Softwood species

Including Cypress, Cedar, Fir, Redwood & Spruce

Info Sheet No. 1 - Overview

Private Forests Tasmania

This series on Softwood species including Cypress Cedar, Fir and Redwood has two parts. Each part can be read individually or as part of the series.

1. **Overview**
2. Management Regime

Establishment and Labour Estimates have not been completed for this series, however the Radiata Pine series provides relevant information that is applicable to all softwood species unless noted below.

OVERVIEW

Commercial timber production is possible with a range of softwood species, particularly in a farm forestry context. Farm foresters can produce high quality products to very specific standards largely because smaller farm-scale operations can utilise timely management that is difficult to achieve with larger industrial scale plantings. Even if high quality farm-grown plantation trees do not attract a premium, compared to standard industrial plantation trees, high tree and wood quality will improve marketability. The ability to sell plantation trees at a time that suits the landowner is valuable and high standards of management should command a premium.

Potential softwood species suitable for farm forestry include:

- *Cupressus macrocarpa,* Macrocarpa
- *Cupressus lusitanica,* Lusitanica
- *X Cupressocyparis ovensii,* Ovens cypress
- *Sequoia sempervirens,* Coastal or Californian redwood
- *Pseudotsuga menziesii,* Douglas-fir
- *Cryptomeria japonica,* Japanese cedar
- *Thuja plicata,* Western red-cedar
- *Picea sitchensis,* Sitka spruce

Cypress are coniferous softwoods belonging to the closely related genera of Cupressus and Chamaecyparis. *Cupressus macrocarpa* (Macrocarpa) from California and *Cupressus lusitanica* (Lusitanica), predominantly from Mexico, are considered commercial timber species. Other important timber species include *Chamaecyparis lawsoniana* (Lawson cypress) from western USA, *Chamaecyparis nootkatensis* (Nootka cypress) from Canada and Alaska and *Chamaecyparis obtusa* (Hinoki) from Japan.

Hybrids between *Cupressus* and *Chamaecyparis* species, some of which express favourable attributes, have been achieved through cultivation. *X Cupressocyparis leylandii* (Leyland cypress, of which there are several different clones) is a cross between Macrocarpa and Nootka cypress. *X Cupressocyparis ovensii* (Ovens cypress) is a cross between Lusitanica and Nootka cypress.

While most cypress species are grown for amenity and shelter purposes, commercial timber production is possible from Macrocarpa and Lusitanica.

Sequoia sempervirens is usually simply known as 'redwood'. The species from western North America. Redwood is a strong timber often used in panelling and outdoors. It is a valuable product and stands are relatively disease-free.

Douglas Fir, *Pseudotsuga menziesii*, is North American conifer that prefers cool, higher altitude conditions. It is a widely planted species throughout Europe, South America and New Zealand. It is well-suited to the cooler and wetter sites and is favoured for its strong and stiff timber.

Cryptomeria japonica known as Japanese cedar is a large, temperate conifer native to East Asia. It is commonly planted as an ornamental however it can also be grown for commercial purposes.

Western red-cedar, *Thuja plicata,* is a fast-growing, non-native conifer from western North America that produces a deep-reddish brown timber with good wood properties commonly used for cladding, windows and joinery.

Picea sitchensis,Sitka spruce originates from the coastal forest of the western North America. It is the largest of the spruce genus (Picea) and is commonly planted species in the United Kingdom. It is favoured as a good structural timber for its strength to weight ratio.

GROWTH CHARACTERISTICS & SITE SELECTION

The following table is a guide to conditions suitable for the various species. While some species are tolerant of poorer conditions (exposure, low rainfall, poor drainage or low soil quality), each species will have the highest productivity closer to the ideal conditions for that species.

Species	Growth rate and habit	Exposure/frost resistance	Rainfall	Drainage	Soil Quality
Cupressus macrocarpa	Can be slow to establish Prolific branching habit	Tolerant of exposure - responds well to shelter Frosts to -10ºC	500mm+	Moderate tolerance of poorly drained soils	Tolerant of less fertile sites

Cupressus lusitanica		Intolerant to exposure Frost to -5ºC	1000mm+	Requires well drained soil	Requires more fertile sites than *C. macrocarpa*
Sequoia sempervirens, redwood	Slow to establish. Epicormic growth requires management following pruning and thinning	Tolerant to cold sites	750mm+	Prefer moist soils can tolerate some waterlogging	Fertile sites
Pseudotsuga menziesii, Douglas-fir	Slow to establish Resistant to snow damage Can be managed without pruning	Prefers cool conditions and sheltered sites	750mm+	Prefers moist free draining soils	Fertile sites
Cryptomeria japonica, Japanese cedar	Does not like dry conditions	Sheltered sites	600mm+	Prefers well drained soil	Prefers fertile sites however tolerant of lower fertility
Thuja plicata, Western red-cedar	Responds very slowly to thinning		750mm+	Tolerant to a large range of conditions	Tolerant to a large range of conditions
Picea sitchensis, Sitka spruce	Fast growing, easy to establish	Suited to moist maritime climates Tolerant to exposure	900mm+	Prefers moist conditions	Grows well on lower quality sites

TREE & WOOD QUALITY

Wood quality varies with species which in part determines best end uses. Some good information on wood quality can be found at https://www.woodsolutions.com.au/wood-species/softwood

END USES

End uses are wide and varied dependent upon the species and wood quality and include:

- Structural timber
- Interior and exterior furniture and joinery

- External cladding and decking
- Boat building
- Veneers (clearwood and knotty material)
- General farm timber

PESTS & DISEASES

The greatest threat to cypress species is Canker, caused by the fungus *Seiridium cardinale* and *Seiridium unicornis*. *C. macrocarpa* is significantly more susceptible to Canker than *C. lusitanica*. Breeding programs include improved resistance to Canker, although these do not eliminate the threat entirely. Trees are most susceptible when under stress due to poor siting or inappropriate management.

NB *Many of these alternative species have been planted in Tasmania on a trial basis by Private Forests Tasmania, landowners and other organisations. However, while it is to be encouraged, the planting of these or other alternative species in Tasmania should be on a small scale and considered experimental as their performance is relatively unknown at this stage. It is possible that some alternative species may fill a niche role, such as the production of naturally durable timber that can be used for exterior use without chemical treatment. It is not expected that these alternative species could be planted on a large scale, but rather as smaller plantings on suitable sites. Thus, they may offer landowners an opportunity to enter a high-value niche market that is not dominated by larger industrial scale growers. Landowners should seek further advice regarding species and site selection if considering alternative species. Availability of source seed and seedling material may be limiting.*

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