

Acacia saligna

(Labill.) H. Wendl.

Fabaceae - Mimosoideae

LOCAL NAMES

Amharic (akacha saligna); English (willow wattle,weeping wattle,Port Jackson willow,orange wattle,golden-wreath wattle,blue-leafed wattle)

BOTANIC DESCRIPTION

Acacia saligna is a dense and multi stemmed, thornless, spreading shrub or a single-stemmed, small tree up to 9 m in height; bark is smooth and grey to red-brown on branchlets becoming dark grey and fissured with age.

Leaves alternate, simple, flattened phyllodes, varying from very narrow to lance-shaped, about 10 times as long as wide, mostly 8-25 cm long and 0.5-2 cm wide, straight or slightly curved to the side, long, pointed and tapering at both ends like ribbons, hairless, often drooping, dull blue-green to whitish, with a permanent midvein and many fine side veins; large dotlike gland 1-2 mm or more in diameter at base of upper edge of phyllode.

Flower clusters (heads) like balls, mostly 2-10 (sometimes 1), on stalks along axis (racemes) to 8 cm long at base of leaf; round, bright yellow or deep golden heads, 7-10 mm in diameter, with many (25-55) crowded, tiny flowers, abundant and showy; flowers stalkless, 3-4 mm long, mostly hairless, composed of calyx 1.5 mm long with conical tube and 5 short, rounded lobes, often finely hairy on edge; corolla of 5 narrow, long-pointed petals, 2-3 mm long, united near base; many threadlike stamens, pistil with hairless ovary and slender style.

Fruits very narrow, 8-12 cm long and 4-6 mm wide, straight and flattened. There are 6 to 10 beanlike seeds, each 5-6 mm long x 3-2.5 mm wide, dark brown to black, shiny.

The generic name 'acacia' comes from the Greek word 'akis', meaning a point or a barb. The specific name means 'willowlike' and describes the phyllodes.

BIOLOGY

A. saligna is an out-crossing species.



Witches' broom galls of papilla-like small phyllodes and bipinnate leaflets caused by the microscopic mites of the Eriophyoidea. This species is indigenous to Australia and has a potential as a control of this plant in South Africa. (Neser S)



(Fagg, M. ANBG Photo No.: a.3189)



(Greig, D. ANBG Photo No.: a.1901)

ECOLOGY

A. saligna grows mainly on sandy, coastal plains, but it is also found in a wide variety of environments, from swampy sites and river banks to small, rocky hills (often granitic) and slopes of coastal ranges. It is also found by creeks and disturbed roadsides. The plant tolerates salt spray, soil salinity and alkalinity. The associated vegetation types include open, dry evergreen forest, temperate woodland and semi-arid woodland.

BIOPHYSICAL LIMITS

Altitude: 0-300 m, Mean annual temperature: 23-36 deg C, Mean annual rainfall: 350-600 mm.

Soil type: Occurs on many soil types, especially poor acid or calcareous sands. It will grow under the most adverse and dry soil conditions and in moderately heavy clays and a range of podzols.

DOCUMENTED SPECIES DISTRIBUTION

Native: Australia

Exotic: Cyprus, Eritrea, Ethiopia, Greece, Iran, Iraq, Israel, Jordan, Libyan Arab Jamahiriya, Mauritius, Mexico, Namibia, South Africa, Syrian Arab Republic, Tanzania, Tunisia, 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 phyllodes, young shoots, pods and seeds, whether fresh or dry, are rich in protein and are non-toxic and palatable to both sheep and goats. They are particularly valuable seasonally when other forage is scarce. The chemical composition of the leaves shows dry matter (50-55%), crude protein (12-16%), crude fibre (20-24%), crude fat (6-9%) and ash (10-12%). Re-growth of established bushes is so good that *A. saligna* can be completely grazed off without harming the plant.

Fuel: Plantations for firewood have been established in some Mediterranean countries. The wood is reported as sappy, light and not popular for firewood. *A. saligna* can withstand some shade and can be grown as an understory beneath pines or eucalypts for energy in villages.

Fibre: In Tunisia the wood has been successfully processed into particleboard.

Timber: *A. saligna* is used for vine stakes and small agricultural implements.

Gum or resin: The damaged bark exudes copious amounts of a very acidic gum that shows exceptional promise for use in pickles and other acidic foodstuff.

Tannin or dyestuff: In the past, the tree was planted for tannin production from the bark.

SERVICES

Erosion control: *A. saligna* is one of the best species for binding sand. It has been used in North Africa, the Middle East and South Africa for coastal sand dune fixation, and in Uruguay for gully erosion control.

Shade or shelter: *A. saligna* is useful for windbreaks.

Reclamation: In Australia it has been used in the rehabilitation of sand mining areas.

Nitrogen fixing: The tree nodulates with certain strains of *Rhizobium*. As with many other acacias, it forms associations with Vesicular Arbuscular mycorrhizal (VAM) fungi.

Ornamental: *A. saligna* is widely planted as an ornamental.

TREE MANAGEMENT

Production for browse and wood can begin 3 years after planting out, gradually building to 6 years. The impact of various management methods on long-term productivity is not well understood. In Mauritius, the management options tried include trimming followed by direct grazing and direct browsing with periodic pruning. A rotation of 7-10 years or coppicing may be used. In Mediterranean countries, firewood from *A. saligna* is harvested on a coppice rotation of 5-10 years. Human interference and grazing should be discouraged for rapid success. Lupines should be sown where necessary to enrich the ground cover.

GERMPLASM MANAGEMENT

Seed storage behaviour is orthodox. There are about 14 000-25 000 seeds/kg.

PESTS AND DISEASES

Various gall-exploiting insects invade the tree, and in parts of Western Australia more than 90% of the trees bear conspicuous galls. The trees are susceptible to white-scale insects, which attack the leaves and stems. Rodents sometimes attack the roots. Termites may cause serious problems in tropical countries. Older plants are susceptible to gall rust, *Uromycladium tepperianum*.

FURTHER READING

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SUGGESTED CITATION

Orwa C, A Mutua, Kindt R, Jamnadass R, S Anthony. 2009 *Agroforestry Database: a tree reference and selection guide* version 4.0 (<http://www.worldagroforestry.org/sites/treedbs/treedatabases.asp>)