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particle-board logs as a by-product. If a particle-board log crop is being produced the harvesting of this material will be at about 12 years old. The first harvesting for sawlogs will occur at about 18-22 years old. The final harvest of the crop will be at about 30 years old.

All proceeds from thinning operations are kept by CALM to help offset management costs.

The proceeds of the final harvest are shared by CALM and the landowner according to the percentages agreed in the contract.

All logging will be carried out by contractors employed by CALM.



Harvesting particle board logs at Nannup.

Further Information

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Softwood Sharefarming



More Information

Pine is expected to supply a high percentage of the timber milled in this State by 2000 AD.

On the best sites, under favourable conditions and good management, radiata pine takes between 25 and 30 years to grow to commercial sawlog size in WA.

You have shown an interest in entering a contract Softwood Sharefarming Scheme with the State Government. This scheme will allow you to diversify your income in several ways: by receiving a yearly payment indexed for inflation; by working under contract on pine planted on your property; by running stock under the pines in some years; and by receiving a proportion of the sale price of softwood crop at harvesting.

Contributions by each party

The sharefarming scheme is administered by the Department of Conservation and Land Management (CALM).

The landowner provides the land, and the Department provides the resources for all softwood operations. These include site development, planting, maintenance, harvesting and marketing. The owner's share and profits are distributed annually in a predetermined pattern during the life of the plantation, and a residual payment is made at clear felling.

Entering the scheme

Once you have submitted land for use in the scheme its suitability for growing pine will be assessed before it is accepted.

Officers from CALM will carry out two surveys, one to produce a report on the suitability of the area for pine planting and management, and if this is favourable, one to analyse the soils and confirm that the land can grow pine to a commercial size.

Signing up

If the survey reports find your property suitable, and you wish to stay with the scheme a

management plan and site map for the area will be prepared. The plan will set out where the pines are to be planted, and where all the special physical features required to manage the plantation will be constructed. The completed plan will be discussed with you, and with your consent, will then form the basis for the final contract between you and CALM. There is a considerable degree of flexibility in the terms of the contract, and negotiations will be conducted to seek solutions agreeable to both parties.

Once you have agreed to the management plan and site map the cost of developing and managing the plantation and the anticipated returns will be calculated. At this stage the way you want your returns paid will be discussed. Several options are available: a low annual payment, with the bulk of your profit share paid at harvesting or a high annual payment and a lower amount at harvest. Once these details are agreed upon the contract will be drawn up for signing. The contract will set out the general terms, conditions and all payments throughout the life of the crop.

Preparing the ground

Before the pine crop is planted the planting area must be prepared.

First any isolated pockets of native forest, regrowth, and shade trees in the area that need to be removed are dealt with. CALM officers will be able to advise you if the timber is saleable, its possible value, and where you may be able to sell it.

The planting area will also need to be cleared of internal fences, and surrounded by stock-proof fences.

Roads and firebreaks will be constructed the summer before planting. If gravel for road making needs to come from your property this will be discussed with you.

Weeds and pasture can compete with the young pines and slow their growth. The planting area needs to be sprayed (usually with Vorox) before planting. If there are severe infestations of noxious weeds planting may be delayed for a season or so while they are

brought under control. You can control the weeds yourself, or CALM will arrange to do it. In either case APB standards apply.

Feral animals, particularly rabbits, can seriously damage young pines. Either the APB or you will need to keep rabbit numbers down.

The cost to CALM of developing the planting area to a suitable standard will be offset against returns from the crop.

One year old pines at Manjimup.



Planting the crop

Radiata pine seedlings, raised at CALM's nurseries will be used. Normally a plantation site will be planted in one season, but planting on larger areas may be spread over two years.

Pine seedlings will be planted after the winter rains start in late May. On poorer soils seedlings will receive a nitrogen-phosphate fertilizer. Planting should be complete by the end of July.

The following autumn surviving seedlings will be counted and, where necessary, dead seedlings replaced.

Maintenance work

Once the crop is established annual maintenance tasks are contracted out by CALM. You can either undertake these tasks yourself at the current contract rate, or let CALM arrange for the work to be completed.



Hand pruning pine.

Firebreaks need to be annually maintained to meet CALM standards. Where necessary noxious weed control programs to APB specifications will be carried out. On less fertile soils, fertilizer will need to be applied at certain times during the growth of the crop.

When the pines are between four and five years old the plantation will be thinned out and the poorer trees removed. At the same time the remaining trees will be pruned of their lower branches to two metres above ground level. The pruned branches and culled trees are usually left to rot back into the soil. If the crop is being grown for sawlogs only, another culling may also be needed between the age of six and seven.

The trees selected for the sawlog crop will be pruned again when six or seven years old to five metres above ground level, and for the tallest trees on good soil another pruning to 7.5 metres may be needed. Pruning reduces the number and size of knots in the timber, and increases the value of the logs the plantation will eventually produce.



Hand pruning
using pole saw.

Protection from fire

For continuous protection from fire, pay heed to the Bushfires Act. CALM will construct and keep clean firebreaks up to 20m wide. Grazing in the plantation also helps to reduce the risk of fire by lowering the quantity of grass, needles and other inflammable forage on the plantation floor. If the fire danger forecast is 'high' the use of machinery and vehicles amongst pine is banned to lower the risk of accidental ignition.

The contract will define the procedure for recalculating returns from the scheme if fire, or any other natural disaster, causes a partial or complete loss of the crop.

Livestock amongst pines

Pine plantations can provide excellent shelter for stock in harsh weather. Losses amongst lambs and newly-shorn sheep can be reduced, and cattle wintered in mature plantations need less energy and maintain bodyweight better.

Plantations can also provide grazing in late winter or very early spring and fill the short feed gap that occurs in many years when open pasture areas are shut up for hay.

The times that stock can be grazed amongst the pines will be set out in the management plan, but in general, livestock must be kept out of the plantation for the first three years to avoid damaging the young pine. In the third year the plantation can provide about 30 per cent of the grazing normally available in open pasture, after which it drops away to nearly zero by the eighth year.



Four factors will decide the amount of grazing available in the plantation: the area unplanted within the plantation boundary; the amount of trimmed branches and foliage left behind after pruning and culling, and whether or not it is practical to deal with this by machine; the number of trees kept as the sawlog crop after culling in the eighth year; and finally the rate at which the plantation canopy closes over and excludes light from pasture between the pines.

Harvesting

The pine crop will be managed primarily to produce sawlogs. However in some localities management will be modified to produce