EXPECTED AFFORESTATION RESULTS.

Although a very large proportion of the trees planted out on the various areas will not reach maturity, owing to repeated thinnings, yet it is expected that a sufficient crop will attain full size to produce an appreciable quantity of milling-timber in about fifty or sixty years from now, and that each successive year will produce a further supply to assist to meet the current demand. No precise figures can, of course, be given as to the amount of such annual crop, but an approximate idea may be gathered from the following calculations: Professor Schlich, a leading authority, in Part I of his "Manual of Forestry," estimates that one acre of larch will produce,—

Thinnings at the age of	20 years	..	20	cub. ft., quarter-girth measurement.
,, ,,	30 ,,	..	130	,, ,, ,,
,, ,,	40 ,,	..	330	,, ,, ,,
,, ,,	50 ,,	..	360	,, ,, ,,
,, ,,	60 ,,	..	360	,, ,, ,,
Final yield at the age of	70 ,,	..	3,900	,, ,, ,,

The chief species grown in our plantations have been larch, pines, and eucalyptus. It is thought that, owing to our favourable climate and the pumice soil on which a large proportion have been planted, similar results may be expected somewhat earlier, and that the final crop may be milled in sixty years' time instead of seventy years. In section (B) of Part V Mr. Goudie, the Superintending Nurseryman for the North Island, gives his anticipated results. It may be pointed out, however, that, if Professor Schlich's expectations are realised, our larches and pines will probably produce more than 30,000 sup. ft. of milling-timber (as Mr. Goudie anticipates) to the acre, and that we may hope for an output of from 40,000 to 50,000 sup. ft. to the acre at the end of sixty years. The late Mr. Matthews, Chief Forester, in section (A) of Part V, anticipated that 30,000 sup. ft. per acre would be available in fifty years' time, and it seems reasonable to reckon on a considerably greater supply if the trees are allowed to remain in the ground another ten years.

Now, the rate of planting necessarily varies, and the preceding three years has seen,—

In 1906–7,	1,992½	acres planted with	5,209,228 trees;
,, 1907–8,	2,656	,,	6,440,785 ,,
,, 1908–9,	2,709	,,	6,231,479 ,,

which gives an average planted area of 2,452 acres per annum.

If we assume that an average yield of 40,000 sup. ft. per acre will be experienced, then we may anticipate a total crop of about 100,000,000 sup. ft. per annum, exclusive of the periodical thinnings, from the present rate of planting. As pointed out, the expected timber-demand will be about 500,000,000 sup. ft. per annum at the same period, leaving a fairly large deficit to be supplied from foreign sources, or to be met from the remaining patches of indigenous forest.

With regard to the profitable utilisation of our lands in this manner, it may not be out of place to again quote from the "Manual of Forestry," in which Professor Schlich calculates that "a proprietor will get 5 per cent. *compound interest* on his outlay if he plants land valued at £1 or £2 an acre in larch." In making these calculations he has assumed that it costs £4 10s. per acre to plant land with larch if a considerable area (such as 1,000 acres) is planted; that the cost of looking after the plantations, including rates and taxes, is about 4s. an acre per year all round up to the time when the crop is cut over, allowing five days' labour per acre per annum; and that the prices realised from the sale of the larch amount to a total of £238, which includes the final crop at seventy years of age (£195 for 3,900 cub. ft.) and the periodical thinnings. Of course, conditions in this Dominion vary considerably, but it does not seem out of the way to expect that we can attain very encouraging results, which will more than justify any expenditure on our nurseries and plantations. The great State forests of France and Germany require the services of one man to 75 to 100 acres, and annually show large profits.

FOREIGN SUPPLIES.

An endeavour has been made in Part IV to show what countries are likely to be in a position to export timber suitable for our requirements. It would seem that the bulk of our pine-imports must come from Canada, or perhaps Manchuria; that Australia will still be able to furnish hardwoods and eucalypti; and that no great supply can be reckoned on from elsewhere. The outlook, therefore, is not too promising, for, vast as the western Canadian forests may be at present, the certain enormous drain on their resources from the United States will diminish the supply available for other countries, and a higher price will have to be paid gradually for the timber that is purchased in America. It therefore seems certain that the present tree-planting operations can be expanded with advantage, and that by so doing New Zealand will act wisely.