

for the splendid quality of its wood, and especially for the profits yielded by it every year, in the shape of sugar. Farmers who are industrious enough to plant them, generally plant them too large, under an erroneous impression that they will, thereby, gain time. They are at a great deal of trouble and expense in selecting them and getting them out of the woods and planting them with extra precautions; large trees require strong staking to steady them against the winds, etc. Those trees, with their large roots broken, their rootlets torn, suddenly removed from the shelter, under which they were born and have always grown, are exposed to die in great numbers; the survivors linger for years before they can recuperate enough to go on with their growth; all this is rather discouraging.

A cheaper way to raise a maple orchard is this: In the fall, after a heavy rain, if you go to any maple grove, you will find that the maple seedlings, with which the ground is covered, as with a thick carpet, will pull up as easily as carrots with scarcely any damage to the little rootlets; in one hour you can collect hundreds of them, if the ground is sufficiently wet and soft.

Plant them at once, in a corner of your garden in good mellow ground, about two feet apart each way if you can dispose of that much room; you can put at that rate, nine thousand two hundred and sixteen seedlings in one superficial acre,—a fine nursery sufficient to supply trees for fifty seven acres of maple orchard; for the wants of a farmer a little corner of his garden will be sufficient. Weed two or three times during the summer with a light hoe, it will mellow the ground, at the same time, and as the little trees grow up, prune them into good shape.

In four years they will be fit for transplanting, about an average height of five feet, and the thickness of a man's thumb. Out of one hundred and fifty of those maple seedlings, treated as I have just described, I did not lose one from any other cause but the gnawing of the bark by field mice in winter, which killed about half a dozen, and that can be provided against by trampling the snow round the stems, when it is damp.

Of course, in those four years they have grown much more rapidly than if they had remained in the woods choking one another, but that forced growth does not appear to weaken them. There is no trouble nor loss in transplanting, their roots do not run under those of big trees as when you take them full grown, out of the woods; there are no stones nor stumps to interfere. You can lift them up tenderly, and with a good sized ball as you dig a regular ditch in the soft ground parallel with the first row, and take them up from underneath, one by one, and row by row.

I think they will soon overtake and pass maples raised and planted ten or twelve feet high. I cannot, as yet, assert this as a fact, as my experiments are of too late a date; but there are strong grounds for expecting that it will be so, because they are accustomed to disperse with the shelter afforded by the large forest trees, and they are so little hurt by the safe way in which they have been transplanted, that their growth is very little checked, while the growth of a large tree is seriously checked by transplanting, if the operation is not carried on with more care and expense than our farmers can afford.

One might write volumes on this question of planting trees, but there is a better book than printed books, out of which we can learn,—I mean the great book of nature. No country is that book written in grander types than in North America; we want men who can read it, and teach us how to read it, and this leads me naturally to the conclusion of my Report, the study of forestry.

STUDY OF FORESTRY.

As requested by the Council, I have suggested a number of measures in this Report for the preservation of our forests, and have added some hints for the planting of new ones. But how can these measures, or any others that may be deemed preferable, be carried out without the help of men brought up to the profession of forestry? On every question connected with our forests, we feel the want of a good staff of foresters, such as they have got in Europe, not trained specially in forestry