

Acacia melanoxyton

R. Br.

Fabaceae - Mimosoideae

LOCAL NAMES

Amharic (omedla); Dutch (Australiese Swarthout); English (Tasmanian blackwood, swamp blackwood, blackwood acacia, blackwood, Australian blackwood); French (acacia a bois noir); German (Schwarzholz Akazie); Italian (acacia nera australiana); Spanish (Aromo negro)

BOTANIC DESCRIPTION

Acacia melanoxyton is a tree 6-45 m tall, 1.8 m in girth, with an erect bole up to 25 m, usually branching a short distance from the ground; crown dense, of characteristic shape; branchlets smooth or densely hairy, angular, soon becoming round and downy; bark dark grey, rough, longitudinally and transversely furrowed.

Foliage olive green or grey-green, consisting of phyllodes 4-16 x 6-25 mm, glabrous, with 3-5 main longitudinal nerves, main nerves anastomosing to form a netlike reticulum, ending in a small, blunt point and tapering at the base into a short, thick stalk; gland 1-10 mm from base; leaves found only in juvenile stage; juvenile foliage with feathery leaflets.

Inflorescence mostly 3-5 headed racemes, 6-40 mm long, of 3-5 (max. 8) flowers, shorter than phyllodes; flowers creamy white, in small, round heads; peduncles branched, 4.5-13 mm long.

Pods flat, red-brown, smooth, curved, openly coiled or twisted, 3-15 cm long, 3.5-8 (max. 10) mm wide, leathery to subwoody, irregularly and very slightly constricted between seeds, with thickened margins; seeds shiny, black, oval, longitudinal in pod; stalk long, conspicuous, crinkled, flattened, orange-red or pink, almost completely encircling the seed in a double fold.

The generic name 'acacia' comes from the Greek word 'akis', meaning 'point' or 'barb'. The specific name is derived from Greek 'melanos'-black and 'xylon'-wood.

BIOLOGY

Flowering is variable throughout the species range. In the northern part of Australia, flowering tends to be in the late winter-spring while in the southern part, in the spring-summer. Ripe seeds are available in the summer-autumn with mid-February peak and little seed is retained on branches beyond April. Insects pollinate the flowers.



Flowers (Fagg, M. (ANBG Photo No.: a.10022))



Flowers (Greig, D. ANBG Photo No.: a.6987)



(Greig, D. ANBG Photo No.: a.12219)

ECOLOGY

A. melanoxylon withstands frost. It grows in cool, temperate rainforests, open forests of the tablelands and coastal escarpments. It performs well in transitional to wet montane habitats.

BIOPHYSICAL LIMITS

Altitude: 1500-2300 m, Mean annual temperature: 6-19 deg. C, Mean annual rainfall: 750-2300 mm

Soil type: A. melanoxylon grows best in rich, saline, deep, fertile loams, forest Podzols and alluvials. It also grows on a wide range of Podzols, krasnozems, sandy loams and alluvials and will also tolerate wet, nearly swampy soil.

DOCUMENTED SPECIES DISTRIBUTION

Native: Australia

Exotic: Albania, Eritrea, Ethiopia, Greece, India, Italy, Kenya, Malta, Papua New Guinea, Portugal, South Africa, Spain, Sri Lanka, Tanzania, Uruguay



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

Fodder: The leaves can supply about 50-80% dry matter requirement of livestock.

Fuel: A. melanoxylon is a good source of firewood and charcoal.

Timber: The moderately heavy, light to dark brown, strong wood that is moderately resistant to termites is used for railway coaches, cabinet work, furniture, boat building, bear casks, plywood and tennis racquets.

Poison: The wood contains acamelin and 2,6-dimethoxyl-4 benzoquinone that cause may allergic contact dermatitis and bronchial asthma in people working with the wood.

SERVICES

Erosion control: A. melanoxylon is planted on denuded hilltops to stabilize them.

Reclamation: A. melanoxylon grows well on residue from tin sluicing operations.

Shade or shelter: The tree casts a useful shade and acts as a windbreak.

Nitrogen fixing: A. melanoxylon is nodulated; nodules on seedlings are light coloured, round and smooth; those on mature trees are multi-lobed, dark brown and wrinkled with a corky to woody surface.

Ornamental: The beautiful tree may be planted in amenity areas.

TREE MANAGEMENT

Growth of trees can be slow up to the height 2 m due to browsing by cattle, after which growth becomes rapid at 60 cm/year. The tree attains the height of 20 m in 30 years and coppices feebly. A mature tree 20 m tall can be lopped twice a year and will yield 100 kg of fodder per lopping.

GERMPLASM MANAGEMENT

After extraction and cleaning, the seeds can be dried in the sun before storing to a moisture content of 5-9%. Seed storage behaviour is orthodox; 12% germination following 51 years of open storage at room temperature. Viability is maintained for at least 20 years in open storage at room temperature and can be maintained for several years in hermetic storage at 10 deg. C with 5-9% mc. Mature and properly dried seeds can be stored in airtight containers at room temperature for at least 1 year, and at 10 deg. C for several years. On average, there are 64 000 seeds/kg.

PESTS AND DISEASES

Acacia melanoxylon trees are highly susceptible to attack by Lorantheceous parasites and the fungus *Armillaria mellea*. Seedlings are browsed by cattle.

FURTHER READING

Albrecht J. ed. 1993. Tree seed hand book of Kenya. GTZ Forestry Seed Center Muguga, Nairobi, Kenya.

Bein E. 1996. Useful trees and shrubs in Eritrea. Regional Soil Conservation Unit (RSCU), Nairobi, Kenya.

Bekele-Tesemma A, Birnie A, Tengnas B. 1993. Useful trees and shrubs for Ethiopia. Regional Soil Conservation Unit (RSCU), Swedish International Development Authority (SIDA).

Boland DJ. et. al. 1985. Forest trees of Australia. CSIRO. Australia

Doran CJ, Turnbull JW (eds.). 1997. Australian trees and shrubs: species for land rehabilitation and farm planting in the tropics. ACIAR monograph No. 24, 384 p.

Hong TD, Linington S, Ellis RH. 1996. Seed storage behaviour: a compendium. Handbooks for Genebanks: No. 4. IPGRI.

Maslin BR, McDonald MW. 1996. A key to useful Australian acacias for the seasonally dry tropics. CSIRO, Australia.

Mbuya LP et al. 1994. Useful trees and shrubs for Tanzania: Identification, Propagation and Management for Agricultural and Pastoral Communities. Regional Soil Conservation Unit (RSCU), Swedish International Development Authority (SIDA).

Noad T, Birnie A. 1989. Trees of Kenya. General Printers, Nairobi.

Vimal OP, Tyagi PD. Fuelwood from wastelands. Yatan Publications, New Delhi, India.

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/>)