Forestry and Tree Planting.

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(Read before the Ontario Fruit Growers' Association.)

In the thoughts which I desire to present to the Association, I do not expect to offer anything new, but considering the immense importance of the subject, I shall be satisfied if I can awake attention by reiterating truths known to you all, but the force of which is overborne by the inertia of ordinary human nature, and other causes.

In its state of nature our Province was largely covered with thick forests, and the severe labor imposed on the first settlers of hewing out homes among these, and clearing the land for agriculture and the building of towns and villages, very naturally led to the belief that all trees were man's natural enemies, to be got rid of as speedily and completely as possible. The same process of cutting and burning went on in this country, as formerly in older ones, until we are beginning to find our rivers destructive torrents in spring, and so dried up in summer as to be in many cases worthless as water-powers or water-ways; our lands dried up and scorched with sweeping winds in summer, and our tender fruits damaged by the blasts of winter. At the same time our supply of valuable timber for building and other purposes is in many localities becoming scarce and expensive.

In many of the countries in Europe, large tracts of forests are owned or managed by the Government, and although involving heavy expense for management, furnish some return of revenue from their annual produce. Our country is younger, and the same necessity of careful attention to forestry is not so apparent, yet everyone who gives the matter much thought must be aware that it is none too soon that something very decisive should be done, and very widely done, if, as a people, we are not to suffer serious loss from the barrenness of the country turning it into a partial desert.

Let me refer for a moment to the ways in which the country is being denuded of trees.

1. *Cutting down in clearing.*—It has often been said that farmers should not make a clean sweep, but should leave some young trees to grow up. But some make that suggestion who do not know the difficulty in the way of carrying it out. It is extremely difficult to save small trees growing in dense forests during the process of clearing; and even if saved then they would die afterwards, or only prolong a sickly life in their new environment. The true remedy in this case is replanting. In open copse wood the case is different, and when small trees are growing where they can be easily preserved, and are likely to make a healthy growth, some should be saved.

2. *Wasteful lumbering.*—The incidental destruction of living timber, directly in connection with the getting out of square timber and sawlogs, and indirectly by increased danger of fires, is enormous.

3. *Fire.*—The annual loss from this cause is a fearful source of injury.

4. *The construction and maintenance of railways.*—Few have any idea of the extent of the consumption of timber by railways, or of the incidental destruction caused by providing this timber. I submit some statistics respecting American railways, from the United States Department of Agriculture, Forestry Division, on this subject (for the year 1886). *Ties*, 187,500 miles of track, at 2,640 ties per mile, 495,000,000 ties, containing 1,485,000,000 cubic feet of timber. *Bridge and trestle timber, etc.*, 2,000 feet per mile, 375,000,000 feet. For both 1,860,000,000 feet, or allowing $1\frac{8}{8}$ foot of round timber for each cubic foot in use, 3,100,000,000 feet of round timer. *Telegraph poles*, 5,000,000 at 10 cubic feet each, 50,000,000 feet. For 5,000 miles annually of new construction, add 13,200,000 ties, 10,000,000 feet of bridge timber and 150,000 telegraph poles. As ties last about seven years, and the other timber about ten, the maintenance of the work involves an annual requirement of 254,643,000 feet. It is estimated that for the railways in existence in the United States, about 8,500,000 acres of timber land have been cut off; and for annual maintenance and new construction, 297,000 acres of heavily timbered land will be required. It is impossible to give an estimate of the consumption of timber for fencing, fuel, and other railway uses, but the amount must be very large. As only a few kinds of timber are suitable for ties and some other railway uses, it follows that the supply is being rapidly used up, and that the certainty of a famine can even be only mitigated by an immediate attention to economy in use, and extensive renewal of growth.

I have not at hand the information necessary to show in what ratio these figures will apply to Canadian railways; but as the consumption for equal lengths of track will not be very different, any one who has the figures of the comparative mileage (of track, not length of road,) in the two countries, can make the calculation for himself.

The question of lumber supply for buildings and other domestic purposes is a very important one, and in this the danger of famine and necessity of foresight are still greater than in the case of railways. Steel bridges and ties will in time supersede wooden ones in railway construction, but it is difficult to see what can take the place of sawed lumber for house building. Add to this the question of the supply of lumber for the manufacture of furniture, and the general question becomes a very serious one. Black walnut, our best cabinet wood, is already at famine price, and will soon cease to be obtainable at any price. Even basswood is becoming scarce. Cherry, white ash, whitewood, chestnut and butternut are not very abundant, and they can never fill the place of the walnut. In the absence of this, probably our best furniture woods are black birch and bird's-eye maple, but these also are not plentiful. Swamp elm will for a time fill a useful place in cheap furniture, but the outlook generally is discouraging. The serious nature of the case is in this, that many years must elapse before the evil can be undone, even if the most vigorous measures were taken for its removal. The inertia of human nature stands in the way of individuals making great efforts to secure a benefit of whatever value, if its enjoyment is to be long deferred, while with corporate bodies such as railway companies, the Directors have to show the best financial results annually, and their constituents would be very impatient of expenditures, the returns from which can only be realized in the next generation; yet, the importance of the matter is such that railways should certainly enter without delay on the work of planting groves and blocks of timber. It should occupy the attention of Dominion, Provincial, and Municipal authorities, and efforts should be made to wake up every owner of a farm or large tract of land to the pressing necessity of tree planting. It has been suggested that railways should have rows of trees planted along their line, but the value of this may be doubtful, so far as their being snow-guards is concerned, the right-of-way being too narrow; but in exposed positions, if the land required can be procured, thick groves placed farther from the track would afford protection from snow-drifts.

Every farm should have a timber reserve for fuel and other purposes. Trees should be planted for shade and shelter near the farm buildings, and wind-breaks should be provided. In many cases the timber reserve may be made to serve as a wind-break also. I now venture to offer some recommendations to which I offer the earnest attention of the Association:—

1. I would not advise the scattering of trees over a farm to give it a park-like appearance; let those who have land and means to spare to do so, produce park scenery; but for farms generally, I suggest something more practical. I recommend that every farm should have a wide, thick belt of trees either reserved from natural growth, or planted on the side of the lot most exposed to the wind, and that, if fenced fields are to be continued in use, groups of trees to afford shade for cattle should be planted at the principal intersections of these.

2. I ask for the abolition of the present very expensive and unsightly system of fencing; it would be much better and cheaper for all to fence in their own cattle than to fence out those of everyone else; were fences banished, trees should be planted along the line of public roads, which would at once bound the lots, beautify the country, and make the roads more pleasant for travelling.

3. I would ask for the beautifying of the homestead by judicious planting of both fruit and forest trees. Of course, I do not mean to recommend (what I have sometimes seen done), an entire removal of every vestige of natural growth, and then planting two straight rows of such abominations as lombardy or balsam poplars from the gate by the roadside to the front door of the house.

4. The whole subject of forestry should be taken up and systematically studied by the Dominion and Provincial Governments; a careful survey of the whole country should be instituted, and those portions mapped in which the laws of nature require the existence of forest. Then, as far as possible, large tracts of the original forest should be reserved and settlement excluded from them. The principal purpose in view should be to make these reserves at the head waters of river basins so as to effect the flow of the water along with the general production and saving of timber. Many other desirable results would follow, which need not be discussed here. The Association might properly urge this matter on the attention of the Governments of the Dominion and of Ontario. The Dominion Experimental Farms should go into extensive testing of many varieties both of forest and fruit trees, to ascertain what sorts are best adapted to several localities as regards climate, soil, etc., so that the public may be guided to a correct selection.

5. Planting should be begun with well-known varieties of value. In the Lake Erie region, the walnut, chestnut, and tulip tree with others should be tried. In other localities groves of larch, spruce, maple, birch, hickory, ash, elm, cherry, beech, oak, pine, hemlock and cedar may be tried according to circumstances. Especially valuable it seems to me, would be larch, spruce, pine, maple, hickory and cedar for