

PINE PLANTATIONS.

In his official report Mr. R. W. Phipps gives the following account of his personal inspection of pine plantations on the Massachusetts coast:—

All this country around was occupied long ago by the earliest settlers—the men of the Mayflower period. This is the "old colony" of Massachusetts. This rolling land near the sea was rich, was heavily forested, was cleared, cropped and re-cropped, till its fertility was gone. Long lines of ruinous stone fences, centuries old, recall the period when the soil was worth such careful division. Much of it had long lain idle and barren, the home of a few wandering sheep, in great areas of wind-swept hills and hollows, and in sheltered places, some growths of the most fertile soil. Just here was peculiarly barren. Twenty-five years ago one gentleman, Mr. Fay, began to plant pine trees largely, and still more largely to sow their seed broadcast. Many followed his example, and groves sprung up in all directions. There are now more than ten thousand acres of pine plantations, sown or planted, in this vicinity alone, many of them containing trees forty feet in height.

This planting has greatly sheltered and improved the country, and re-settlement—the influx of the class of residents before mentioned—followed fast on the growth of the trees. In one place I was shown what conclusively proved the case of tree planting on hills to hold moisture. "This twenty acres," said one resident, "which, as you see, is high land, when treeless, every spring poured down such floods as filled all the deep gullies around. Now that I have had it for years in groves of pines, the moisture is held in the land, and there are no torrents in spring whatever. The water goes the year round to nourish the creeks." The result of planting in this district is, in fact, that while here twenty years ago was little but a succession of bleak and barren hills, there is now such scenery as my first paragraph described. Nor are the planted groves of small extent. One gentleman, showed me eighty, another one hundred and twenty acres, in one block each, planted by themselves, of rich pine plantations, the trees being 30 and 40 feet in height.

What I want to give my readers an idea of is the way in which this result was secured. Either the seed was sown broadcast on a rough pasture field, or it was sown in the bottom of plough furrows run across the field five feet apart and covered half an inch, or the small pines were taken less than a foot in height and planted with the spade five feet apart each way. These methods have each met with excellent success. The land is a light and rather barren sandy loam, much of the same kind as our poorest Ontario soils. As to the kinds used, they are the Scottish, Austrian, Corsican and our own native white and red pines. Planting and sowing are each done in early spring.

There is no reason why these methods should not succeed in Ontario. Whoever wants a good plantation along the north or west of his lot, or has anywhere—in gully, or field, or hillside—land which gives little return, could not do better than sow it with pine seed. It is easily obtained, easily sowed, and in a few years the annual thinnings will give all the pine fuel he can use, and sticks for many building purposes besides, while as shelter the trees will be invaluable. Words can hardly tell the difference in climate obtained by a thick pine wood along the north and west of a farm. Of course if the planter be disposed to purchase young seedlings—which can be had at less than a cent apiece—he saves some years. But many rough places could be much more easily sown than planted.

James H. Bowditch, Esq., gives the following valuable statistics in reference to these plantations:—

It is here we find the native pitch pine (*Pinus Resinosa*) grown from seed almost as easily as the ordinary garden vegetables, the sandy soil and moist atmosphere favouring its early growth. No old planter on the Cape would think of planting seedlings; he invariably sows the seed. Now, where are these plantations, how are they managed, and who are the owners? Let us begin at the end of the Cape and work south.

A five hours' drive from Boston on the Old Colony railroad brings you to north Truro, the next town to Provincetown, at the extreme end of Cape Cod. Near here we find twenty different parties whose plantations cover in the aggregate 662 acres, all planted from seed, and all consisting of the common pitch pine, in the various stages of growth, from 1 inch to 15 or 20 feet. As our object is to know just how these plantations are cultivated artificially, we will explain briefly in detail.

Ten years ago these well nigh barren and entirely profitless lands could be purchased for 25 cents per acre, now, in the same unimproved condition, they are worth in no case less than \$2 per acre; not a very heavy price you may think, but when a man sells by the hundred acres it makes a difference in the value received. These broad acres have usually no vegetation whatever, save a light growth of the coarse beach grass, and, in some localities, the low-spreading poverty grass, so-called, and a little moss.

In most cases there is no fencing whatever, a fact greatly to the advantage of the planter in his profit account; the division line between different owners being frequently a simple plowed ridge. We now have the land for planting.

Just before the first heavy frost, usually the latter part of October, the seed is gathered in burrs, balls or cones (thus variously called) from the pitch pine trees, put up in barrels or boxes, away from mice and squirrels, in a cool place, and before spring they will have mostly opened, when the seeds can easily be taken out. Some people heat them a trifle in the oven to make the seed render a trifle more easily, but it is a dangerous practice, and likely to injure the germinating power.

From one to three-quarters of a pound of clean seed is ample to plant an acre of ground. They may be planted at any time in the year, but probably the best time is early spring, as soon as frost is out of the ground. The method now most generally followed, where from 10 to 50 acres are to be planted, is to run a plough over the whole track, turning a single medium furrow, the furrows being five or six feet apart. A few planters make the distance apart four feet; a few from eight to ten feet.

The seed is either planted by hand in hills about three feet apart, dropping three or four seeds in a place, and just covering it very slightly with earth, with a hand hoe, or a regular seed planter is used. The latter is probably the easier method, the one most generally practised, and often quite as successful as the more laborious hand planting. A boy may follow after and cover any seed left exposed. If the cost of planting is variously estimated at from \$3 to \$5 per acre. The market value for seed last season on the Cape ranged from \$1.25 to \$1.50 per pound. It takes about a bushel of cones to render a pound of seed. After planting, no further care whatever is given to the area so stocked in most cases. In some places there may be gaps fifty feet long, but these spaces fill up in time of themselves from seeds of the young growing trees. If you hire a team and drive over the country, a look at the various plantations will abundantly repay an interested observer. A fifteen acre piece with trees about three or four years old, said to belong to Mr. Harvey Collins, seemed very thick and thrifty.

Mr. John Henricks has tried the following two seeds, namely:—White and Norway spruce (*Abies Alba* and *A. excelsa*), white, Austrian, Scotch and Corsican pines, (*Pinus strobus*, *P. austriaca*, *P. sylvestris* and *P. laricio*). The experiment was made in this wise: A tolerably good soil was well ploughed and prepared, and seed planted about one quarter of an inch deep. The whole was covered with boards at first, raised slightly when the seeds sprouted. The white and Norway spruce and white pine seeds scarcely germinated at all. The other germinated and grew well, when planted in cultivated land or nursery rows. When planted in furrows or hills in sward land, they suffered from drought, and made but slight growth. Probably not over twenty one per cent. of the hills are now standing. The Scotch pine did somewhat the best.

In this method of planting forests, whether

by broadcast or furrow planting, it is necessary of course, in order to cover the ground, at first to raise far more trees than are ultimately needed, and it has been long a disputed question whether it is best to let a young forest thin itself, the stronger trees killing out the weaker, or whether, after a time, to thin out artificially.

Some gentlemen here are of opinion that it is better to thin by hand. In support of this opinion an interesting illustration is given by the Hon. Levi Bartlett, of New Hampshire. In that state a tract and been cleared and burned over in a very dry season, about the year 1800. It immediately seeded itself with white and Norway pines, and about twenty five years after came into his possession. He at once thinned out the growth on about two acres, taking over half the number of the smallest trees, the fuel much more than paying the expenses of clearing off. From that time nothing was done with the lot for the next twenty five years—having sold it, however, during that time. Upon examining it he found that, by a careful estimate, the lot which had been thinned was worth at least a third more per acre than the rest which had been left. It was worth at that time at least \$100 per acre. He thought that had the land been judiciously thinned yearly, enough would have been obtained to have paid the taxes and interest on the purchase, above the cost of cutting and drawing out, besides bringing the whole tract up to the value of the two acres which had been thinned out.

At the time when this part was thinned, twenty-five years from the seed, he took a few of the tallest, about eight inches on the stump, and forty to fifty feet high, and hewed them on one side for rafters for a shed. At the next twenty-five years, fifty from the seed, he and the owner estimated that the trees left on the two acres would average six or eight feet apart. They were mostly Norway pines, ten to twenty inches in diameter, and eighty to one hundred feet high. He was greatly surprised seven or eight years after to see the increase of growth, especially the two acres thinned 30 years before. The owner had done nothing, except occasionally cutting a few dead trees. It was now the opinion of both that the portion thinned out was worth twice as much as the other; not, however, that there was twice the amount of wood on the thinned portion, but from the extra size and length of the trees and their enhanced value for boards, logs and timber. There were hundreds of Norway and white pines that could be hewn or sawed into square timber, from forty to fifty feet in length, suitable for the frames of large houses, barns and other buildings. There are some dead trees on the two acres thinned at an early day, but they were only small trees shaded out by the large ones. On the part left to nature's thinning, there was a vastly greater number of dead trees, many of them fallen and nearly worthless. Of the dead trees standing cords might be cut, well dried and excellent for fuel. Estimates were made that this woodland would yield 350 cords of wood, or about 150,000 feet of lumber per acre. Allowing that these were too large, the real amount must have brought a very large profit on the investment.

The opinion of leading planters of trees here of sowing or furrow is that, though not so successful with these, owing to the strong sea gales, as the pitch and Scotch pine, yet that the white or red pine would grow well from seed, by either method, in Ontario. As before remarked, there is much land in Ontario, side hills, waste sandy plains, burnt lands, and so on, where, if successful, the experiment would prove most valuable. If the ground be such as to receive the seeds—that is not a sod or hard clay—broadcast will do; if harder a furrow is easily made. The shade of surrounding woods, if not too dense, will not injure—a partial shade, in fact, is always beneficial. Wherever the pine trees are being cut down the large cones could be easily gathered, and put away till spring in a dry place, secure from mice when the weeds will easily drop out. There is no reason why this should not be done over much land, useless now, but which would then, for shelter and ultimate wood, be very valuable.

Subscribe for the CANADA LUMBERMAN.]

GATHERING IN SOUTHERN PINE

A dispatch from New Orleans, of July 4th says:—On Monday last 20,000 acres of pine lands were entered in a body in Calcasieu and Vernon parishes in this state by a firm from Grand Rapids, Mich. During the last three or four years western firms, mainly from Chicago and Michigan, have gobbled up all the good pine land in this state and Mississippi. This has been done so quietly that the local saw mill men avoiko to the fact that all the good timber in Louisiana had been cornered by Chicago dealers. The fiscal year for the Louisiana land office expired June 30th. From 1882 to June 30th, 1886, no less than 1,150,532 acres of pine lands have been purchased, largely by western speculators and investors. This includes one fourth of the long leaved pine lands of Louisiana and about one half of what the Government owns in the state.

As the land entered is all selected, it naturally embraces the best. What remains unsold is generally of inferior quality and poorly wooded. The purchasers sent surveying parties down here to examine and report on the yellow pine of the south, the quality of the lumber and the value of the land. These reports were favorable and the western men went to work at once buying right and left, but very quietly and without attracting attention. The cost of these initial surveys and selections was only \$70,000. The lands themselves were purchased from the Government at \$1.25 an acre and probably cost the purchaser altogether not over \$2 per acre, making the total cost of these tracts \$2,300,000. They will average 10,000 feet of merchantable timber to the acre, 11,500,000,000 in all, or nearly one-half the amount of long-leaved yellow pine in Louisiana. The lumber at the mill is worth \$7.50 per M foot, so that the owners of those lands can hope to receive \$80,000,000 for their purchase, even if there should be no improvement in the value of their lumber, which is highly probable. It will be seen, therefore, that they have made extremely good investments, from which they may be expected to receive handsome profits at an early day.

The system pursued in Louisiana has been similarly carried out in the Mississippi and Texas. In Mississippi western men have bought 775,000 acres of pine lands, and in Texas 900,000 acres. There have been recently large shipments of this southern pine north. Only a few weeks ago 3,000,000 feet of it were shipped on one contract to Philadelphia, while Texas is sending a large quantity to supply Kansas and other prairie portions of the far west. But comparatively little has been done to develop these lands, and the purchasers seem disposed to make no attempt to do so, but to wait for an increased demand for lumber and improved prices in consequence of a smaller supply from the western states, like Michigan.

The recent heavy purchases have been due to the fear that Congress would withdraw the lands from the market and place them among the homestead entries. The investors are accordingly taking up all the best lands so as to secure them before congress passes one general law prohibiting the sale of tracts larger than a few hundred acres. This they have very effectually done, and Chicago, Saginaw and Grand Rapids capital will control the lumber industry of the southwest as effectually as it does to day the lumbering in Michigan and the west.

Operations on the Saguenay.

QUEBEC, July 17.—Numbers of vessels are loading this year in the Saguenay for the account of Messrs. Price Bros. & Co. The cut of logs in the Saguenay district was very large last winter, and in most of the establishments on the North Shore, operations were conducted entirely on Messrs. Price Bros.' account. In the vicinity of Chicoutimi three hundred thousand logs were cut, and from Grande Baie from sixty to eighty thousand. At St. Elenna Bay the cut was over a hundred and twenty thousand and logs, the St. Marguerite river, and at Sault au Cochon eighty-one thousand. At the little Bergeronnes, eighteen thousand logs have been cut. The Messrs. Price have also bought the deals produced by the logs cut by the English Company of the Seigneurie of Mille Vaches, the site of whose operations is Portneuf on bas.