

Site checklist.

What to check for your site.

For the best results from your farm forest, climate and soil should match the requirements of the tree species you intend to plant.

Factor in the following:



Temperature

- Minimum temperatures and frequency of frosts must be considered
- Inland species provenances often tolerate frosts better than coastal ones
- Elevation is often used to determine frost tolerance. Generally the higher a tree naturally grows, the higher its frost tolerance



Moisture Availability

- Trees require moisture throughout spring, summer and autumn to grow. The ability of soil to hold moisture is important especially where summer rainfall is infrequent or low
- Sites with perched water tables or fairly stable local water tables may favour tree growth in low rainfall areas
- Soils containing organic matter and clay hold water better than sands
- Water requirements may be supplemented by irrigation, ground water or use of sites with wetter (southern) aspects



Drainage

- Tree roots need oxygen for growth
- Avoid seasonally water logged sites unless the species chosen requires, or is tolerant of, such conditions for growth
- Water logged sites are difficult to establish and logging may cause deterioration of soil and water quality
- Caution should be exercised where water tables markedly rise and fall during the year because tree roots will either be unable to access water or be drowned



Rooting Conditions (Effective Rooting Depth)

- Tree roots need to be able to explore soil over a large area and to a considerable depth
- Tree roots occupy about the same space as the trunk and branches of a tree. Soil depth should, if possible, exceed 50 centimetres for good tree growth. Avoid hard pans or heavily compacted soils unless you can deep rip or cultivate them. Avoid soils with lots of rock or very heavy clays

Site checklist cont'd



Nutrient Availability

- Nutrients, particularly phosphorous, nitrogen and organic carbon, need to be available in the top 10 centimetres for good tree growth. (Even so, starter fertilisers are often applied at planting to promote initial tree growth)
- Sites with a long history of heavy fertiliser use may require specially bred tree stock to avoid abnormal growth due to high site fertility



Weeds

- Sites with lots of different weeds or heavy weed cover can be difficult and costly to establish to trees and maintain
- Land free of persistent woody weeds (e.g. gorse) is easy to plant to trees and pasture grasses are easily and cheaply controlled



Other factors to consider:



Aspect

- Influences temperature, moisture availability and effects of wind
- Exposed aspects have greater impact on tree growth
- Very steep slopes can be more costly to establish, road and harvest



Access

- A good access route, capable of carrying about 40 tonnes, is needed between the farm gate and proposed site
- Land is best located close to existing industry processing plants, export ports or other large plantations to avoid excess transportation costs



Natural hazards

- Avoid sites prone to flooding
- Check sites for erosion to avoid possible landslide hazards
- Sites should be surrounded by an accessible firebreak and be able to facilitate fire-fighting