

# Sandalwood

*Santalum spicatum*

## Planning and site selection

Correct site selection is important to the success of your plantation. How will the plantation fit in with your existing farming operations? Generally, the site should not be adjacent to large native bush areas, due to grazing pressure from native herbivores. Ideally do not plant into low lying frost prone areas. Ideally the site should be water gaining but well drained. Deep white sands are less suitable. Saline soils, waterlogged or heavy clay soils are generally not suitable although sandalwood can be used to address these issues by strategic planting.

## Soil type

Soil type can greatly affect the establishment, survival and growth of both host and sandalwood. The preferred site to grow sandalwood in the WA Wheatbelt is a sandy-loam over clay, duplex soil type. However, sandalwood will also grow on some loamy-gravels, yellow sands and red sands. Good sandalwood plantations are now being established on Wodjil sands in the N.E. Wheatbelt. Moisture retention and availability at both surface and sub surface are important for the establishment of sandalwood

## Rainfall

Rainfall is not always a limiting factor as sandalwood will grow in areas receiving as little as 250mm per annum. The evaporation rate in a given area will effect sandalwood growth. Although rainfall may be similar in two growing regions, one area may have increased evaporation due to higher temperatures and/or increased frequency of drying winds reducing the effective rainfall. Sandalwood can grow in low rainfall areas which are unprofitable for traditional annual crops, but growth rates are likely to be much lower than in the 400 - 600mm zone.

The hardiness of the Sandalwood and the ability of the main host Acacia, to fix nitrogen contribute to its success in many areas. Effective rainfall should be considered in conjunction with soil type when assessing whether a site is suitable. With climate change winter rain is becoming more unreliable and summer rain becoming common, a native deep perennial which can take advantage of moisture at any time such as Sandalwood is an attractive option.

## Selection of host species

It is important to select host species that are suited to both the soil type and climatic conditions of the site. Generally local provenance species growing on similar soil types are preferred.

A sample of species which can be used differing for soil type/rainfall areas is provided below, this is not an exhaustive list, there will be other species particularly Acacias which will be suited to your area. Consult your local nursery or seed supplier who will be able to provide the correct provenance.

### Typical host species:

- \* **Sandy duplex** 350mm annual rainfall  
*Acacia acuminata* (narrow phyllode), *Acacia lasiocalyx*, *Acacia assimilis*.
- \* **Red /Brown loam** 450mm annual rainfall  
*Acacia acuminata* (typical variant) *Acacia acuarua*, *Acacia aestvalis*, *Acacia lasiocarpa varsedifolia*, *Allocasuarina huegeliana*, *Acacia microbotrya*.
- \* **Yellow sandy loam (Wodjil)** 300mm annual rainfall  
*Acacia acuminata* (narrow phyllode), *Acacia resinimarginea*, *Acacia hemiteles*, *Acacia neurophylla*.



Site establishment guides for variety of sites with differing rainfall and soil types across the Avon and Blackwood Catchments are available from the Australian Sandalwood Network Inc.

Extensive trials have shown that jam (*Acacia acuminata*) is an excellent long-term (15 - 30 years) host for sandalwood. Jam will grow on a variety of soils, but generally performs best on the loamy sands over clay duplex soils. Jam is also quite variable and it is important to use the most suitable variant. In the western Wheatbelt (annual rainfall 400 - 600mm), *Acacia acuminata* typical variant has shown to be a good host. However, in the eastern Wheatbelt (annual rainfall <400mm) trials have shown that sandalwood performs better near *Acacia acuminata* narrow-phyllode variant.

Many other Acacias and other species such as Hakeas, Allocasuarinas and Grevilleas can be useful long-term host species, but should generally be planted in combination with *Acacia acuminata*. *Acacia saligna* is also an excellent short-term (3 - 10 years) host, although its prolific growth and spreading form can result in smothering of the sandalwood and reduced vehicle access to rows, making this species high maintenance, requiring regular pruning to enable sandalwood growth and site access.

If a wheatbelt variant of *Acacia saligna* can be used it is generally of a more upright form and may need less pruning. Refer to The Sandalwooder edition 7 "Reviewing the potential of *Acacia saligna* as a Sandalwood host" by Wayne O'Sullivan.



Good site preparation such as site ripping is essential to the success of your plantation.



Mounding may be necessary on wetter sites.

## REMEMBER...

You will need to order host seedlings from your local nursery by the end of the previous October to guarantee supply. Seed should be ordered at a similar time to ensure preferred species are available. Please refer to the ASN website for nurseries and seed suppliers throughout the Wheatbelt who are members of our network and understand the process of sandalwood plantation establishment.

## References and further information

Brand, John 2006 WA Sandalwood (*Santalum spicatum*) establishment guide for farmland in the Wheatbelt, Cultural experiences of Members of the Australian Sandalwood Network gathered over the last five years and shared through newsletters, workshops and meetings. [www.sandalwood.org.au](http://www.sandalwood.org.au)

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