

# THE CANADIAN LUMBERMAN



Published Semi-Monthly. The only Newspaper devoted to the Lumber and Timber Industries published in Canada. Subscription \$2.00 per Annum.

VOL. I. PETERBOROUGH, ONT., JUNE 1, 1881. NO. 15.

## FORESTRY AND ABOICULTURE.

BEING THE FOURTH CHAPTER OF THE REPORT OF THE ONTARIO AGRICULTURAL COMMISSION.

### Cultivation of Forest Trees.

The mode of cultivating forest trees is the next matter to claim attention. This may be accomplished either by raising trees from the seed, or from cuttings, or by transplanting them from the nursery or the woods.

If it be desired to raise trees from the seed, attention must be paid to the time of gathering, management, and planting. The soft and silver-leaved maples and elm mature their fruit in June; the sugar, Norway, sycamore, and some other maples, ripen their seeds later in the season. Acorns, walnuts, chestnuts and other nuts ripen in the fall. All seeds should be sown as soon as gathered, but the fall seeds may, if more desirable, be kept in a box mixed with sand until the following spring. Acorns and nuts being liable to be disturbed by squirrels are often preserved in this manner. They should be kept in a cool place, and where they will not become too dry. The elm and maple if favorably situated will make very good growth in their first season, when sown immediately after gathering. Red cedar berries should be bruised in March, and mixed with a quantity of wet sand. In three weeks the alkali will have washed clean from the pulp and planted.

But many people will prefer a less tedious and equally cheap method of acquiring a stock of young trees. Mr. Bucke, of Ottawa, gives some useful hints on this head:—

"There has been a good deal of talk before the Commission about growing trees from the seed, but if I were going to plant trees, and particularly maples, I would go into the woods and pull up seedlings a few inches high, as I am convinced they will succeed better than by any planting of seeds. I planted a number in that way, and they are the best lot of young trees I have of. I planted them in nursery rows, about six inches apart in the row, and I have succeeded in raising a large number without using any. I trimmed the roots before planting. There are both hard and soft maple found in the ordinary maple bush, and I think birch could be propagated in the same way."

Mr. Bucke further stated he had collected and planted elm seedlings in the same way as the maple. Seedling trees thus taken early from the bush, should be kept in the nursery for a couple of years and then planted out. With regard to the spruces and other coniferous trees, Mr. Leslie says:—

"There is no difficulty whatever in transplanting these trees from the woods when young, it is simply a matter of keeping the roots moist while out of the ground. I would recommend that they should always be planted in nursery rows before being permanently placed in posi-

tion, and if they have ugly tap roots these should be cut off. I would not recommend that the tops should be cut, there is no necessity for doing so, and it destroys the symmetry of the tree. There is no necessity for cutting the tops of deciduous tree seedlings."

Mr. Arnold says on these points:—

"Unless trees have been prepared by transplantation, the smaller they are planted the better. They should not be over a foot high, unless they have been so prepared. After they are planted I would cultivate the soil the same as for corn or potatoes. I would plant the trees at first with a view to thinning them out. As to the cost per acre, the small trees could be supplied for five dollars per hundred. The planting would be about five dollars per hundred, that is, for nurseryman's trees, about one and a half feet high. I would not recommend the planting of such small trees, but I would have them properly prepared to plant when they were two or three feet high. They would then cost about twenty dollars a hundred when planted. Some varieties of oaks, walnuts, etc., could be raised from the seed by farmers if they attended to the matter, but I find it more profitable for me to send and buy my trees one or two years old from those who make a business of raising them. The raising of forest trees from seedlings is a business by itself. It would pay better to import some from France and England than to grow them, as they have to be shaded. Young trees should be grown in a seed bed, before being planted out, about two years, and then should be re-transplanted every two years until they are put where they are to remain."

Of trees of a larger growth than seedlings in their first or second year, Mr. Roy says:—

"In transplanting trees the smaller the better. If you get a tree four or five feet high you may replant it, but my experience is that the sooner you begin to transplant the trees the better. I usually transplant fruit and other trees in the fall. The strongest and almost only reason I have for transplanting them then is that I have more time to do the work then. I think it is a good thing to cultivate around a tree. I don't think it is good to cultivate around a peach tree in a rich soil, because the tree gets too much wood in the fall, and the frost comes on and kills it before the wood hardens. As regards forest trees, I think they would succeed better for a few years if cultivated around. After they get fairly growing I don't think cultivation would be required."

Senator Allan on the replanting of forest trees remarks:—

"Take, however, even an ordinary sized farm, say of 200 acres, and if planting is to be carried on to any extent, trees from the nurseries will be found rather too expensive a luxury, and the farmer must rely upon what he can obtain from the nearest woods.

"Those—if carefully transplanted, and in the case of evergreens more especially, of not too large a growth, when moved ought to succeed perfectly, or at least there should be a very small percentage of loss.

"Of our native evergreens, the white pine, black and white spruce, and white cedar, can all be easily transplanted.

"The red or Norway pine, than which there is no handsomer tree when allowed to grow singly and with plenty of room for the spread of its branches, is very difficult to move, and will not generally succeed, unless taken up with great care when very young.

"The hemlock spruce, one of the noblest and most picturesque of our native evergreens, is of very slow growth, and is also difficult to transplant, except when very young, but both it and the white cedar make most excellent hedges.

"Of our deciduous trees, the elm, ash, beech, oak, and maple, are the most generally and easily obtainable. The maple (both of the hard and soft varieties) bears transplanting remarkably well, and grows rapidly. The different varieties of elm can also be easily moved, so also the ash. The oak, both white and red, as well as other varieties, is difficult to move with safety, and is of less rapid growth than either the maple or the elm.

"The butternut, if transplanted when young, succeeds well. The walnut and sweet chestnut I have no experience of, except as transplanted nursery trees. Take, however, all the others I have named, both evergreen and deciduous, and they can generally be obtained in most parts of Ontario, without having to go any great distance to find them."

As the tree to be moved increases in size the more care is needed in its treatment. It is a good plan to select trees growing as near the edge of the woods as possible, their situation having been less sheltered, the exposure to which removal subjects them is less felt. As to the preparation and removal of forest trees Mr. Arnold says:—

"We prune the roots with a spade. In the case of trees which have not been transplanted, and trees, say four, five, or six feet high, which have not been moved lately, we send out a man in the spring to cut off the roots about a foot from the stem. In the fall, in digging them up, you will find abundance of fibres, and unless this is done it is dangerous to remove them at that age. If people transplanting from the forest would go about this time (June) and cut off the roots a few inches from the stalk, and go next year and dig them up, they would find no difficulty. In moving trees it is better to cut off the tap roots. For instance in growing peaches it is the practice of many to put peach seeds in sand in the greenhouse until they germinate. There is a long tap root which we pinch off, and when we take it up afterwards we find a mass of fibres. In fact the tap root is not

essential to the future growth of the tree. As to the branches, I would not touch them until I came to transplant. When we dig them up we have to cut off a portion of the roots, and it is necessary to take off about the same proportion of the branches. The root vessels cannot draw sap enough to supply all the leaves unless this is done. The reason I would give for pruning with a spade is, first, that it prevents injury to the root while the tree is being finally moved, second, it produces large growth of small fibrous roots within a limited space, and this adds to the nourishment of the tree."

The distances apart at which trees are planted, when set in rows for ornament, or shelter for cattle in fields, will have to be decided by the nature of the tree, and will run from ten to thirty feet, according to circumstances. For forest planting, the trees being in that case small, they may be planted from three and a half to four feet apart in each direction. This will admit of cultivation by horse power. As the trees grow they will be thinned out, any casualties, on the other hand, being supplied by new plantings.

In Dr. Hough's report the following table is given, showing the number of trees upon an acre at a given distance apart, and the number that might be left at different ages, with the proportional value of the thinnings taken at the several ages:—

Age.	Distance apart.	Trees to the acre.	Proportional value of each tree remaining to total thinning.
10 years.....	ft. in	3,097	per cent.
15 ".....	3 0	2,792	8.2
20 ".....	4 0	2,011	6.5
25 ".....	4 7	2,077	10.5
35 ".....	5 6	1,440	22.1
43 ".....	6 6	1,031	27.7
51 ".....	8 0	680	27.6

In regard to the growth of woodland a high European authority remarks:—

"That, while an uncultivated woodland, taken for a long period, and counting interest and taxes, would yield almost nothing to the capital invested, it is well established that the same land, managed according to modern science, would, in the long run, yield a revenue both conspicuous and constant."

The Fenelon Falls Gazette says. There is a big jam of logs in Burnt River between Johnston's Rapids and High Falls, a distance of over three miles, and a number of men were sent up early in the week to try and break it. The logs, fully 26,000 in number, belong principally to Mr. Ulyott and Mr. Boyd, and a large drive owned by Mr. R. C. Smith is detained at Kinnmount, waiting for the obstruction below to be removed. The logs in the jam are fortunately not piled on each other, and a flat jam, as it is called, is generally neither very unclean nor dangerous to start.