THE FARMER'S ADVOCATE

on the highway, and the women in the house, who seldom, if ever, get time to go to the woods, often over a mile from the house.

5. It has been urged that the wood-lot will guard us against a fuel famine, and that it is as profitable a crop to grow as any on the farm One might as well say that a farmer shouldn't sell all his wheat, for fear there would be a flour famine, or that the citizen of Old London shouldn't eat his last pound of mutton, or burn his last scuttle of coal, for fear he couldn't get another. If an acre of soil will grow from ten to fifty dollars' worth of produce over all expenses, is it not penny wise and pound foolish to continue growing a crop of wood which, according to the best estimates, will not net over three or four dollars per acre per year, and generally much less? cord of the best wood in a tree here is not worth more than four dollars, and, according to estimates of foresters, it takes a good thick stand of trees to produce a cord per acre per year. As long as there is fuel in the world at all, it will be available for the buying, and as yet there is no serious sign of its failing. It is quite possible that within a few years we can heat our homes with electricity supplied by wind or water-power, to say nothing of our vast stores of peat and natural gas. J. H. BURNS

Perth Co., Ont.

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Forestry for Farmers.

Editor " The Farmer's Advocate "

On nearly every farm there are a few acres of land unfit for growing agricultural crops. It may consist of swamp, steep hillsides, stony fields, worn-out sand or odd broken corners inconvenient to cultivate. In Canada such land remains covered with brush, poor timber or scanty pasture In European countries, where farmers, through intensive settlement, have been driven to make the highest possible profit from every acre, such land is kept producing a crop of timber. There are many advantages in this policy of raising timberthe timber growth indirectly benefits the farm and community, and the wood produced yields a revenue

Other conditions being equal, a country in which there is a small proportion of timber-land, not less than 10 per cent., preferably nearer 20 per cent., is a more agreeable one in which to live, and a more profitable one in which to farm, than a district which has been cleaned quite bare of trees.

LESSENS FORCE OF WIND.

Standing timber decreases the force of the Dr. Saunders, of the Dominion Experimental Farm, estimates that a shelter-belt or wood-lot provides a shelter 50 feet to the leeward for every foot in height of the trees. R. S. Kellogg, of the United States Forest Service, investigated the influence of shelter-belts in Kansas. and came to the conclusion that they provided shelter for crops one rod to the leeward for every foot in height of the trees. This breaking up of the wind protects crops from being beaten down by gales, and decreases the evaporation of soil moisture. Experiments made by F. H. King, at the University of Wisconsin Experiment Station, show that the evaporation from the soil 200 feet to the leeward from a wind-break is 41 per cent. more than at its base, and at a distance of 300 feet is 60 per cent, more. Where the soil is dry and light, it would thus pay to have a wind-break shelter-belt in such a location as to provide protection from the prevailing winds. A wood-lot or shelter-belt is always a valuable protection for the orchard, garden and farm buildings.

but few birds, but where there is a wood-lot birds will congregate and breed.

The above are the more indirect advantages of maintaining a certain growth of timber on a farm.



27-year-old Plantation of White Pine. On gravelly soil, in Iowa. The trees are 40 to 50 feet high, with a diameter of 12 to 14 inches.

The great direct advantage lies in the production at home of a constantly-increasing quantity and improving quality of timber, always available for fuel or building purposes. It is an additional profitable crop on a farm secured from land which



Dense Growth of Young Trees. will come up on a wood-lot protected from

FOUNDED 1866

Where there is no timber on a farm there will be partially-decayed trees remain, with an undergrowth of ironwood, blue beech, balsam, and other less valuable species. Where the pasture is worth more than the timber and other advantages named above, it is inadvisable to try to improve the wood-lot, for wherever stock are allowed to pasture reproduction of valuable trees is impossible Where stock graze they browse off the young trees pack the soil and encourage a heavy soid, which prevents the starting of young trees. But where the pasture is not good, and is not worth more than the improvement of the wood-lot, it is good business for the farmer to take steps to put his timber or waste land in shape.

Forest operations on farms fall into two classes : the improvement of wood-lots already existing, and the starting of plantations on land where there are not at present enough trees.

The first necessity in the improvement of a wood-lot is the shutting out of all stock, to give the young trees a chance to grow. Stock will need to be kept out several years, until the reproduction has reached such a size as to be beyond danger of damage. The second point is to remove the poorest trees; the weed species which do not furnish valuable wood-such as ironwood, beech, birch and balsam. The cutting of these may be done in one season, or in several, according to the desire of the owner. Their removal and the absence of stock will give the trees remaining a chance to seed up the open spaces with valuable species, such as elm, maple, oak, basswood, pine, and others which grow rapidly and produce merchantable timber. As soon as the mature trees of the more valuable species have covered the ground with a thick stand of seedlings, they should be removed in order to save what timber remains in them. On the greater part of the wood-lots remaining in the country the mature timber standing is deteriorating year by year, so that keeping it is, except where prices are going up rapidly, poor economy. The programme outlined above, a mere application of common sense. may cover a period of several years, until all the old timber has been removed at a profit, and until the ground is covered with a thrifty reproduction of young timber. The most important point in the programme is to cut out the poor species first, so that the reproduction may be of valuable After the old timber has been removed there will be a gap of a period of years, during which nothing of value can be cut from the woodlot, but this gap will not be so long as it will be on those farms where no plans are being made for the continuance of timber. Several acres of thrifty young timber, even if it cannot be cut at a profit, will have a sale value and will enhance the price of a farm. This influence will be greater in a few years, when the decrease in the supply of hardwoods becomes more marked

ANNUAL GROWTH PER ACRE.

A well-stocked wood-lot on fair soil will produce $1\frac{1}{2}$ to 3 cords of wood per acre per year. This would mean that managing a ten-acre woodlot, on the basis outlined above, cutting the mature timber, letting the young growth take its place, would provide an annual crop of 15 to 30 cords of wood, and yet leave the wood-lot in better condition, for if the process of selection were continued there soon would be nothing left but perfect specimens of valuable trees-all readily salable for timber.

CORPORATIONS AND COMMUNITIES GROWING In United States and Canada many corporations and communities have figured that they can plant trees for timber and realize good interest on the land and capital involved. Chief among these are the Canadian Pacific Railroad, Pennsylvania Railroad, and the State of New York. The farmer is in a better position than any to plant trees for a profit; he does not buy land as do the corporations, but uses land which, in the majority of cases, would otherwise be waste. He does not pay so highly for the labor, and for the few days' work which the operation takes on the ordinary farm, incurs no actual cash outlay. At present the farmers of Ontario, Quebec and the Western Provinces do not even have to buy the trees, but can secure them free from the Provincial and Federal Governments, and can get with the trees ex-

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REGULATES WATERFLOW.

In a hilly country the presence of wood-lots tends to regulate the waterflow. Where the land is all cleared the snow melts quickly and the water running down from the hills carries a great deal of the most fertile soil into the creeks. This action is partially checked where the steep slopes and hilltops are covered with timber. The wooded area holds the snow later in the spring; it does not melt so rapidly, nor does the water run away so quickly, and the moisture which creeps down the slopes tends to keep the valleys and low-lying fields in a better state for cultivation.

A shelter-belt causes snow to drift close to the trees on the side sheltered from the prevailing Thus a shelter-belt planted some distance from farm buildings forms a snow trap, which prevents snow from drifting close to the buildings The space between the shelter-belt and buildings is well adapted for a garden or orchard. The accumulation of winter snow serves as an annual or orchard crops, and the shelter-belt protects the

HARBORS INSECTIVOROUS BIRDS.

A wood-lot on the farm encourages the presence nsecticides. The United States Department of Agriculture estimates that the yearly loss to American farmers through insect damage to crops S671,000,000. The greatest natural enemies the insects are the birds which feed upon them.

hitherto may have been unproductive, or nearly Where the wood-lot is of any size there should also be each year a surplus of timber for

IMPROVING THE WOOD-LOT.

Unfortunately, where farms have been long



A Typical Run-down Wood-lot

The large trees are defective. They should be c stock kept out, and the young trees given a chance to grow.

cleared the wood-lots now remaining are in had shape. Always the best trees have been taken, the poorest left, and in the meantime heavy grazing permitted, until now only a few over-mature

pert advice and assistance for their planting. SOME RETURNS FROM TREE-PLANTING.

Planting is of such recent date on this contiment that but few instances can be given of actual results. A few examples are given here to show what might be expected from well-managed

In the spring of 1891, one-third of an acre of good land was planted with two-year-old seedlings of American elm, at Brandon, Man.; 1,613 trees were set out at a distance apart each way of 3feet. In 1903, after 12 years, there were 805 trees standing, with an average height of 25 feet Accepting a length of 7 feet and a top diameter of 2 inches as the minimum size for a post, 350 trees were too small for posts, 490 were large enough for one post each, and 85 were large enough for two posts each. The total number of posts was 660 for one-third acre, or 1,980 per acre. Valuing the posts at 10 cents each, the plantation was worth \$198.00 per acre when 12

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