INDUSTRIAL FORESTRY IN AUSTRALIA

By F. E. HUTCHINSON

The following notes regarding certain aspects of Australian forestry may be of interest to New Zealanders.

In the first place, commercial afforestation is on a very much smaller scale than in New Zealand. The wave of exotic pine planting by private companies which rose to such heights in New Zealand during the decade 1920-30, affected Australia to much less degree; and though forestry companies operated in all States, the areas planted were small by New Zealand standards.

There was a natural tendency to parallel the activities of the State services, and the greatest private company plantings are to be found in those States in which the planting of exotic pines formed a dominant theme in the policy of the State department, e.g. in the south-east of South Australia.

While some companies are defunct and others are now merely holding their planted areas pending maturity, a few are still actively planting, and are still securing support from the investing public on the basis of £45 per acre or thereabouts. An interesting feature of those companies still operating in New South Wales and Queensland coastal areas is the swing from *P. radiata* to *P. caribaea* as the chief species. This again parallels trends in the State services concerned.

Utilisation has commenced for a few companies, but in the main maturity is till some short distance away, and the problem of successful exploitation has still to be faced. It seems likely that the trend will be for most of these companies to go out of existence after marketing the present stand, as few are adequately placed for continuous operation on a sustained yield basis.

With a few exceptions, the established sawmilling industry took no part in the development of these exotic plantation companies; and though, as in New Zealand, the industry has developed an important exotic timber milling organisation, it operates mainly on timber from State plantations with farm shelterbelts as a subsidiary source of supply.

In general the sawmilling industry, both exotic and indigenous, is dependent on Crown timber to a greater extent than in New Zealand; though naturally conditions vary from State to State, and there are some cases, mainly in New South Wales, where extensive tracts of freehold timberland are owned by milling firms. No active steps have yet been taken, so far as is known, to organise these areas for future production. Most Australian mills are of small capacity, and are installed usually on the basis of a relatively short working life; though the much closer utilisation developed during the war has greatly extended the working lives of most.

While the dynamic nature of growth has been demonstrated in many localities where areas have been cut through three or four times
since settlement, and while the State policies of regeneration of the native hardwood stands are generally conceded to be practical, the millers seems quite content to leave all active measures for future timber supplies to the State service.

Establishment of pulping plants, however, with their much greater capital investment and much longer working life, naturally gave rise to an active concern in the permanence of the timber supply, resulting in the beginning of what may truly be termed industrial forestry. This does not mean that any of these units are yet on a sustained yield basis. All have still far to go to achieve that aim, and in some cases little concrete achievement can be shown to date; but all are now consciously working in that direction on areas over which they have secure tenure.

The Tasmanian and Victorian paper mills each hold large blocks of Crown timberland under special long-term agreements with the State Governments; while the Masonite Corporation in New South Wales has acquired an extensive freehold ownership. In all cases timber is being actively sought and accepted from other areas, e.g. farm clearings, private timber rights, and short-term Forestry licenses; and in all cases also the dominant activity at the moment is organising the supply of present standing volume to meet current needs of the plants. At the same time, the question of re-establishment is being actively investigated, and though areas successfully established to young growth are far from adequate for sustained yield, considerable progress has been made.

The writer was for the past four years Timber Supply Officer to the Masonite Corporation at Raymond Terrace on the central N.S.W. coast; and the notes which follow refer particularly to progress made by that Company.

As a general background it may be mentioned that the Company manufactures a building hardboard by means of the proprietary explosion process developed by Mason in U.S.A. in 1924. The Australian plant was erected in 1938 in a locality where timber supplies were not obviously plentiful, the district having been heavily cut over, but where coal, water, labour, transport and engineering facilities were good. When put to the test large volumes of timber were found, first, in the form of old growth left by previous operators as unusable and, second, in the form of young growth which had followed previous cutting, or which had seeded in on old clearings. Under the spur of wartime conditions, technological difficulties were rapidly overcome, and the plant was soon in a position where it could accept almost all local species in any proportion. This was of the utmost importance, as the local forests are of very mixed character, and any restriction as to species would not only have reduced available supplies, but would have greatly complicated silvicultural practice and hindered the development of management plans.

The aim was thus simply to secure an effective regeneration on all sites. With the eucalypts of the N.S.W. coast this is relatively easy as most both seed and coppice freely. They are markedly intolerant,
and in general develop best in full light; though most species are susceptible to frost during the first few years when planted out or seeding up in grass paddocks or on fully cleared areas. They characteristically develop in even-aged form following fire or the invasion of worn out pastures. Timber cutting as usually carried out in Australia is essentially selective in nature, and rarely opens the canopy by more than one-third, so that timberlands which have been exploited in this way over the past forty years have developed a group selection form. However, where clearcutting is practised, regeneration is usually complete, and initial growth and development rapid.

It was considered practicable to aim at a rotation of fifteen years to produce a net removable volume of 22 tons (approximately 700 cu. ft.) per acre, in the form of pole timber from 7 to 10 in. d.b.h. by 40 ft. of bole to a 4 in. top; felling to be by clearcutting with reservation of 5 seed trees per acre as an insurance against failure of regeneration or its loss by fire; the seed trees to carry through the next rotation and then be cut for crating logs.

In this locality all timber cutting is on a contract basis; and the first step to secure a quick and effective regeneration was to follow the contract cutters with a special gang to lop heads, fell reject trees, and generally leave the area clear for seedling and coppice regeneration. An appreciable salvage of usable timber was always obtained from this operation. Two years later, a second treatment is necessary to knock back a great deal of the coppice, leaving one good shoot per stump, and generally to thin out the saplings to approximately 8 ft. spacing. If these two operations are properly carried out the stand will develop to a satisfactory conclusion granted only adequate protection from fire.

The costs of forest production, including fire protection, rates, land tax, etc. are much higher on present scales of wages than the costs at which suitable timber may be purchased at the moment from adjoining landholders on royalty or short term timber right. However, they are quickly overshadowed by timber transport costs where the haulage distance exceeds thirty miles. With the inevitable cutting out of the nearer areas, the position is in sight where it will be cheaper to practise sustained yield forestry on areas close at hand, than to haul cheaply bought timber from increasingly distant tracts. Regeneration of cutover areas is therefore proceeding with the aim of providing for the foreseen but still distant future, rather than as a matter of immediate necessity. This in times of labour shortage takes second place to the prime need to keep the timber inflow up to the needs of a constantly expanding factory. The labour shortage is the limiting factor in the present position, and before the area regenerated annually can be brought up to the area cut over annually a large increase in rural labour is essential. This can only be secured by a housing and rural development scheme of some magnitude. However, the silvicultural basis is ready to be put into operation when conditions permit.