

work, and a still higher grant to those who prove themselves in practice efficient teachers along these lines. I would like to say something in regard to the textbooks or readers in use, the subject matter of which is, in my opinion, but little calculated to stir the spirit or to enrich the mind of an agricultural people, but I fear have already trespassed beyond your patience.

Victoria Co., N. B.

W. L. McPHAIL.

### Exemption of Lands Planted to Timber from Taxation.

By Jonas, of Claiver Ha Lea.

As it is absolutely necessary that governments should be maintained and justice dispensed, it also follows that all public improvements must be paid for, as well as the expense of civil government, the maintenance of the courts of justice, etc., etc. Now, how is all this going to be paid for? It would not do to raise the money by a tax at so much per capita, because it would be a very great burden on many, and from a large number it could not be collected, for the best of all reasons, because they don't have any means.

So the assessment law has been framed, but like every other human ordinance, it has been found faulty, and susceptible of considerable improvements, and we should be always willing "to be going on to perfection." There have been many changes in the assessment law of late years; some of these have proved to be improvements and some of them otherwise. The township council at its first meeting appoints an assessor, whose duty it is to go over the township and call on every man and enquire as to what property he owns, and take down his name and the description of his property, and set a value upon the land and also upon the buildings; and, of course, the amount of money required for public improvements and other like public purposes is levied on every man in proportion to the amount he is assessed for by the assessor. A court of revision is held in each township, to which appeals may be made by those who think that their property has been assessed too high. It will easily be seen that it is not an easy matter for the assessor to put a fair equitable value on every man's property. On one occasion a man made an appeal to the court of revision to lower the amount at which the assessor had rated him. The assessor stated to the court that he thought the appellant's buildings were not rated any higher than those of his neighbors, which he thought were much the same as his. In reply the appellant stated that he thought his neighbor had better barns and a better house than he had, and a "brand-new wife" into the bargain. Now this opens up a new line of thought. Should the married farmer be assessed at a higher rate on account of the many comforts and blessings naturally flowing from a life of connubial bliss? Or should the bachelor farmer be assessed at a higher rate, to compensate the general public for the loss naturally sustained by them for his failure to live up to his responsibilities? For certainly there is a loss to the community at large where there are so many bachelor farmers, and what is more reasonable than that the bachelors themselves should pay quite a heavy tax to make up the public loss.

Now, are not waste, unproductive lands in the same category with the bachelor farmers? There are many acres in almost every township in our Province which are not profitable for cultivation or pasture, but which would produce good timber if planted with the variety suited to the soil and climate. This would not only prove a profitable venture to the owner or his family, if he did not live long enough to see his planting mature, but we are told on good authority that it would improve the climate and increase the amount of moisture in the atmosphere, and help to prevent the springs from drying up. Now, how would it do to make an amendment to the assessment law something like this: That for every acre that a farmer planted with young trees suitable to the soil, he would be allowed three acres exempt from taxation. There would also have to be a provision that he care for and protect the growing timber, and keep animals out of it for, say, fifteen years at least. There ought also to be a limit, say not more than eight acres to every 100 acres, and a certain number of trees per acre. The Government might also give a very small bonus per tree to the nursery men, on condition that they furnish trees suitable for planting at the smallest possible profit. We believe our Province would be very much improved in many ways if considerable belts of unproductive land were planted to profitable kinds of timber. There was much wisdom in the old Scotch laird's dying injunction to his son and heir, "Ye'll be aye planting a tree, Jock; it will grow when you are sleeping."

### Do Sugar Beets Pay?

To the Editor "The Farmer's Advocate":

The question is often asked, does it pay to raise sugar beets? In 1905 I raised on 1½ acres 66,155 lbs. of clean beets, or twenty tons, seven hundred and ten pounds to one acre; deducting seed, \$2.70, I realized \$159.22. I would like to find out through your valuable paper if anyone has done as well, or even better.

I. W. SCHNEIDER.

Waterloo Co., Ont.

### The Agricultural Forest Problem.

Paper read before the Canadian Forestry Convention at Ottawa, January, 1906, by E. J. Zavitz, Lecturer in Forestry, Ontario Agri. College.

#### Part I.

The subject of forestry is being brought before the general public in newspaper and magazine articles as never before in the history of the country. The efforts of the Canadian Forestry Association, the general rise in wood prices, and the wonderful development of the forestry movement in the United States, has done much to awaken the Canadian people.

Forestry and agriculture have very much in common, as food crops and wood crops both depend upon a rational treatment of the soil. During the last century agriculture has developed from the crude and wasteful exploitation of the soil to an art based upon scientific principles. That which we call forestry to-day can well be compared to the agricultural efforts of our forefathers as they scratched the soil with wooden plows and paid little attention to the future uses of the land.



E. J. Zavitz.

When the early settlers of Ontario arrived along the shores of our great lakes the forest seemed an impenetrable barrier. We scarcely realize in these days of agitation for forest conservation what an enemy these pioneers found in the heavy forest which covered the soil. Without modern appliances they had to clear the land, and it is not to be wondered at, that any and every means was taken to get rid of the trees. However, our forefathers wrought nobly, and we have no quarrel with the past. In these days of settlement the tree that would split the easiest was taken, so that we find such material as black walnut and white oak being made into rails, or going into heaps for burning in the clearing operations. However, it is surprising to find in these days a lack of knowledge as to the value of certain trees. Last summer I found a farmer clearing up the last remnant of his wood-lot, and everything was going into cordwood. Among other valuable trees was found some black-cherry trees from fifteen to eighteen inches in diameter. There was a mill and market within eight miles, but the owner did not know wood values, and the main object was to clear up the land. Clearing of land is inherent. Our fathers and forefathers had to do it to make a living, so we have followed in line, and do it without questioning the reason or the future of the land denuded.

Popular articles are frequently written, stating how much and why certain percentages of forest should exist throughout an agricultural country. We cannot lay down any arbitrary figure, nor is it necessary to say what percentage of the land should be covered with trees. Successful cultivation of the soil is being carried on in districts where there is scarcely any forest cover.

In an agricultural country, such as Ontario, there are three reasons frequently advanced why forestry should be practiced. Aesthetic effects, protective influences and financial investment are all given as arguments why certain portions of the land should be wooded.

While the aesthetic argument may appear very weak to many, there is no one but will admit that a treeless waste would be a poor country in which to live.

Woodlands, as a means of protection, are of great interest to the agriculturist. Houses on the farm protected by the trees require less heating in the winter. Stock in protected barns and barnyards undoubtedly require less food.

Beneficial effects to field crops may also be of great importance. A field of wheat or clover, protected by woodlands or protection belts, will have a great advantage over the unprotected field. Snow falling on the protected field gives a mantle which shields from sudden changes and lessens the danger from frost. In the spring the snow is taken off by evaporation, caused by wind and sun. We frequently forget that the wind is a great factor in causing the quick disappearances of

the snow. If a mantle of snow can be kept on a field of clover a few days longer in the spring, during the sudden changes of temperature, it may be of great benefit to the crop.

We are not able to say definitely of what value the melting snows of spring are to field crops or to the soil, but there is little doubt that a wind-swept field loses a great deal of moisture that should be taken up by the soil if better protected. Woodlands on the banks and at the head-waters of streams will better regulate the flow, besides protecting the banks from serious erosion. As fruit-growing develops in Ontario, it will be found that protection from wind is very necessary to the soil and also to the tree, especially while it is burdened with fruit. It is also probable that the moisture content of the soil is greatly influenced by the winds which sweep over the surface of unprotected fields during the dry periods of the summer.

#### THE WOOD-LOT AS AN INVESTMENT.

We sometimes hear the argument that this is an agricultural country, and it will not pay to devote land to the growing of wood-crops. It is interesting to note that in 1896 we had 13 per cent. of waste land in the older agricultural part of the Provinces. The topography of the country is such that it can never all be utilized for food-crop production. When we still find large amounts of waste land in an old country like Great Britain, adapted to forestry purposes, it is not likely that agriculture will become so intensive in Ontario that we shall require all the land for food crops.

A large percentage of the remaining wood-lots of Ontario, which are on first-class soil, should yield nearly one cord per acre per annum under proper management. However, putting the annual increment at two-thirds of a cord, which at a fuel-wood price of \$6.00 per cord would give a gross rental of \$4.00 per acre, this compares very favorably with agriculture, for the average annual rental of farm land in Ontario is \$2.49. The town forest of Winterthur has produced \$10.00 per acre per annum for the last thirty years, and there are Saxon forest ranges of spruce which yield an annual net revenue of \$12 to \$15 per acre. We frequently hear the statement that we cannot apply intensive forestry methods, such as applied in Germany, where wood prices guarantee investment in forestry undertakings.

In 1900 the average price of work-wood for Prussia was about 10c. per cubic foot, and for fuel wood about 3½c. per cubic foot. Work-wood, or lumber quality, as we might term it in our country, was \$17 per thousand, and fuel wood \$3.00 per cord. Indeed, we are in some cases paying higher prices for fuel wood in Ontario than is being paid in Germany.

In agricultural districts, where we enjoy immunity from fire, surely forestry investments should be looked upon with favor.

The great majority of forest or woodland owners in this country are farmers. It is possible to carry on intensive forestry management on the woodlands connected with the farm. The farmer can do many things in the care and development of his wood-lot which would be impossible in the case of larger holdings, where every outlay has to be charged up against the crop. He has horses and outfit. Part of his operations can be carried on in a slack season. He can easily be taught silvicultural facts, as he has already a knowledge of the soil in its relation to vegetable life. He is owner, manager, swamper and chopper combined, and is in a position to carry out a rational plan of management. While it is true that their wood-lot holdings are in small parcels, yet it may be interesting to know what it means in the aggregate. "Old Ontario," lying south of the 46 deg. parallel of latitude, is known as an agricultural country, and contains about 33,000 square miles. Allowing 10 per cent. of this to be covered with woodland, we would have in private hands 3,300 square miles, or over two million acres. Within this area many species find the northern limit of their original distribution. Such valuable hardwood as black walnut, shag-bark hickory, sweet chestnut and tulip or whitewood were originally found only in the most southerly portions of the Province. White ash, red and white oak, black cherry, rock elm and other valuable species are found throughout this older portion of the Province. Our northern forests are coniferous, and we cannot depend upon the north for a supply of cabinet and finishing woods. True the yellow birch of the north woods has a high value as a finishing or cabinet wood, but the commercial interests of Southern Ontario to-day depend upon a foreign market for the great bulk of its hardwood supply.

White oak, black walnut, chestnut, white ash, white-wood, hickory, etc., which are native to old Ontario, are being imported by the various manufacturers. From the forestry report of 1884, over twenty years ago, I quote the following extract from a Toronto lumberman's letter: "White ash, butternut and white oak are also becoming woods of the past. We rioted in the abundance of our forest wealth, and are now suffering somewhat of the evils attendant on such a course. To-day we import whitewood and walnut from places to which formally we exported large quantities of the same timber, much superior to what they are now bringing in."

We are using poorer qualities where once only first grades would have been looked at. Species such as soft elm are being used to-day for purposes where twenty years ago they would have been considered valueless. In 1884 a Toronto firm offered \$8 to \$9 for soft elm loaded on the car at point of shipment. Last week I find the same species, probably not so good