THE ESTABLISHMENT OF P. PINASTER IN THE BANKSIA BUSH COASTAL SANDS

by D. Lejeune

To understand the opportunity for large scale low coast plantation establishment within approximately 30 - 40 miles of the key market in W.A. one requires an appreciation of the forest type and methods of establishment.

Forest Type.

The largest trees are normally Banksias, Sheoaks and Christmas Trees with low density Jarrah and Coastal Blackbutt in scattered areas.

Clearing Procedure.

(1) Removal of millable timber. From the above it is obvious that millable timber is generally absent.

(2) Initial Clearing using two large dozers with chain and pushing or cutting any trees which cannot be chained. This is done entirely by contract and prices have been as low as $1.00 / ac. in bush with no Jarrah and up to $1.55 in an area with 50% Jarrah.

One summer is ample drying time for light bush. The initial burn follows.

(3) Final Clearing is done using a dozer with a wide front mounted rake. Rakes up to 26' have been used. Where there is no heavy material wheel tractors drawing scrub rakes can be used for economy. This work also lends itself to contract. Windrows or heaps are formed and these can be kept burning using a small machine. The only handwork really necessary is picking up the few stumps etc. when heaps do not burn completely. Because of machine planting it is necessary to have the ground much cleaner than in hand planting. Prices have been as low as $2.20 / ac.

Plowing

Use Fordson 4 x 4 and Chamberlain tractors drawing Chamberlain 14 disc plows

Contracting has not been tried and its merits are doubtful but piecework gives indications of advantages.

Furrow Lining.

The above tractors pull twin locally made steel furrow liners. The furrows collect rainfall, reduce exposure and scrub and grass competition in the first year. This has been a wages job but piecework is a possibility.

Planting

The above tractors drawing twin two man planting machines. For odd rows, short runs etc., single two man machines are used.

Initial Supering

2 oz. per tree of either super or zinc super is applied as soon as planting is complete. Four rows at a time can be covered using four men with super bins on a specially constructed tractor mounted platform. However some is still done by each man carrying his supply of super.

Cost does not vary with the method but with need for zinc super.

Roading

In the past, surfaced roads have been conspicuous by their absence and certainly a big expense was avoided. In future for administration, speed of access, fire control and extraction reasons it is proposed to have surfaced roads at approximately $\frac{1}{2}$ mile intervals. Cost of the surfacing with limestone or marl constitutes over 90% of the total cost. Judging by recent experience a total cost of $1200 per mile is anticipated giving a cost of approximately $7 per acre, with a roading intensity of approximately 1 mile per 183 acres.

Steep country planted with P. radiata in the Blackwood Valley is roaded at an intensity of 1 mile per 50 acres and assuming it is all gravelled costs approximately $66 per acre. Initial construction without gravel costs $46 / ac.

Possible Reductions in Cost

No great reductions are anticipated. The cost effect of some refinements in clearing will be minimal. There is certainly scope for a big reduction in supering costs and ultimately it is anticipated that super will be applied at a time of planting.

Future Costs of Establishment

Looking ahead for say 10 years and basing costs on todays value of the dollar the following costs might be anticipated as average.

Initial clearing	$ 1.20
Final Clearing	2.60
Plowing	1.50
Furrow Lining	0.50
Planting	3.50
Applying Fertiliser	4.50
	13.80

These costs include all contracts, wages, plant and materials.

Perhaps one of you Radiata Boys from the fogs of the Blackwood would like to indicate how the economics of radiata on steep land compares with these figures.

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