

BOTANIC DESCRIPTION

Acacia leptocarpa varies from a single-stemmed shrub, 3-5 m tall, usually with a short main stem, to a small tree 12-15 m tall; main trunk may be 4 m long and 25 cm in diameter. It is well branched and has a light to moderately dense crown. The branchlets and new shoots are glabrous, but the shoots are encrusted with a layer of brown resin; on large trees the bark is deeply furrowed, but on smaller stems it is thin and more or less tessellated.

Phyllodes are sickle shaped, 12-26 x 1-3.5 cm, thinly textured, glabrous; base attenuated and not confluent with the lower margin; 3 prominent, yellowish longitudinal veins with parallel and widely spaced secondary veins.

Flowers pale yellow to bright yellow, subdensely arranged in cylindrical spikes, 3.5-9.5 cm long, spikes in groups of 2-5 within phyllode axils.

Pods are linear, somewhat coiled, up to 12 cm x 3 mm, flat but raised over the seeds; seeds are longitudinal in the pod, 3-5 x 2-3 mm, and the yellow-orange funicle is folded many times to form an aril that can be longer than the seed.

The generic name 'acacia' comes from the Greek word 'akis', meaning a point or a barb.

The specific name is derived from the Greek 'lepos'-slender and 'carpos'-fruit, alluding to the slender pods.

BIOLOGY

A. leptocarpa hybridizes with *Acacia auriculiformis* and *A. creata*. In its natural range in Australia, flowering occurs in May-December and the seeds mature in October-December.

ECOLOGY

A. leptocarpa occurs in coastal and sub-coastal belts. It prefers hot humid to sub-humid climatic zones. In Australia the tree usually occurs on the flats and gentle slopes of the coastal lowlands, including stabilized dunes, but it extends to the slopes and ridges further inland. The species can grow on well-drained or waterlogged areas and is a component of open forests, low open forest and low open woodland. Often associated with *Banksia*, *Melaleuca* and *Tristania* species.

BIOPHYSICAL LIMITS

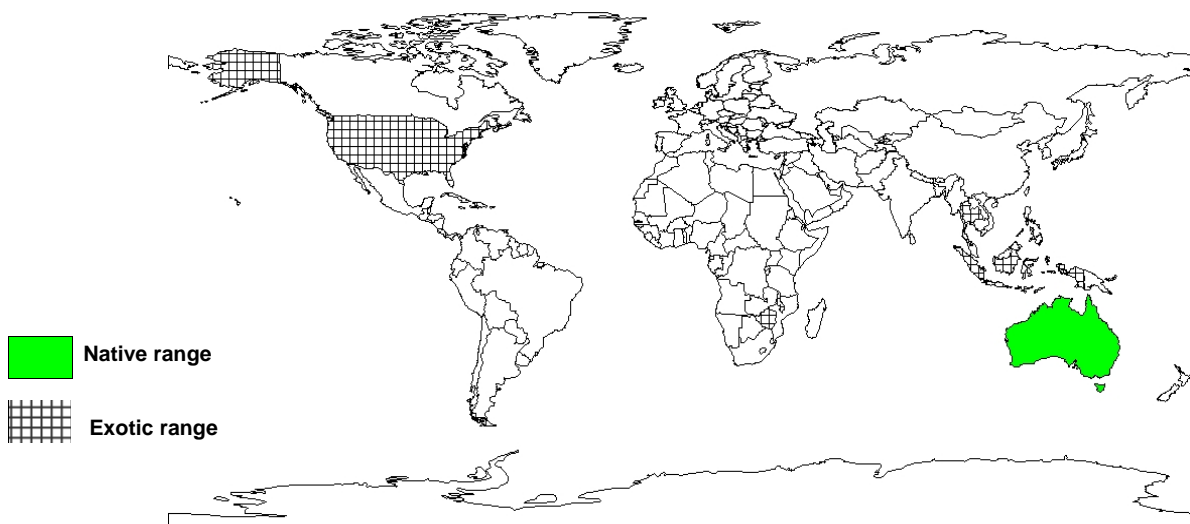
Altitude: 10-550 m, Mean annual temperature: 10-33 deg. C, Mean annual rainfall: 350-1 750 mm

Soil type: *A. leptocarpa* is found in a variety of soil types mostly colluvial and alluvial, derived from metamorphics. It occurs on low fertility, acidic, loamy yellow podzolics, yellow earths, yellow and grey solodics, shallow lateritic or heavy clay soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: Australia, Papua New Guinea

Exotic: Indonesia, Malawi, Thailand, US, Zimbabwe



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.

PRODUCTS

Fuel: The dense wood is suitable for fuel.

Fibre: The wood is suitable for pulp production.

Timber: The white sapwood and dark brown heartwood of *A. leptocarpa* are close grained, hard, decorative and useful in turnery and cabinet work. The small dimensions of the tree limit its range of uses; it could provide small posts and poles for village use.

SERVICES

Shade or shelter: *A. leptocarpa* casts useful, moderate shade.

Reclamation: The high biomass produced by the tree indicates great potential for use in improved fallows and other agroforestry systems.

Nitrogen fixing: The tree can grow well on infertile soil as it is able to fix atmospheric nitrogen.

Ornamental: The well-shaped tree has beautiful flowers and could be useful in amenity areas.

Intercropping: *A. leptocarpa* can be advantageously planted in association with other crops.

TREE MANAGEMENT

A. leptocarpa is a pioneer and demand full light for good development. It is renowned for its robustness and adaptability, which makes it good plantation species. In the 1st year, the plantation should be protected from livestock that may browse the tree, and it should be weeded, taking particular care to remove climbers, creepers and vines.

GERMPLASM MANAGEMENT

Seed storage behaviour is orthodox. On average, there are 60 000-120 000 seeds/kg.

FURTHER READING

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Turnbull JW. 1986. Multipurpose Australian trees and shrubs: lesser-known species for fuelwood and agroforestry. ACIAR Monograph No. 1.

SUGGESTED CITATION

Orwa C, Mutua A, Kindt R, Jamnadass R, Simons A. 2009. Agroforestry Database: a tree reference and selection guide version 4.0 (<http://www.worldagroforestry.org/af/treedb/>)