

CUTTING AND HARVESTING THE PINE CROP

TECHNIQUES AND PRACTICES

by

P.N. Hewett

Production of pine logs as thinnings from plantation areas has been proceeding for about 35 years and the first thinnings at Mundaring were cut in 1932. Logging began on a very small scale due to the limited area of plantation and the absence of a demand for pine in a market well supplied with choice hardwoods. The knotty, non-durable pine was, understandably, considered to be inferior, and the small dimensions of early logs did little to encourage the trade.

The volume available grew faster than the demand and until 1960, even those plantations close to the Perth market were only sporadically thinned, and the buyers market tended to be prejudiced against the slightly darker, more aromatic *Pinus pinaster* while favouring the better known *Pinus radiata* which was lighter in colour, less aromatic and available in some larger sizes.

Present Practice

Demand has risen sharply in recent years and the curves on Graph 1, plotted on a semi-log scale show trends in volume utilised for various categories over an eight year period from 1960-61 to 1967-68. Logs have been grouped into four categories to avoid cluttering the graph -

Chipwood	logs for particle board and "larboard".
Mill Logs	all case and sawmill sizes.
Posts	includes struts, strainers, rails and pearling poles.
Peelers	all material which is converted to veneer or plywood.

Range of Products

Although the main volume users for pine are chipwood, case and peelers, there are many other applications including Larboard building panels, wood wool, mouldings, posts, rails, clothes pegs, treated (creosote, Tanolith) building materials, roof trusses, interior beams (laminated), furniture framing and so on. When a paper pulping factory is built in W.A. the demand will increase even further.

Sources of Supply and Processing Sites

Logs in varying quantities are being produced from sixteen plantation centres -

Pimelea	Grimwade	McLarty	Mundaring
Margaret River	Collie	Gleneagle	Gnangara
Nannup	Harvey Weir	Jarrahdale	Collier
Ludlow	Myalup	Carinyah	Somerville

Departmental sawmilling and barking now occurs in five centres - Pemberton, Margaret River, Ludlow, Grimwade and Harvey.

Private usage - logs, baulks, boards and minor produce are centred at -

Boddington	Kelmscott
Busselton	Metropolitan Area
Picton	Wanneroo

Methods of Production

All of the common methods of producing the logs are in use - day-work, piece-work, contracts.

The present system is based entirely on chainsaw felling and bucking and most extraction and loading used the Army "blitz" jib crane. There is a Skidder working at Nannup and trials with Front End forks and Massey Ferguson skidders have been carried out at three centres.

Future Development

The methods of log production, marketing and utilisation at present in use should be considered as transitional, and are subject to continuous but relatively slow changes. The handling of large numbers of small logs has always been expensive and is likely to remain so. The stumpage return for most log classes is too small to warrant expenditure on expensive sophisticated machinery unless the total through-put of logs is large in some centres, or unless the machinery is sufficiently mobile and buyer storage facilities adequate to allow seasonal operations on a multiple shift basis. Most countries of the world have found that contractors who fall, snig and haul the logs prove most effective and the trend in W.A. is not markedly different. However, there are only approximately eighty people employed in cutting and hauling pine logs at present, and these are scattered

in relatively small groups over some 14 or 15 geographical centres. It appears then that the onus is on the Forests Department to introduce a range of equipment and develop methods which overall contractors may later be able to apply.

Some progress in this direction has already been made. The F.R.I. Utilisation teams have been to W.A., there is one rubber tyred snigger working in the plantations and modified agricultural/industrial tractors are already in use.

By mid year 1969 a 4 x 4 Forwarder, a half track and hydraulic cranes will be on the job. The new equipment already at work and on order will cost some \$40,000. When this capital investment is compared with the 1967-68 total pine log volume of 47,860 loads under bark, it becomes obvious that there is a very definite limit to the amount of plant introduction that can be done. If these machines prove successful in various field conditions, it may be possible to gradually extend the range of new equipment. Alternatively the results may provide contractors with an example and an incentive to make similar progress.

Other developments overseas have occurred in two directions - log harvester machines of the Beloit type and tree felling secateurs. A harvester is being developed in Australia by the Forest Research Institute but since these machines are designed for large scale, 24 hours a day clear felling operations, their scope in W.A. is very limited. However, one local distributor has a tree secateur available mounted on a tracked vehicle, and depending upon price it could have an application for clear felling in the older plantations. Its practicability seems limited however, because trimming, cross cutting and skidding are responsible for 70% of the cost of log production.