

examination and paper-making trials were carried out with wood freed from bark, and the results throughout refer to the air-dried wood. In the pulping trials the wood was treated with caustic soda under conditions similar to those employed for the preparation of paper pulp on a commercial scale. Results were as follow:—

	Cellulose.	Fibre.	Yield
	Per cent.	Length. mm.	Pulp. Per cent.
Black birch ...	57.3	.6	41.5
Mountain birch ...	57.8	.7	41.5
Silver birch ...	55	.7	41.5
Kamahi ...	49	1.0	36.5
Red birch ...	55	1.2	44
Tawa ...	57.2	1.0	42.5
Pinus Laricio ...	63.8	3.4	39
Pinus Radiata ...	61.8	2.3	39

"The results of the examination," comments the Director, "show that the four species of birch yielded pulps of similar character, which bleached readily and furnished fairly strong papers of good quality. The yields of pulp were fairly good (41.5 to 44 per cent.), that from red birch being the best. The tawa wood also gave a fairly good yield of pulp (42.5 per cent.), and yielded paper of similar quality to that obtained from the species of Fagus. The kamahi wood gave a rather low yield of pulp (36.5 per cent.), which, however, bleached satisfactorily and had good felting properties. The strongest papers were obtained from the woods of Pinus Laricio and Pinus Radiata, but the pulps from these woods did not bleach quite so readily as those from the other six samples. The yields of pulp were, moreover, only moderately good (39 per cent.), and, owing to the presence of numerous knots in the wood, a larger amount of caustic soda was required than was the case with the other timbers.

"All these timbers may, therefore, be regarded as suitable for the manufacture of paper pulp in New Zealand, if available in sufficient quantities, but before the manufacture of pulp is undertaken on a commercial scale a number of factors will need careful consideration. These include:—(1) The quantity of wood which will be regularly available. In this connection it seems probable from the results of the trials described in this report that the woods of the four species of Fagus and those of tawa and kamahi might be used in admixture. The woods of Pinus Laricio and Pinus Radiata, however, require more drastic treatment, and should therefore not be mixed with the others. (2) The price per ton at which the wood could be delivered at the pulping mill. (3) The selection of a suitable site for the mill. This should be situated in a locality provided with good facilities for transport (by rail or water), and with an ample water supply. (4) The cost of erecting and equipping the mill. (5) The cost of fuel and chemicals. (6) The cost of superintendence and labour. (7) The value of the pulp in New Zealand and Australia as

a substitute for the wood pulp at present imported. These questions will be investigated in detail by the State Forest Service, and a report on the commercial aspects of paper-making furnished on completion."—*Evening Post*.

## Pinus Insignis.

### TWO VIEWPOINTS.

As showing the value of tree-growing, a pinus insignis planted 38 years ago at Motueka was recently cut down and sawn into timber, which brought £15 royalty at 5s. per 100ft.; branches converted into firewood paid over £10; 40lb. weight of seed sold at 5s. per lb. (£10), and the dried cones sold at 2s. per sack, the total received being £42 12s. An acre of ground would carry probably 25 such trees, giving a return of £1,065. The tree in question was grown on comparatively poor stony soil at Hau, Motueka. It gives an idea of the wealth to be derived from planting areas unsuitable for agricultural purposes.

The other side of the picture was shown at a Forestry meeting held at Nelson, when Mr. C. R. Fell raised a very important point bearing on the planting of pinus insignis on a commercial scale by private individuals. He stated that there would be a wait of about 25 years before the trees would be ready for milling, and the planter would be out of his money for that period. Then, according to the present law, there would be income tax and super tax to pay on the income received from the trees if it was substantial. The income should be spread over the whole period of waiting. It was a matter that should be cleared up at once, as it would affect prospective planting. With this point settled in favour of the planter there was no life insurance policy which could offer attractions to equal the planting of pinus insignis. The chairman (Mr. A. Gilbert) said the point raised by Mr. Fell was one that should be taken up at once by the Chamber of Commerce.—*Wairarapa Age*.

## Fruit Case Supplies.

### NO NEED TO GO OUTSIDE NEW ZEALAND.

Amongst the suggestions made at the annual conference of the New Zealand Fruitgrowers' Federation was one that as a consequence of the difficulty of obtaining a satisfactory supply of fruit cases in New Zealand a ship-load of box shooks should be imported from America. This matter was referred to Mr. A. Seed, Secretary to the New Zealand Sawmillers' Federation. He stated that at present there was no shortage of timber for fruit cases, and that this position was likely to continue for many years. Moreover, the importation of the grade of timber necessary for fruit cases was a most serious matter to the sawmilling industry, and to the interests of forest conservation, thus meaning