

Acacia wattiana F. Muell. ex Benth.

Common Names

Watt's Wattle, Dog Wattle.

Habit

Erect, hardy, rounded to narrowly obconic shrubs mostly 1–4 m high (can reach 6 m in the Tothill Range, D. Kraehenbuehl pers. comm.), crowns rather bushy and spreading to 4 m across in open sites but narrower with more erect branches in dense stands, single-stemmed or dividing into a few main stems from near ground level, main stems straight to sub-straight and reach 6–9 cm dbh (it is estimated, based on a crude assessment of growth rings, that it would take 15–20 years to attain this diameter). Bark smooth, thin, grey.

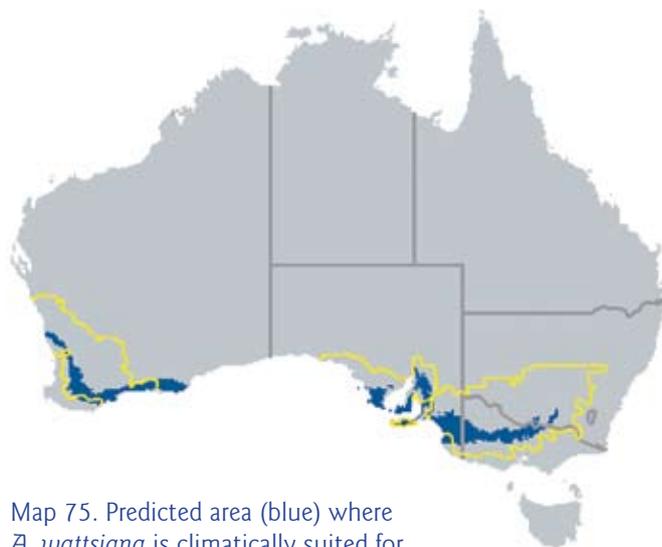
Botanical descriptions and illustrations/photographs are provided by Costermans (1981), Simmons (1988), Whibley & Symon (1992) and Maslin (2001 & 2001a).

Taxonomy

Acacia wattiana is referable to *Acacia* section *Phyllodineae*, a diverse, and probably artificial, group of about 408 species (Maslin 2001) which are characterized by having '1-nerved' phyllodes and flowers arranged in globular heads (see Maslin & Stirton 1998 and Maslin 2001 for discussion). More specifically this species is a South Australian member of the Australia-wide '*Acacia microbotrya* group' (Maslin 1995). A number of other species from this group are detailed in this report, namely, *A. bartleana*, *A. euthycarpa*, *A. microbotrya*, *A. retinodes* and *A. rivalis*. *Acacia wattiana* is most closely related to *A. spooneri*, *A. quornensis* and *A. chalkerii*, none of which are considered prospective taxa for development as crop plants for wood production.



Map 74. Distribution of *A. wattiana*.



Map 75. Predicted area (blue) where *A. wattiana* is climatically suited for cultivation; this area is derived from a bioclimatic analysis of the natural distribution (red circles, Map 74), see also Table 5. Target area shown in yellow.

Conservation status

This species is not regarded as having any State conservation significance for South Australia (Peter Lang, pers. comm.) despite having been listed in Lang & Kraehenbuehl (1987) as Rare.

Distribution and habitat

Confined to the target area in South Australia where it has a restricted distribution in the agricultural region from near Melrose in the southern Flinders Range, south to Clare and Tothill Ranges in the Northern Lofty region. Common in the places where it occurs. Grows in

Figure 37. *Acacia wattiana*



A – Mature shrub in open site, with spreading, dense crown (insert showing stem base). (Photos: B.R. Maslin)



B – Mature shrub in dense roadside vegetation, erect habit & narrow crown. (Photo: B.R. Maslin)



C – Roadside stand, much sucker regrowth. (Photo: B.R. Maslin)



D – Section of stem (wood pale-coloured & dense). (Photo: B.R. Maslin)



E – Flowering branch (heads in short racemes, phyllodes short). (Photo: B.R. Maslin)

alkaline clay or loam in low hilly country in woodland, open forest or tussock grassland, within the 500–600 mm rainfall zone.

Flowering and fruiting

Flowers from October to December and pods with mature seeds normally occur between December and February/March (but may continue producing seed if there is a wet summer) (Martin O'Leary, pers. comm.).

Biological features

Moderate suckering ability; coppicing unknown (but possible); moderate to fast growth rate. It is frost tolerant (Martin O'Leary, pers. comm.).

Cultivation

According to Whibley & Symon (1992), *A. wattsiiana* grows well with a fast growth rate under cultivation in southern districts of South Australia. Direct seeded plants in a rather dry area near Adelaide attained 1.7 m height in two years, without supplementary watering (M. O'Leary, pers. comm.). This species is used in roadside plantings (with *A. victoriae*) near Wirralla, S.A.

In the one natural population examined many of the plants grew close together and developed a single, rather straight, erect main stem and relatively few, and short lateral branches. If this growth form could be attained in cultivation (perhaps by appropriate spacing of plants) then this would be conducive to harvesting for wood.

Weed potential

There are no records of this species presenting weed problems despite the fact that it grows naturally in highly disturbed agricultural areas. If widely grown outside its natural range, however, it may possibly have some weed potential on account of its suckering habit (could form clonal populations) and high seed production (P. Lang, pers. comm.).

Wood

Based on our field observations from one plant the wood is very dense and pale coloured (yellow-brown) with a relatively small development of darker heartwood. Shrinkage upon drying caused minor end fractures in the sample we collected.

Utilisation

Land use and environmental

Suitable for roadside and low shelter belt plantings. Bonney (1994) discusses the value of the species to wildlife.

Potential for crop development

Acacia wattsiiana is regarded as only moderately prospective for development as a crop plant for high volume wood production. It is ranked as a category 3 species and would seem best suited for development as a phase crop (Table 6). This is a hardy, moderately fast-growing species with a reasonably good growth form. It produces a reasonable amount of woody biomass but the wood is seemingly very dense (albeit pale coloured) in which case it would lower its attraction for use in reconstituted wood products. Although *A. wattsiiana* could have potential for crop development in parts of the target area in South Australia, species such as *A. rivalis* and *A. retinodes*, which occur in much the same region as *A. wattsiiana*, are probably better prospects. Its moderate propensity for root suckering is unlikely to present difficulties for its management.

The area predicted to be climatically suitable for the cultivation of *A. wattiana*, based on its natural climatic parameters, is shown in Map 75. This analysis indicates that the species has the potential to be cultivated beyond its natural range into parts of both the eastern and western target areas. While the predicted regions are restricted to winter rainfall areas this does not preclude *A. wattiana* from potentially performing well in the uniform rainfall zone of the eastern target area. Within the areas predicted as favourable for its growth, this species would be a good candidate to trial on alkaline clays.