

Well-seasoned pine timber possesses the valuable properties of being easily worked and but little liable to shrink or warp when exposed to the atmosphere. Among the many useful things into which it is chiefly converted may be mentioned flooring, skirting, and weather boards; joists, rafters, doors, window frames, laths, and battens, for buildings; and it is also used for boat and yacht building.

From examples of the growth of pines, embodied in this report, it would appear that the kinds of soft wood conifers from which our imported deals and sawn timber are mostly obtained, grow vigorously and with great rapidity in the gardens and grounds around Melbourne, and it is presumed that they would thrive quite as well on properly selected sites in the State forest reserves. We are therefore of opinion that, by judicious planting operations, we might, at no distant time, become independent of foreign countries as regards this timber, and open up a large field for remunerative labour, in the conversion of it to the various purposes for which it is required.

The following is an estimate of the probable yield per acre that plantations of pines would produce in this Colony, in situations suitable for their culture, on the supposition that they are planted at the maximum distance of 5 feet apart:—

	Number of Trees Felled.	Estimated Number of Pit Props.	Estimated quantity, in superficial feet, of Boards from 6 inches to 8 inches wide, and 1 inch thick.
First thinning in 10 years	500	500	...
Second " 15 "	500	1,250	...
Third " 21 "	250	1,000	...
Fourth " 27 "	200	800	27,000
Fifth " 33 "	150	450	58,500
Sixth " 40 "	142	426	114,456
	1,742	4,426	199,956

The above estimate is intended to represent the production of land planted only with pines; but, as it would be desirable to cultivate many other kinds of valuable non-indigenous and indigenous timber trees, the system of mixed plantations should in most cases be adopted, in which pines would bear a large proportion, and would shelter and nurse the growth of the less hardy trees in their early stages.

In thus directing attention to the commercial value of pine timber, we would recommend the extensive introduction of coniferous trees into the State forests of Victoria.

The Influence of Forests on Climate.

Irrespective of the advantages to be derived from a cheap and abundant supply of useful timber, we would remark that the systematic planting and conserving of forest trees in this Colony would, in all probability, effect a most beneficial and desirable change in our climate, locally, by modifying extremes of temperature, and increasing the humidity of the air, by causing a more continuous rainfall in districts that are now subject to long and excessive droughts.

In illustration of this branch of the subject, we would observe that trees screen the sun's rays from the earth in a greater or less degree; and they are supposed to act as a mechanical impediment to the passage of winds, even to some considerable distance above their height, and to exercise a beneficial influence upon lands lying to leeward of them, by protecting them in a great measure from the effects of cold or parching winds.

Trees increase the humidity of the air. They absorb large quantities of moisture from the earth through their roots, the most of which is returned to the atmosphere by transpiration, or exudation from their leaves and branches. They also lower the temperature of the air in their immediate vicinity, by the large surfaces presented by their leaves and branches, which are either cooled by radiation, or, when moist, lowered to the temperature of evaporation.

The vegetable mould formed by the decomposition of leaves and wood not only enriches the surface soil, but causes it to become much more absorbent, and, from its spongy nature, to retain a large portion of the rainfall that would otherwise drain away by percolation at great depths, or flow off rapidly by surface channels. It is chiefly due to this that in dense forests heavy rains do not cause such violent floods as in open country.

It is well known that the clearing of forests in the Alpine districts of France was attended with disastrous consequences: it greatly increased the violence of floods, and decreased the regular supply of water from springs and surface drainage. The excessive degradation of the mountain slopes, caused by the rapid drainage and violence of the floods, since the clearing of the forests in some of these districts, has silted up river beds and laid waste large areas of fertile land.

Many other instances might be cited referring to lands in Spain, in Palestine, and other parts of Asia and in Northern Africa, that were once fertile and flourishing, and which have now become arid wastes by the destruction of their forests. On the other hand, the aridity of large tracts of land in the Landes, and in Algeria, has been subdued by the planting of those tracts with forest trees.