

is 3½d. per 100 ft., equal to £2 per acre, an amount that would not even dig the holes for replanting, to say nothing of the cost of trees, planting, fencing, maintenance, thinning, or allowing for rent of land occupied or interest on capital.

It has often been said that there would be a substitute found for wood, but up to the present no suitable material has been discovered. The great majority of all buildings are made of it, and it is an essential necessity in all those which are nominally built of stone or brick. It is indispensable in the building of vessels, vehicles, railway rolling-stock, furniture, sleepers, bridges, and in many places as fuel. Entering as it does into the multifarious uses of civilisation as a constituent of so many of our manufactures, and nearly all our structures, it forms an element in our industries which cannot be gauged by mere statistics.

Nature has wisely provided that timber will flourish on lands either too poor to yield profitable returns under cultivation or too steep even for grazing purposes. Lands of these descriptions should be for ever devoted to the purposes for which they are naturally adapted and intended. Deprived of their forest covering they are not only rendered valueless, but through their natural barrenness so far as regards herbage landslips are formed—at first comparatively small, but subsequently increasing in size until whole hillsides are on the move to the lower levels. Nothing that man has yet devised can prevent even in a small measure this ever-increasing waste of property. Examples are frequent throughout the colony, notably on the Manawatu Railway-line and around Picton and the Kaituna Valley. The conserving of forests for the wants of the future have been entirely overlooked during past years in the anxiety to satisfy the current wants of the present, and it is undeniable that something should at once be done to protect our forests, if only to guard against their exhaustion. Legislation, however much it may aid, will not alone prove adequate; care under skilled direction is necessary. If remedial measures had but kept pace with destruction the resources of our forests would continue to supply legitimate wants without evil consequences ensuing. To husband the gifts which nature has provided is a matter of extreme importance, and there is perhaps no more effectual way of accomplishing this end than by striving to create a sense of the intrinsic value of our forests. It is not without outlay that the evil consequences of a too extensive encroachment on nature's gifts can be warded off until a state of equilibrium is brought about by a more liberal expenditure in afforestation. Delay means that destruction will continue, and total extinction be reached at a rate proportionate to the increase of settlement. If our annual output of timber, now (1901) over 261,500,000 ft., is to be maintained until artificial plantations are ready for the axe precautionary measures by protection and greatly increased planting operations will have to be adopted; otherwise there will eventually be a period of complete cessation of our timber industry. With an export trade averaging £200,000 per annum during the last ten years, a wages bill of over half a million for the payment of 6,812 hands employed, and a total value of manufactures for the past year of £1,268,689, surely our remaining forests are worthy some attempt by way of conservation.

One of the chief difficulties that forestry has to contend with in widening its sphere of operations is the scarcity of men acquainted with its practical details. It may be said that competent foresters could be obtained from Europe or elsewhere, but experience has shown that such men require several years of colonial experience before they can be placed in positions of responsibility. The system of nursery-management and methods of plantation-work in practice in Europe, where the cost of labour is less than half that ruling in New Zealand, are quite unsuitable for the altered conditions of labour, as well as of soil and climate, in this colony. Here horse-labour is used to cultivate the soil, and even turn the furrows against the young trees in the nursery rows; but in Europe all work of this description is done by manual labour. This is merely an instance amongst many to show that if continental methods were practised in New Zealand the cost of growing two million trees per annum would be £2,000 instead of £1,000, the sum they are now produced for. It is a matter for serious consideration whether an attempt should not be made to afford facilities for the education of colonial youths in forestry-work in connection with one of the already established State nurseries.

#### ARBOR DAY.

The celebration of Arbor Day was introduced into this colony by the Department of Agriculture in 1892, and during the ten years that have elapsed the movement has not been as successful as was anticipated. One or more pamphlets have been prepared and distributed setting forth the advantages likely to be attained by tree-planting on reserves, school-grounds, &c.; and an exhaustive list of trees and shrubs suitable for planting in various situations was also presented. Personally, I venture to express the opinion that the time is not yet ripe for the success of this movement in New Zealand. The energies of the Department should, I think, be confined to the publishing of pamphlets on tree-raising from the seeds through the various stages until fit for permanent planting; another publication might be prepared dealing with the planting of trees for both ornament and utility, their suitability for different soils and situations; and possibly a third publication on after-management of plantations.

The Department of Agriculture suggest that the direction of Arbor Day celebrations should be taken over by the Forestry Department on the grounds that "interest has been awakened and is dying for lack of tangible help in the shape of trees," and "that trees be grown and given gratuitously to all who may apply for and satisfy the Department that they have suitable land for planting them." As I pointed out in my reply, the suggestion is an excellent one in theory, but a difficult and costly one to carry out in practice. To carry out the proposal with any likelihood of success would necessitate the establishment of one or more nurseries in each provincial district in order to grow trees in similar soil and climatic conditions to the locality for which they are intended. For instance, trees grown in the pumice lands of Rotorua would be an utter failure if transferred to the clay lands around Auckland and other similar formations, and in the same way trees for planting in Central Otago must be grown within that region, owing to the extremely rigorous climatic conditions obtaining. If every person in New Zealand who has suitable land and was willing to plant trees were provided with his requirements at Government expense, the outlay would be enormous within a very few years. Beyond producing shelter around homesteads and beautifying