternosterbaum); Gujarati (bakam-limdo); Hausa (kurnam nasara); Hindi (betain,deikna,dek,drek,bakain,mallan nim,bakarja); Indonesian (marambung,mindi,gringging); Italian (Albero dei paternostri); Javanese (gringging); Khmer (dâk' hiên); Lao (Sino-Tibetan) (h'ienx,kadau s'a:ngz); Luganda (lira); Malay (mindī kecil); Nepali (bakena,bakaina,bakaino); Sanskrit (mahanimba); Spanish (Arbol enano,Alilaila,jacinta,Violeta,lila,Paraíso,lilayo,mal kohomba); Swahili (mmelia,mwarubaini nusu); Tamil (puvempu,mallay vembu,malai vembu); Thai (lian-baiyai,lian,khian); Tigrigna (melia); Trade name (persian lilac); Urdu (vilayati nim); Vietnamese (c[aa]y xoan,s[aaf]u d[oo]ng,xoan d[aa]u); Yoruba (eke-oyinbo)

### BOTANIC DESCRIPTION

*Melia azedarach* is a deciduous tree up to 45 m tall; bole fluted below when old, up to 30-60 (max. 120) cm in diameter, with a spreading crown and sparsely branched limbs. Bark smooth, greenish-brown when young, turning grey and fissured with age.

Leaves alternate, 20-40 cm long, bipinnate or occasionally tripinnate. Leaflets 3-11, serrate and with a pungent odour when crushed.

Inflorescence a long, axillary panicle up to 20 cm long; flowers showy, fragrant, numerous on slender stalks, white to lilac; sepals 5-lobed, 1 cm long; petals 5-lobed, 0.9 cm long, pubescent; staminal tube deep purple blue, 0.5 cm long, 1 cm across.

Fruit a small, yellow drupe, nearly round, about 15 mm in diameter, smooth and becoming a little shrivelled, slightly fleshy. Seed oblongoid, 3.5 mm x 1.6 mm, smooth, brown and surrounded by pulp.

Because of the divided leaves, the generic name is derived from the Greek 'melia' (the ash); the specific name comes from the Persian 'azzadirack' (noble tree).

### BIOLOGY

It flowers from March to May in the northern hemisphere, although some form flowers throughout the summer and even throughout the year.

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Meliaceae



Melia azedarach in flower (Chongrak Wachrinrat)



Habit at Wailea 670, Maui, Hawaii (Forest and Kim Starr)



Habit at Ulupalakua Maui, Hawaii (Forest and Kim Starr)

# Melia azedarach

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persian lilac

## ECOLOGY

A tree of the subtropical climatic zone, the natural habitat of *M. azedarach* is seasonal forest, including bamboo thickets, Tamarindus woodland. It is highly adaptable and tolerates a wide range of conditions; for example, the most frost-tolerant cultivars can be planted outdoors in sheltered areas in the British Isles.

## BIOPHYSICAL LIMITS

Altitude: 0-1800 m, Mean annual temperature: 23-27 deg. C, Mean annual rainfall: 350-2000 mm

Soil type: Deep, fertile, sandy loam soils support the best growth.

## DOCUMENTED SPECIES DISTRIBUTION

Native: Bangladesh, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Papua New Guinea, Sri Lanka, Thailand, Vietnam

Exotic: Afghanistan, Albania, Argentina, Australia, Botswana, Brazil, Brunei, China, Croatia, Cuba, Djibouti, Dominican Republic, Eritrea, Ethiopia, France, Greece, Guatemala, Honduras, Iran, Iraq, Italy, Jamaica, Kenya, Korea, Republic of, Lesotho, Malta, Mexico, Mozambique, Namibia, Nicaragua, Panama, Paraguay, Philippines, Portugal, Puerto Rico, Saudi Arabia, Singapore, Solomon Islands, Somalia, South Africa, Spain, Swaziland, Syrian Arab Republic, Tanzania, Tonga, Turkey, Uganda, United Kingdom, US, Zanzibar



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.

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### **PRODUCTS**

**Fodder:** Leaves are lopped for fodder and are highly nutritious.

**Fuel:** Fuelwood is a major use of *M. azedarach*. It has a calorific value is 5100 kcal/kg.

**Timber:** *M. azedarach* wood (the 'white cedar' of commerce), which resembles mahogany, is used to manufacture agricultural implements, furniture, plywood, boxes, poles, tool handles; it is used in cabinet making and in construction because of its resistance to termites. The density is 510-660 kg/cubic m.

**Lipids:** Oil suitable for illumination has been extracted experimentally from berries.

**Poison:** Aqueous and alcoholic extracts of leaves and seed reportedly control many insect, mite and nematode pests. However, because they contain toxic components, care is needed in their use. The fruit of *M. azedarach* is highly toxic to warm-blooded animals; the consumption of 6-8 fruit can cause nausea, spasms, and in children, even death.

**Medicine:** *M. azedarach* is well known for its medicinal uses. Its various parts have antihelmintic, antimalarial, cathartic, emetic and emmenagogic properties and are also used to treat skin diseases. Dried ripe fruit is used as an external parasiticide; some toxic components are found in the seed oil, the oral intake of which may cause severe reactions and even death.

**Other products:** Fruit stones make ideal beads and are used in making necklaces and rosaries.

### **SERVICES**

**Shade or shelter:** Widely planted as a shade tree in coffee and abaca (*Musa textilis*) plantations.

**Ornamental:** A well-known ornamental grown, for example, as an avenue tree, for its scented flowers and shady, spreading crown.

**Intercropping:** *M. azedarach* is a useful species for growing with crops such as wheat. It has been successfully planted with sugarcane.

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### **TREE MANAGEMENT**

Under optimal conditions, *M. azedarach* grows fast. It is generally deciduous, but some forms in the humid tropics (e.g. in Malaysia and Tonga) are evergreen. Does not coppice well from large stumps, but excellent coppice is obtained from trees up to a girth of 0.9 m. The tree resprouts after cutting and regrows after pollarding, making it suitable for pole production.

### **GERMPLASM MANAGEMENT**

Seed storage behaviour is orthodox. Viability is maintained for 1-3 years in hermetic storage at room temperature with 11-15 % mc. There are 470-2800 seeds/kg.

### **PESTS AND DISEASES**

The trees are attacked by fungi that cause brownish butt rot and brownish pocket rot. Certain larvae defoliate the tree and mine the leaves.

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### **FURTHER READING**

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### **SUGGESTED CITATION**

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