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Branch out with CALM



and profit from a tree crop
CALM Sharefarms, Maritime Pine



Department of Conservation and Land Management

CALM sharefarming is profitable, secure and requires very little effort from landowners.

With sound planning, a pine crop can free you to concentrate on other activities or just make use of those parts of your farm too sandy for other crops.

You can then sit back and watch money grow on trees that actually improve the quality and value of your land.



This booklet is intended as a guide only. For specific information about sharefarming on your land, please contact CALM Sharefarms, Maritime Pine.

CALM sharefarming with Maritime pine

The strong demand for Maritime pine wood fibre offers landowners an excellent chance to diversify their incomes with a pine crop.

The Department of Conservation and Land Management (CALM) manages 73,000 hectares of pines in State-owned plantations, but this is not expected to be enough to meet future demand. A new timber industry has developed to meet this demand: pine sharefarming with private landowners.

CALM has more than 20 years experience in farm forestry research and development and nearly a decade of operational work with farmers, largely to establish bluegum crops. CALM has been appointed by private investors to manage the establishment and care of more than 55,000 hectares of bluegums in the south-west over 20 years.

Maritime pine grows well on the poorer soils unsuited to bluegums or radiata pine and has the potential to expand the existing area of commercial tree crops many times over.

Sandy soils in the 400 to 600 millimetre annual rainfall zone and west coastal plain are targeted for Maritime pine crops. This area is under threat from salinity and waterlogging and planting trees will control the rising groundwater levels that cause these problems. A commercial tree crop means landcare with an income.



Sharefarming with Maritime pines began in the agricultural regions close to Perth in 1994 and then expanded to the Albany region in 1996.

*\$18 million a year
committed by State
Government*

The State Government is confident that the future market for softwood is assured and has committed \$18 million a year to plant up to 150,000 hectares of pines over the next decade.

CALM Sharefarms is also offering to plant a range of native tree species as part of the Maritime pine project. This will help meet the demand for trees on land too saline for pines, or in areas where landowners just prefer the look of native trees.

How it works

Landowners provide land to grow Maritime pine on in exchange for lump sum payments each time the tree crop is thinned and at the final harvest. Landowners can also earn contract rates if they chose to carry out some of the establishment work, which is otherwise CALM's responsibility.

Maritime pine is grown for one rotation, with thinnings at 12 years and 22 years and the final harvest at 30 years.

The land remains yours and the trees are planted, managed and harvested by CALM. You can continue to graze in the plantation once the trees are tall enough.

The team from CALM Sharefarms, Maritime Pine, together with CALM's scientists, geneticists, fire protection unit and forest management branch, will be working to help make your tree crop a success.

The partnership between landowners and CALM is formalised through our exclusive legal agreement which secures each party's interest in the crop. This contract is registered on the land title, which remains in the property owner's name. The land can be sold at any time and the landowner interests transfer to the new owner.

A well planned tree crop can improve the value of your property and diversify your income.



Why Maritime pine?

Maritime pine (*Pinus pinaster*) comes from the northern and southern coasts of the Mediterranean and the Atlantic coasts of France and Portugal. It's these seaside locations that gave the tree its common name.

The timber is straight grained and is denser and stronger than most other softwoods. It is resinous and rather coarse in texture, especially the early growth. The sapwood is pale yellow-brown and the heartwood slightly darker.

The species was one of many brought to Western Australia in 1896 for trial plantings to find a softwood suitable for local conditions. Australia has no true native pines, despite the common names given to some trees, and had to import softwoods for packaging and some building uses.

Maritime pine performed best on sandy soils and was the species chosen for the Gnangara plantation, just north of Perth, in the 1920s. The stock planted came from Leiria, in Portugal, and subsequent tests showed it not only had the best growth rate, but superior wood properties and drought tolerance.

Scientists working for one of CALM's predecessors began a Maritime pine breeding program in 1957. This program has produced seedlings that are 70 per cent more productive than the original trees and the research is continuing, particularly to find the best performers in low rainfall areas and on saline sites.

Maritime pine is versatile enough to make a range of products, from structural grade timber to furniture

and paper. Timber from State-owned plantations already supports a growing local industry producing medium density fibreboard, particle board, cases, pallets, veneers, treated posts, poles and sawn timber.

World demand for wood fibre is increasing, especially in the Pacific Rim. Demand in this region is being fuelled by population increases and rising standards of living in developing countries. At the same time, less timber is coming from production forests in North America because of environmental pressure and from depleted tropical rainforests.



Who does what?

CALM

Nearly all the work to establish, manage, harvest and market the crop is carried out by CALM, in close consultation with landowners. If landowners want to increase their return still further, they can choose to take on some of the establishment work at negotiated contract rates.

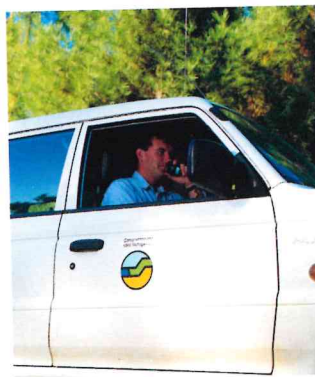
CALM's tree cropping specialists assess the site, and if it's suitable, seek planning permission, prepare the legal contract and register it on the land title. If the farm is sold, the contract structure enables easy transfer to the new owner, who must continue to observe the terms and conditions laid out in the contract.

Once a contract is signed, CALM is responsible for:

- ◆ designing plantations to suit each landowners needs, usually belt or block plantings;
- ◆ site ripping and mounding
- ◆ fertilising
- ◆ supplying and planting seedlings
- ◆ weed, insect and pest control
- ◆ fire risk management
- ◆ managing the growing trees and monitoring and recording growth
- ◆ thinning the crop at least twice during the rotation
- ◆ arranging final harvest
- ◆ marketing harvested timber
- ◆ overall project management
- ◆ ongoing research and development

Landowner

Constructs and maintains firebreaks and other fire management requirements to meet local authority standards. Provides suitable, fenced land to keep stock away from the young trees. CALM's fencing subsidy helps landowners design a layout without being restricted to existing fences. Later, stock can graze and shelter under the pines.



Is my land suitable?

The most suitable areas for Maritime pine are deep sands or sandy ridge soils, with at least two metres free draining soil, in the 400 to 600 millimetre annual rainfall zone and the coastal plain north and south of Perth. The land being targeted for planting is usually unsuitable for traditional crops and is susceptible to wind erosion.

CALM will carry out a soil survey on potential sites nominated by landowners. A soils report is then compiled and a plan drawn up showing the most suitable sites.

A minimum of 20 hectares is preferred, although this can be made up of smaller plantings on the property. Two main types of plantings are likely:

- ◆ block plantings, strategically located where water can be efficiently exploited, such as on sand plain seeps, or where trees are likely to be more productive than pasture or crops, such as on deep sands;
- ◆ belt plantings, in a dispersed pattern to provide shelter and help use excess water. Cropping and grazing can be carried out between the belts. Well designed belts of trees have been shown to increase agricultural production by up to 20 per cent.

Assessments by CALM show that 600,000 hectares could be available for growing Maritime pine.

If you have any doubts about the suitability of your land, or where the best place to plant trees might be, please contact CALM and allow us to advise you.



Agricultural, environmental and other benefits

The list of direct and indirect benefits of planting trees is well documented. Research here and overseas has shown that a well planned, integrated tree crop can increase the productivity of other crops and stock by:

- ◆ providing shade and shelter;
- ◆ helping to prevent soil erosion;
- ◆ minimising excess fertiliser run-off, not only improving the soil, but reducing the problems caused by nutrients leaching into streams and rivers.



A crop of Maritime pines can improve property values and diversify farm income. CALM's Maritime pine sharefarming scheme will also create employment opportunities for private contractors.

The environmental benefits of broadscale tree planting in the area targeted for Maritime pine are vitally needed, in particular, lowering the water table to reduce and prevent the impact of salinity and waterlogging.

All of this can be achieved with minimal work and investment from the landowner.

An integral part of CALM's Maritime pine project is to plant a range of native tree species on land too saline or too rocky for pines, as well as in areas where landowners want to plant native trees for landscape reasons.

About 20 species have been specially selected for the project by CALM, including four acacias which provide excellent host trees for the parasitic sandalwood, *Santalum spicatum*. Sandalwood, which once grew across the wheatbelt, produces a valuable aromatic timber which is prized in south-east Asia.

Choosing the acacias will give landowners a chance to grow sandalwood commercially, as well as Maritime pine. Extending the area of trees planted beyond those sites suitable for pines will also increase the landcare benefits.

Payments

Landowners can choose from two flexible options:

Normal sharefarm:

The landowner makes land available and the plantation is established at no cost to the owner. CALM receives 70% of the crop at each harvest and 30% goes to the landowner.

Estimated landowner returns

<i>Year</i>	<i>Landowner share (1997 \$/ha)*</i>
12 (1st thin)	\$ 400
22 (2nd thin)	\$ 820
30 (clearfell)	\$2,750

**Returns paid will depend on yields achieved on different sites and actual stumpages on harvest. Analysts believe wood prices could rise 25% over the next 20 to 30 years.*

Owner participation:

In addition to providing land, the landowner undertakes some plantation establishment work for negotiated contract rates paid by CALM. This gives the owner a financial return during the first two years. The crop share at harvest remains 70% CALM and 30% landowner.



Markets

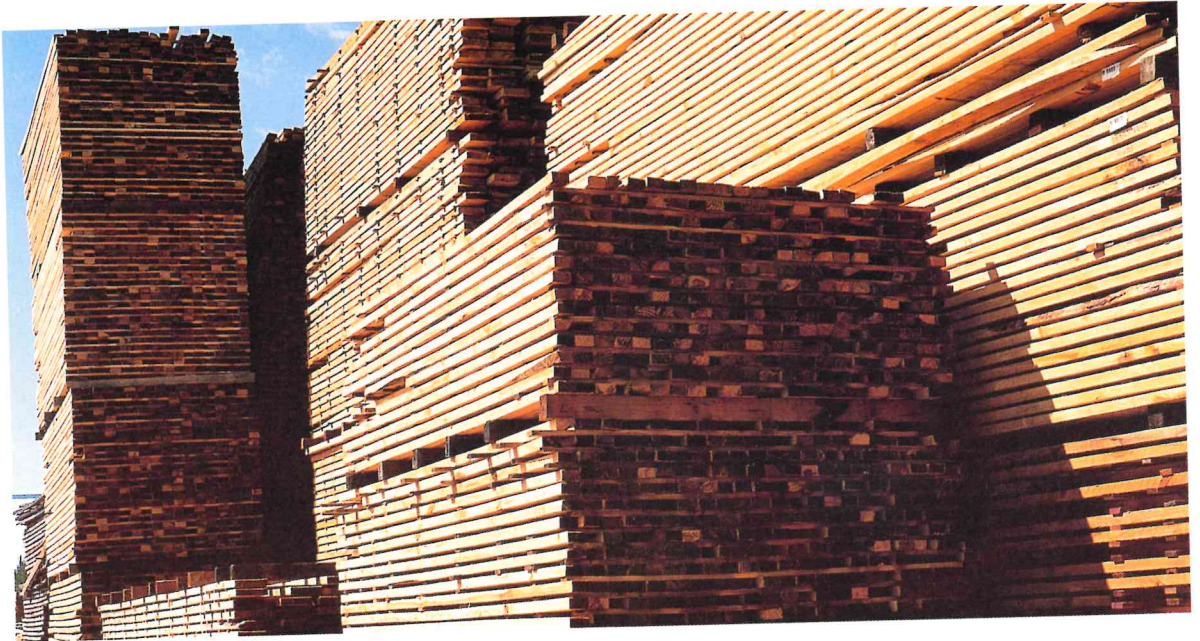
Western Australia has a thriving softwood processing industry based on Maritime pine, producing mainly structural grade timber and panel products such as medium density fibreboard and particle board.

Appearance grade timber can be used for furniture and joinery. It is also used for pallets and in the past was widely used for packaging. Suitably treated with preservative, it can be used for power poles, sleepers and fence-posts.

Pruned logs are suitable for appearance grades of plywood or similar products. Structural plywood usage is increasing, a product which can handle the occasional bark-encased knot.

The sawmilling capacity is being continually expanded to provide structural and appearance grade products for export. There are also opportunities to develop a laminated veneer lumber industry, a structural product used extensively overseas.

The long fibres in Maritime pine produce paper with high strength. The neutral sulphite semi-chemical pulping process has been shown to give high yields of good quality pulps. Maritime pine contains more resin than most other softwood, but alkali extraction is an effective method to remove these resins.



Fire risk management

Well managed Maritime pine crops are less of a fire hazard than native bush, or even ungrazed pasture, as there is less fuel on the ground to burn and less wind to carry the fire.

Maritime pines grown under CALM's sharefarming scheme are required to have effective fire breaks. Weed control occurs either before or just after planting, depending on the timing of site preparation and the first germinating rains.

Wind speeds measured within a Maritime pine crop are one quarter of that in open paddocks, which means the intensity of any fire burning into the tree crop is dramatically reduced.

CALM's fire protection unit works closely with CALM Sharefarms, landowners and shires in the south-west to ensure the best measures are in place to manage any risk of fire.

What happens after harvest?

Under the sharefarm contract, CALM has to leave the plantation in a neat and tidy condition ready for replanting to pasture if the site is not required for another tree crop.

Because the stumps are relatively fast grown, they rot easily and should disintegrate within six years.

There is a mistaken view that pines denude the soil. In fact, the pH levels in soil under pine are much better than the levels under pasture. The reason nothing grows underneath pines is that their thick canopy blocks out the light.



What has already been planted?

CALM and its predecessors have been planting and researching pine species in Western Australia for one hundred years.

In 1994, CALM set up the first of its Maritime Pine Sharefarm units, to plant tree crops with private landowners on the west coastal plain. The Perth-based unit planted nearly 300 hectares of pines in their first year of operation and a second unit was established in Albany in 1996.

CALM has now planted nearly one thousand hectares of pine sharefarms on private land from Lancelin to Wandering and the South Stirlings area.

The number of seedlings planted per hectare varies according to the site, but at the average rate of 1,650, the area planted to date represents a total of 1.6 million new trees.

The aim is to increase annual planting targets to 15,000 hectares by the year 2000.

Seedlings are produced at CALM's Manjimup nursery and planted by machines which can rip, scalp, plant and fertilise in one pass over most sites.





*If you want to know more
about sharefarming Maritime
pines with CALM, please fill out
this form and send it to:*

CALM SHAREFARMS, MARITIME PINE
3 ECKO ROAD
MT NASURA WA 6112

Name _____

Postal address _____

Postcode _____

Phone: (work) _____

(home) _____

Approximate size of area to be offered _____

Location of property _____



How can I find out more?

CALM SHAREFARMS, MARITIME PINE

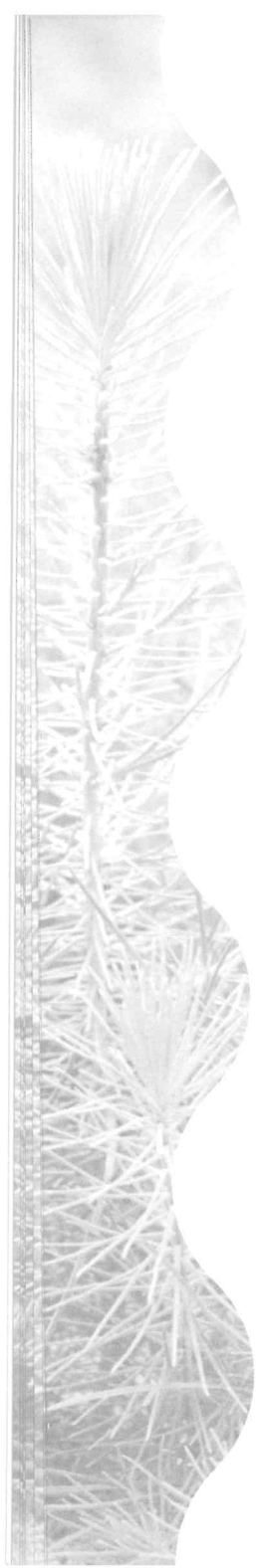
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