Ontario Department of Agriculture

BULLETIN 244

HINTS TO SETTLERS

IN

NORTHERN ONTARIO

By

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INTRODUCTION.

The object of the writers of the following pages is to furnish the settler of Northern Ontario with suggestions, facts and figures that will help him to better understand how to meet and overcome some of the problems peculiar to the country. Year by year the Great Clay Belt is opening its arms to receive men and women from other parts of the Province of Ontario as well as from many different parts of the world. People of other countries, who are unacquainted with pioneer life in a new land often become discouraged because they do not know how to adapt themselves and make the best of the means at hand. Pioneer life is still much the same as when the early settler began hewing down the forest of Old Ontario, in that it requires men and women of virility and determination, with a vision of better things to come. Success can only be achieved by earnest, faithful endeavor on the part of the beginner, and in agriculture as in every other profession, to know is to succeed.

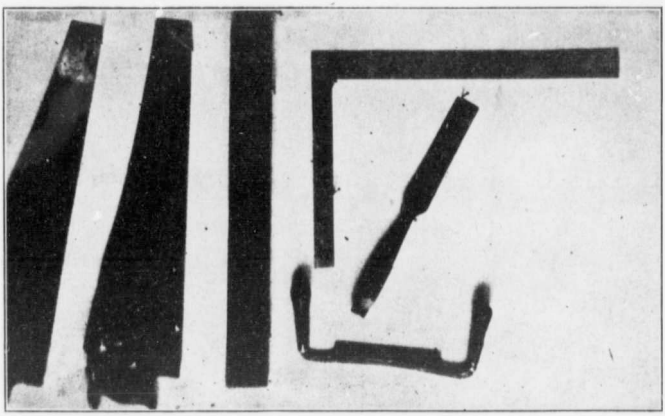
Northern Ontario still contains many millions of acres of fertile land awaiting development and which may be made to produce abundant crops. But before the land can be tilled it must be cleared of its timber and brush, and the writers trust that the following may enlighten and instruct the new beginner.

Locating a Lot.

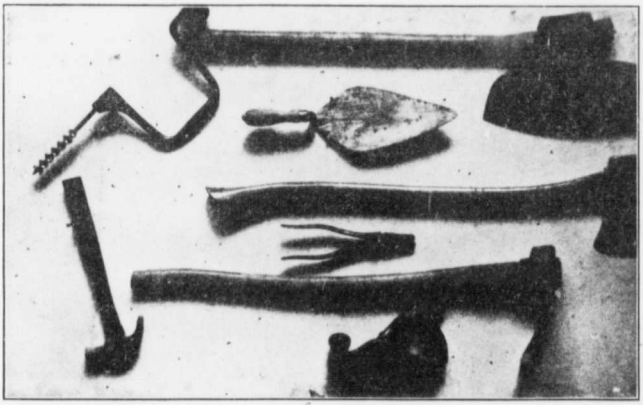
Each lot consists of a quarter section, or 160 acres. Particulars regarding location, and regulations governing the same, may be had by applying in person or by letter to H. A. Macdonell, Director of Colonization, Toronto, or to any local Crown Lands agent. After finding out as many particulars as possible about the lots available, the prospective settler should then thoroughly acquaint himself with the situation and general lay of the lot he intends to locate. He should familiarize himself with the relation of his lot to the main and cross roads. Having fully satisfied himself with the general lay of the land, he will next select a suitable place for erecting his house.

Building a House.

Considerable care should be exercised in choosing a site, it is advisable to build on a well elevated part of the farm to secure good drainage and more congenial surroundings. Buildings should be near a main or cross road and not too distant from a neighbor. Existing conditions of course must govern the selection of a site, but do not make the mistake of building in an out-of-the-way place or too close to an adjoining lot. As the first clearing should be done along the main road, therefore, the house and barn should not be too far distant from it.



Hand-saw, rip-saw, level, drawing-knife, chisel and square—necessary building tools.



Broad-axe, pole-axe, adze, trowel, pinchers, smoothing plane, brace and bit, and hammer—all useful tools in a new country.

The regulation size of a settler's house is sixteen by twenty feet. However, it is sometimes necessary to build a larger house, or it may be advisable to build a smaller one to do for the first few years. It is generally advisable to make things as comfortable as possible, although not advisable to expend a great deal of money on these buildings, as there is more or less danger from fire, until there is considerable clearing around them. For this reason the first clearing should be done immediately around the buildings.

A very comfortable and warm house may be constructed of round or hewed logs, but sometimes lumber can be purchased cheaply, and so one must be governed by the capital on hand and the risk to be taken. By having all the logs hewed (or round) cut the proper length and drawn to the spot selected as a site and then making a "bee"—that is getting the neighbors to co-operate—a suitable dwelling can be erected in a very short time. Make the house at least one and a half stories high, this will provide sleeping accommodation in the upper story.

Put in sufficient windows to thoroughly light the inside, as a well-lighted room is much more cheery and comfortable than a dark one. Moss and clay, or a mortar made from lime, water and sand can be used to chink or caulk the cracks between the logs, or between the logs and wooden chinking, where same is necessary. White building paper may be used to line the inside of the house, this will make it warmer and more home-like. In nearly every instance sufficient lumber can be purchased to put on the roof, make doors, erect partitions, etc. Two-ply of roofing paper properly tacked down, with the joints tarred, makes a very warm and water-proof covering for the roof. The gable ends may be boarded and finished the same as the roof. By utilizing the upper story for sleeping accommodation, two very comfortable rooms, a kitchen and a living-room, can be made down stairs.

Have the front of the house either to the south or east if convenient at all. Screen doors and windows made of wire gauze or two-ply mosquito netting are a great source of comfort during fly-season.

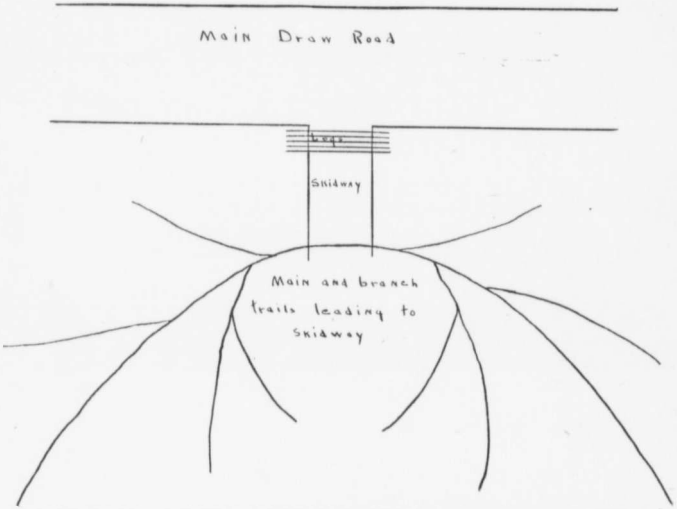
Locate stables and barns north-east, east, south, or south-west of house. This will prevent obnoxious odors blowing toward the house, as the prevailing winds are from the north-west. These buildings can be very economically constructed from logs, building and roofing paper.

Cutting Timber.

The kind of timber to be cut will govern largely the manner of cutting, that is, whether it be hardwood or softwood. Where the land is heavily timbered with large trees, it is usually profitable to underbrush all small trees and shrubbery and place in piles before beginning to cut the large timber. This will greatly facilitate getting around through the timber and in many cases eliminate the necessity of cutting trails. However, as a very large proportion of the timber consists of spruce, balsam, tamarack, etc., a different system is used.

After having decided on the extent of land to be cut over, the first thing to do, is, decide where the main road is to be and cut it out. It pays to make this road as straight as possible and to build it well, as bush roads go. A well constructed road will save a great deal of time and labor when hauling commences. Skidways are built at intervals along the main road on which to pile the timber after it is cut. In some cases it will be necessary to have branch roads away from the main road and to have skidways built on them. It saves time to have these skidways built where the timber is thickest, as it shortens the haul from stump to skidway.

Begin cutting at the farthest point away from the skidway and gradually work towards it. Whenever possible fall trees so that the buts will point to trail leading to skidways and by bunching two, three or four pieces together time is saved in skidding. All trails should be wide enough to easily allow one horse to pass along without danger of hurting himself. They should lead on from either side of the skidway and not directly from the back of it. The density of timber growth will influence the manner of cutting and piling brush. In some cases it pays to fall trees in windrows, where the trees are sparse, in order to have sufficient brush in one place to insure a good burn. Then again where the timber is very thick by falling the trees promiscuously here and there time is saved and a good ground burn is insured. This latter plan applies more particularly to sections where timber is small and dense and of little commercial value.

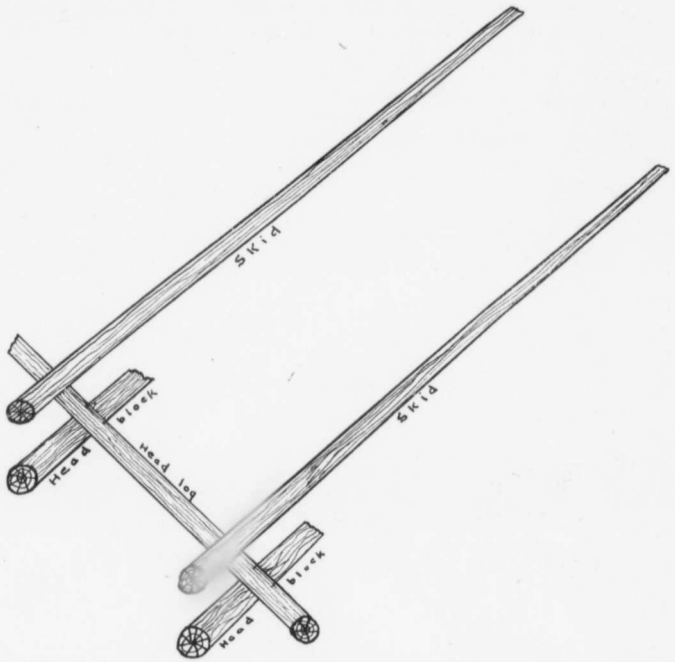


Drawing showing relation of skidway to main road, and of trails to skidway.

Cutting timber and clearing land usually makes up the work of any settler for the first few years, and the proximity of the market, for timber, and the capital on hand, will be factors in deciding whether or not he can profitably market his pulp and logs. The wasting of good timber should not be practised, if it is possible to prevent it, even though a settler is not making more than expenses. In this way he will be conserving what capital he has on hand, and have it to fall back on in case of necessity.

The man who has had no experience in bush work will naturally be handicapped for a time until he becomes acquainted with handling an axe, saw and other tools necessary in work of this kind. He should, if possible, work with some settler who has had a thorough knowledge of bush work until he gains some experience in it. By co-operating with neighbors in cutting and hauling, time and expense is saved. Many new settlers hire help to cut timber, clear land, etc., and

very soon find out that the hired man is making more money than they are themselves. Co-operate as much as possible even though a smaller amount of timber is marketed. By so doing, one is saving expense, and in the end is farther ahead than if hired help had been engaged and a big wage paid that soon eats up the profits.



Drawing of skidway. The front is elevated to make loading easy. The back end of skidway may be placed on a knoll to give a downward slope to the front; this makes rolling much easier.

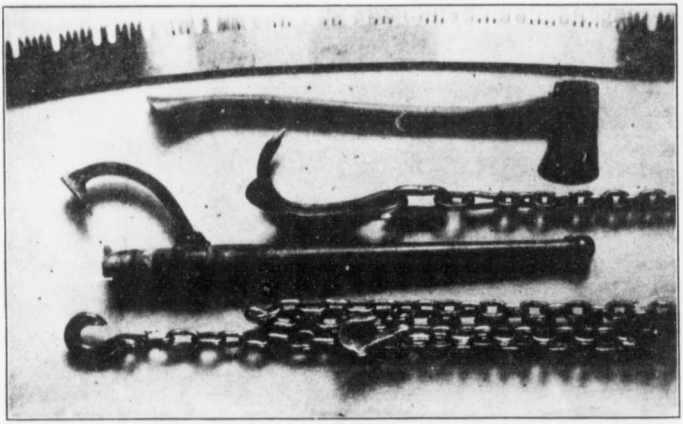
TABLE SHOWING DETAILED COST OF TIMBERING AND SLASHING NINE ACRES ON THE MONTEITH DEMONSTRATION FARM.

Material	Amounts	Cost of Cutting	Cost of Skidding	Cost of Hauling ½ Mile	Cost of Making Roads	Totals
Lumber	22,642 ft.	$36 88	$28 58	$17 28	$2 72	$85 46
Pulp	30 cords	37 33	31 24	20 59	2 72	91 88
Wood	50 cords	28 77	11 82	10 83	2 72	54 14
Slashing undergrowth						28 77
Sharpening axes, saws, harness repairs, etc.						5 35
Milling 22,642 feet of lumber, at $4.25 per M.						96 22
Total cost						$361 82
Average cost per acre						40 20

REVENUE.

22,642 feet of lumber, at $15.00 per M.	$339 63
30 cords of pulpwood, at $3.25 per cord	97 50
50 cords of firewood, valued at cost	54 14
Total	$491 27
Revenue per acre	54 58
Difference between revenue and cost per acre	14 38

The above table shows in detail the cost of timbering and slashing nine acres of virgin forest. The prices allowed for material are very conservative, especially for the firewood. It is valued at just what it cost to produce it, which is below the market price. All the work on this lot was done during mid-winter, beginning on January 23rd, and finishing in March, so that it really cost more than if the cutting and skidding had been done in the early fall. Still, a favorable balance of $14.38 per acre is shown, after having paid the highest wages to have the work done. The table therefore, shows that it is possible, even under adverse circum-



Cross-cut saw, axe, root-hook, cant-hook and logging chain—necessary land-clearing tools.

stances, to make $14.38 per acre over and above expenses. Moreover a great deal of the best of the timber on this lot had been taken out previously. This greatly decreased the amount of marketable timber, especially lumber which is the most valuable. It lessened the cost a little also, but reduced to a much greater extent the amount of revenue realized.

In order to get an accurate account of the actual cost of timbering the lot, it was necessary to handle all the different kinds of material separately. This added greatly to the cost of handling the timber on account of having to go over the ground more times than would have been necessary had the timber all been cut at the same time.

HAULING.

Hauling can be most profitably done before the snow becomes extremely deep. However, it may be carried on throughout the entire winter providing roads are properly constructed and kept in good repair. Of course all cutting and skidding

Virgin Forest.

Burned-over slashing.

All stumps removed and made ready for piling. Horsepower and powder were the means used to remove these stumps.

Stumps, logs, roots, etc., piled and ready to burn as soon as dry.

New land ready for the plow.

First plowing on new land. The roller is being used to smooth down the land, before using the harrow or cultivator.

A crop of oats.

A fifteen-acre field of red clover yielding three tons of hay per acre.

should be finished up before the snow gets deep. In some cases a person may find it necessary to do more or less cutting during mid-winter, but every effort should be made to have it all done before this time. Hauling is made easier by having the timber well decked up on the skidways. This lessens the surface exposed to snow fall, and also makes less work in digging snow from off and around the skidways. The same thing applies when the timber is cut into short lengths, four feet or less, and piled in rows.

Burning.

The proper time to burn a slashing depends on certain local conditions and also on the density of the material on the ground; that is, whether it be sparse or thick. It's an old saying that "fire makes a good servant but a poor master," and it is just as applicable to-day as it ever was. Hardwood can usually be burned without causing any serious outbreaks or large bush fires, but where there is a thick evergreen and resinous woods considerable care should be used in burning off an adjacent slashing. It is usually a good plan to back-fire around buildings and near woods one wishes to protect, however, this will not always insure protection, as high winds sometimes carry live cinders for long distances. After there is considerable new growth over the ground and on the trees, there does not seem to be so much danger of fire spreading. A few barrels of water placed near buildings may prove to be very useful in case of danger. Avoid burning when everything is extremely dry, as large and disastrous bush fires are often caused from a small fire started in a very dry time.

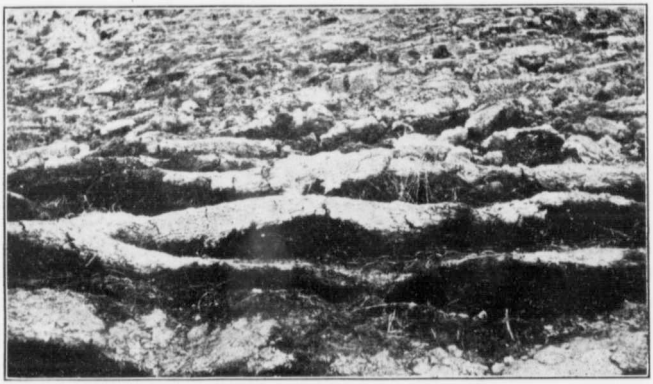
All timber that has been slashed so as to fall south-east by north-west usually dries and burns better. The reason is, that the prevailing winds are from the north-west, and consequently drives the fire directly through the log from end to end rather than up against the side of it, also the sun has an opportunity of shining on both sides of the log. The cells of the tree being lengthwise rather than crosswise accounts for this. This is a minor point, of course, but nevertheless is worthy of consideration.

Logging or Picking Up.

Probably the most profitable time to do this work is immediately after the big fire has somewhat subsided and before it dies completely out. However, the extent of the area to go over and the labor available are two important factors governing this part of the work. Then again, if the ground surface is very wet a second burn may be necessary before any picking up is done. But too many ground burns are injurious, as they burn off all the top soil or humus and leave only the clay or sub-soil. It is advisable to conserve at least six inches or more of the black muck or top-soil to mix with the clay. It requires the two combined together to make an ideal soil; one is incomplete without the other. The important point in logging off a burned-over slashing is, that there is a certain time immediately after the first or second burn when the roots, sticks, logs, etc., can be more easily picked up than after they become tramped into the ground and when "coppice" or second growth has started. All logged-over land and newly burned land whether logged over or not, should be seeded down with grass seed, preferably clover and timothy. A mixture of red clover, alsike and timothy in the proportion of four, two and one will give good results. If this seed is sown soon after the land is burned over, while it is in a loose mellow condition and before the surface becomes hard and compacted, it will require less seed and give better results. Four to six pounds per acre, if sown at the right time, will produce an

abundance of pasture and prevent second growth starting. By sowing a few pounds more per acre a large quantity of hay may be cut the second year. Very good results are obtained by seeding on the snow in the spring just before the last of it disappears, when a couple of inches remains. The ground is in an open, porous state at this time of year, and the melting snow carries the small seeds sufficiently far into the ground to insure germination. Do not neglect to seed down rough or fallow land even though it is to be plowed up in a year or two, it will provide good pasture and improve the general condition of the soil. Be sure and buy perfectly clean seed, it does not pay to produce weeds.

In the spring of 1915, twenty acres of land on the Demonstration Farm, Monteith, that had been slashed in 1906 and 1907, was blasted free of stumps. Seven and one-half acres was divided into three sections of two and one-half acres each and an accurate account kept of the cost of labor and material.



This photo shows the black muck top-soil and clay sub-soil. Always try to conserve at least six inches of muck, and ten is better.

SECTION No. 1.

Number of stumps	118	
Number of sticks of powder, at 8c. each	95	$7 60
Number of feet of fuse, at 70c. per 100 feet	120	84
Number of caps, at 1c. each	120	1 20
Number of hours labor, at 20c. per hour	15	3 00
Total cost		$12 64
Cost per acre		5 05
Average cost per stump		10

SECTION No. 2.

Number of stumps	114	
Number of sticks of powder, at 8c. each	114	$9 12
Number of feet of fuse, at 70c. per 100 feet	145	1 01
Number of caps, at 1c. each	145	1 45
Number of hours labor, at 20c. per hour	15	3 00
Total cost		$14 58
Cost per acre		5 83
Average cost per stump		12

SECTION No. 3.

Number of stumps	136	
Number of sticks of powder, at 8c. per stick	117	$9 36
Number of feet of fuse, at 70c. per 100 feet	155	1 09
Number of caps, at 1c. each	155	1 55
Number of hours labor, at 20c. per hour	16	3 20
Total cost		$15 20
Cost per acre		6 08
Average cost per stump		11

The amount of work, and cost of same, to blow out a given number of stumps will depend on the efficiency of the operator. The work represented by the foregoing tables was accomplished by a man who had no previous experience in the use of dynamite, and therefore should be truly representative of what any new beginner might do.

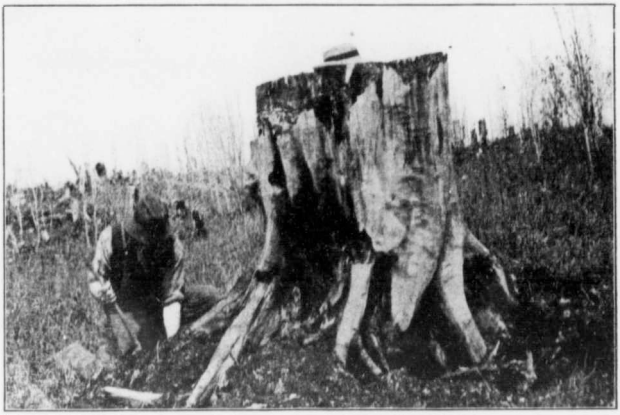
To place a charge under a stump, first punch a hole under the centre of it with a crowbar, this hole should be under the firmest part of the stump and fairly well down. Next attach the cap to the fuse and attach fuse and cap to the dynamite, or place it directly on the dynamite after it has been shoved under the stump. A broom handle makes a good ramrod for shoving the charge into the hole and also for packing the dirt in as well. Do not jar the powder when placing it in the hole, nor yet when packing in the dirt. Measure the hole in order to estimate the length of the fuse.

TABLE SHOWING TOTAL COST PER ACRE OF CLEARING SECTIONS ONE, TWO, AND THREE, INCLUDING ALL LABOR, TEAM WORK, POWDER, ETC.

Lot	Acres	Man Hrs. at 20c.	Team Hrs. at 20c.	Powder, Caps, Fuse	Total
1	2½	127—$25 40	20—$4 00	$9 64	$39 04
2	2½	138— 27 60	26— 5 20	11 58	44 38
3	2½	182— 36 40	40— 8 00	12 00	56 40
			Cost of Branding, 114 hrs. at 20c.		22 80
			Total		162 62
			Average per acre		21 68

The above table gives in detail the actual cost of clearing seven and one-half acres of land that had been timbered, slashed and burned some years previously. It shows an average cost of $21.68 per acre. It also shows a difference between sections one and three of $17.36. This is accounted for by the fact, that a great deal of second growth had grown up on section three while none had grown on section one. And $17.36 represents the cost of clearing two and a half acres of second growth as illustrated in the photo. This is conclusive evidence that it does not pay to allow second growth timber to grow up before the land is finally cleared of stumps.

From the table we learn that it cost $40.20 per acre to timber the land and $21.68 to do the final clearing, or a total of $61.88, also that a revenue of $54.58 per acre was realized. These figures show that the cost of clearing per acre, over and above the revenue shown, amounts to $7.30. However, had the final clearing been done before the second growth grew up, the difference would be only thirty-five cents (35c.) or in other words the settler can figure on realizing enough from the timber to clear the land and at the same time allow himself wages at the rate of two dollars per day. Moreover, he has cleared land (if homesteaded) for fifty cents per acre, that in a few years (eight or ten) should be worth at least twenty dollars per acre.



Placing a charge of dynamite under a large poplar stump.

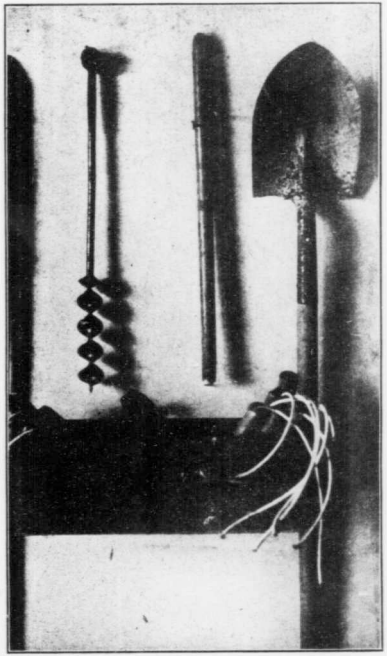
The same stump being blown up. Note the way it is being blown into pieces. This stump was removed for twenty cents.

The figures given and conclusions drawn in the preceding paragraph are representative only of one instance, and to many who have had actual experience in such work, may at first sight seem to present an impossibility. Such, however, is not the case, as they are the result of correct calculation, etc., of all labor expended in clearing said land. Circumstances will of course influence ones chances of realizing similar results. They may be represented by quality of timber, distance from a market, knowledge of the work and individual effort. Unless one has the ability, knowledge and individual effort necessary to properly take advantage of the best means at hand, he cannot hope for best results. Why is it that one man succeeds where another fails? What the settler may or may not realize on capital, time and effort expended, depends largely on his ability to best fill the position he occupies. Of course circumstances, over which a person has little or no control, may arise to handicap one, but these are exceptional. In order to succeed one must know and in order to have knowledge one must learn. This sometimes requires years of costly experience that should, if possible, be prevented. The settler should first familiarize himself with the timber situation, keeping in mind future demand and prices, then figure on the prospects of conserving or marketing his timber or whether he would be further ahead in the end to clear the land as soon as possible and get it into crop. He will have to decide which scheme will be the most lucrative over a period of years.

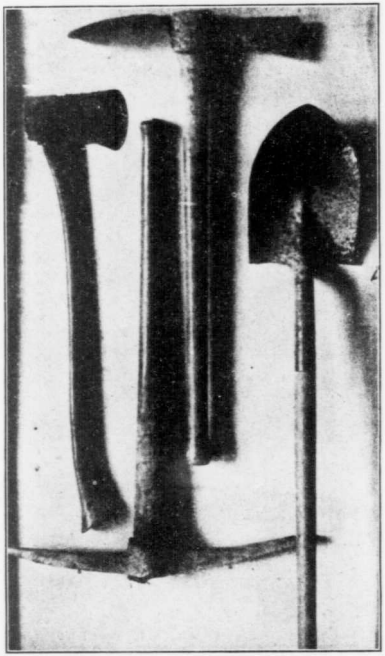
Stumping.

The great majority of virgin forest throughout Northern Ontario consists of trees averaging from six to twelve inches in diameter and the nature of the timber will influence the time and cost necessary to clear land of stumps. There are exceptions to this where heavy hardwood timber is found, and also where areas of white and jack pine are found, but generally speaking the timber is much smaller on an average than that of "Old Ontario." Then, the different root systems of different kinds of trees influence the cost of their removal. Practically all evergreen trees have a spreading root system that spreads out through the top-soil, while nearly all deciduous or broad-leaved trees have a tap-root system that penetrates quite deeply into the sub-soil. The latter are more difficult to remove than the former. The time allowed to lapse between the cutting of green timber and removal of stumps will have a decided influence on the cost of stumping. Usually a great many small stumps are partially burned out with the first big fire, and can be pulled with one horse or removed by hand at the time the land is logged-off. Stumping machines may also be used to advantage where the stumps are small and thick and also on sandy land. It is not advisable for a settler to purchase a stumping machine until he is sure he can use it profitably and to good advantage. Stumps are naturally more easily removed after two to four years have elapsed, as this allows the roots to rot and makes pulling a great deal easier. This is an important factor in land clearing and should have a tendency to make a settler do his best to systematically cut so many acres of green timber each year, seed down the slashing to pasture, or hay land and allow the stumps to decay. By so doing there will be a certain number of acres coming on every year to be freed of stumps and put into tillable condition. The acreage slashed and made ready from year to year will of course depend on the amount of capital and labor on hand.

Stumping or blasting powder is being used to quite an extent to-day for removing stumps, and it is a very cheap and efficient means of getting rid of large stumps. Any person of average intelligence can handle this explosive without danger of serious results. Care and precaution in warming the powder, placing

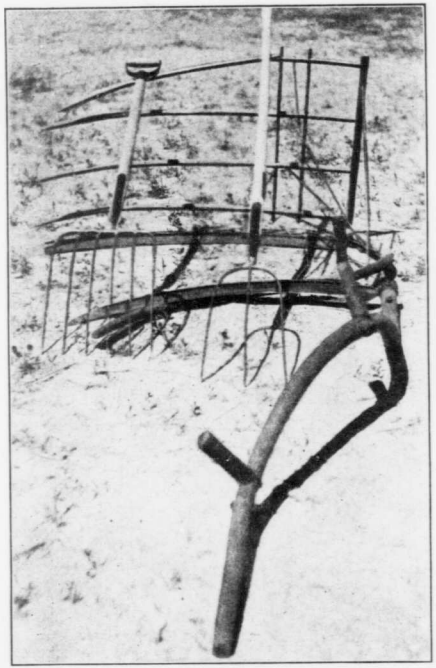


Crowbar, auger, tamping stick, shovel and powder box. Powder sticks have fuse attached.



Crowbar, axe, pick, grub-hoe and shovel—land-clearing tools.

This picture shows the second growth that grew up on section three. It cost $17.36 to remove this, in addition to what it cost to clear the land of stumps. Settlers should avoid this extra cost, if possible.



Grain cradle, mowing scythe, three and six-pronged forks—handy tools for haying and harvesting on stumpy land.

the cap on the fuse, attaching fuse to powder and placing the charge, are both essential and necessary. If the person handling the powder is careful to remember at all times that carelessness is dangerous, there is little chance of accident.

Stumping powder can be used much more effectively on certain kinds of soil than on others, and also to better advantage at certain times of the year. The best time to blast out stumps is in the spring, as soon as the frost is out enough to allow punching a hole beneath the stump. At this time of year the soil is wet and heavy and more resistent and consequently the powder does better work on the stump than when the soil is dry and loose. It also gives better satisfaction and does better work on clay soils than on sandy soils, although it is often used to advantage on sandy soil when it is wet and soggy. The size of the stump and the time of year the work is done will determine the amount of powder to be used. By experimenting with different amounts on different sized stumps, a fair idea can be formed as to the most economical and profitable amount of powder to use. One decided advantage in blasting out large stumps is that they are almost entirely free from dirt when out and are broken up in several pieces. They are, therefore, more easily handled and dry out and burn more readily than when drawn out, either by team or machine, covered with a great mass of dirt and often so heavy that they can only be handled with difficulty. A home-made jumper or stone-boat will be found very useful in gathering up stumps and roots. Any person handy with an axe can make either one with little trouble or expense. Stumping powder costs approximately ten dollars per box, but may at times be purchased for less money. As stumping powder is usually in a frozen condition when taken from the box, it is necessary to thaw it out before using it. This is very easily done by placing the sticks of powder on the sunny side of a knoll or stump a few hours previous to the time it is to be used. Never handle dynamite carelessly.

First Cultivation.

In very many cases the first two or three crops will be sown and harvested before the land is stumped. And the first seeding is often harrowed in among the ashes and loose top-soil and good results obtained. However, as soon as the stumps are taken out it is customary and advisable to plow the land. All plowing on heavy clay land should be done in the fall of the year if possible at all. Sandy or loamy soils may be plowed in the spring, but as early seeding is necessary in Northern Ontario, to obtain best results, it is advisable to have all land plowed in the fall. The action of weathering agents, alternate freezing and thawing, rain, wind and sun, all have a beneficial effect, especially on clay soils. These agents also destroy hordes of insect life that pupate in the ground in the fall of the year. When the soil is turned up they are so exposed that they die. Deep fall plowing is preferable at all times to shallow spring plowing and is essential to insure best results on clay soil. It also pays to do the first plowing well; it may take considerable time, but with a good plow and with share and coulter kept sharp, the arduousness of the work is lessened. A single walking plow is best for breaking up new land. It pays to thoroughly cultivate the land, working up a good seed bed to insure a quicker and more even germination. Anything worth doing at all is worth doing well.

Crops.

Cereals, legumes or hay crops, roots and fruits make up the different kinds of crops grown in Northern Ontario. Many kinds of grains do well if the proper varieties are sown and seeding is done at the right time. For the production of grain it is very necessary that early maturing varieties be used and that seeding

be done early. The new beginner should be careful in this regard, and make inquiries from older settlers or get in touch with the local representative of the Department of Agriculture. Late maturing grains may be sown for hay, but not for grain. Corn can be profitably grown only in some parts. All kinds of clovers do exceedingly well and large yields of very nutritious hay are obtained. Profitable yields of clover and timothy seed are grown practically all over the agricultural part of Northern Ontario, the seed is of exceptional quality and vitality. Alfalfa is giving very good results in many parts of Northern Ontario, when the proper varieties are used. Southern grown United States seed should never be sown in Northern Ontario. Seed of Grimm, Ontario Variegated or of the Russian varieties only should be used. However, since alsike and red clover grow so luxuriantly the settler need not worry even though he cannot grow alfalfa successfully.

No part of the Province of Ontario can grow roots and vegetables more abundantly than Northern Ontario. Almost any kind of vegetable will give an excellent yield. Potatoes give large yields and turnips and mangels also do well. In

Pure-bred Shropshire sheep, well adapted to northern conditions. Sheep can be profitably kept even by the beginner.

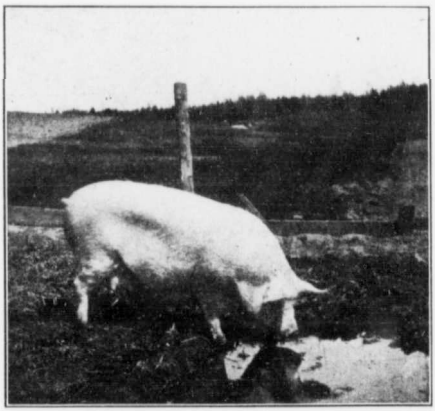
growing potatoes an early variety should be used, especially in the new parts. Late spring and early fall frosts are injurious to late maturing crops. In the older parts of the country where the land is becoming pretty well cleared of timber summer frosts are gradually disappearing. Practically all small bush fruits, such as strawberries, gooseberries, currants, etc., grow successfully. Crab apples also do well but large apples are recommended only for that part of the country along the north shore of the Great lakes and around any large inland lakes. The new beginner should not attempt to grow fruit without making inquiries about it. There are many kinds of small edible fruits growing wild that can be picked and preserved for household use; there are wild black currants, strawberries, blueberries, raspberries, etc.

Live Stock.

Conditions and situation will influence the kind of stock that a settler may keep, and one thing to be remembered by a person locating on a bush lot is, that it will be a few years before sufficient feed can be produced to properly feed a few head of stock throughout the winter. Some make the mistake of trying to keep

Cows in pasture.

too much stock for which they have to buy feed, at exorbitant prices. This very soon reduces the amount of cash capital on hand and does not bring sufficiently large returns to warrant such expenditure.

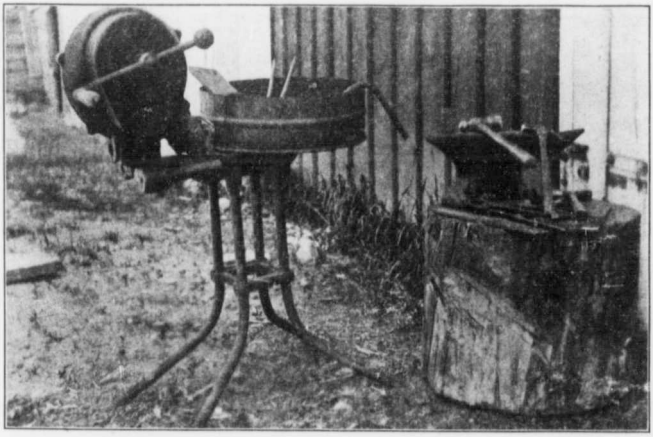


A pure-bred Yorkshire sow of the proper type, an economical producer of wealth.

Horse power being an important factor in clearing land, naturally means that a horse should probably be the first animal purchased. But as this involves the expenditure of considerable capital, one should be sure the investment is necessary. Co-operation among the settlers in the purchase of horses and the cutting of timber, clearing of land, etc., will mean more economical and rapid progress. For instance, two neighbors may have one horse each that can be made into a team

for doing team work and a team and two men will accomplish more by co-operating in certain lines of work than can be accomplished individually. Individual effort is, of course, necessary, but co-operation is vastly superior in many cases.

Because a cow and a hog, of the right kind, contribute a good deal toward the necessary food supply of any household, it is usually advisable to keep such just as soon as circumstances will allow of doing so. The slashing that has been seeded with clover and timothy will in many cases provide ample summer feed. A hog will live on clover pasture alone during the summer and do well. Berkshires or Yorkshires are recommended, and a cow of the dual purpose type will provide both milk and meat of good quality. Dual purpose cattle are generally more hardy and as good, if not better foragers than the strictly dairy breeds. What ever kind is purchased, remember that it does not pay to keep a poor producer, or in fact an inferior animal of any kind. The dairy shorthorn is the leading dual purpose cow to-day, and is giving a very creditable account of herself. While it is



Forge, anvil and tools. These often prove to be a great help in time of trouble.

essential to have a good individual, it is just as essential that sufficient feed of the right kind be given to allow the animal to do its best.

On account of the fact that Northern Ontario is an A1 grass-growing country; it must eventually develop into a great stock producing country. Large prices are often a great temptation to settlers to sell a great deal, if not all, of their hay and grain. Force of circumstances sometimes induces them to do so, but the fact remains that no matter how productive any soil may be originally, it will succumb sooner or later unless it is getting something back in return. Producing hay and grain and selling it, depletes the soil of its fertility, keeping stock and returning barnyard manure to the soil insures a permanent production.

Machinery.

The settler should not purchase machinery that he does not actually need. He should not allow any implement agent to decide for him what machinery he

ought or ought not to have. Co-operation in the buying and using of machinery might well be practised among neighbors for the first few years, until such times as it becomes necessary to have it individually. A great deal of valuable capital may be tied up in machinery that might have been used to much better advantage in clearing land or buying stock. In some instances settlers may have machinery that they have purchased, possibly when living on a rented farm in Old Ontario or elsewhere, and it will no doubt pay to bring this machinery along if the distance and cost of transportation is not too great. One very important thing is to protect all kinds of machinery from sun and rain, as exposure to the elements will do more damage to implements in a year's time than the work they have been subjected to. Remember that capital spent in purchasing unnecessary machinery, and then leaving it without protection, is like throwing money away.

Markets and Marketing.

These do not concern the settler much for the first few years, as he has more to do with buying than with selling. However, whether buying or selling, he should keep directly in touch with market prices, especially of those commodities that directly concern him. Usually there is a market for certain commodities as early vegetables, small fruits, etc., that a settler can sometimes take advantage of. This will depend on his situation and proximity to a market. In any event every settler should make an effort to grow enough carrots, cabbage, beets, onions, etc., to supply the household demand. In a really new section of country only the earliest maturing kind of vegetables and potatoes available should be planted.

As time goes by and clearing increases, make a point of producing as much of the produce that will bring best returns as is possible. The farmer's earning power depends largely on what he realizes on his marketable produce. If it pays to produce a finished product, do so by all means. Remember, the consumer can only utilize the finished article no matter what it is, therefore aim to produce what will bring the largest net profit.

District Representatives.

District Representatives of the Ontario Department of Agriculture are located at the following places in Northern Ontario:—

Muskoka District	Huntsville, Ont.
Timiskaming District	New Liskeard, Ont.
Sudbury District	Sudbury, Ont.
Algoma District	Sault Ste. Marie, Ont.
Manitoulin Island District	Gore Bay, Ont.
Rainy River District	Emo, Ont.
Thunder Bay District	Port Arthur, Ont. Fort William, Ont.
Kenora District	Kenora, Ont.

Monteith Demonstration Farm.

Timiskaming District, situated at Monteith, Ont.

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200	April	1912	Fruit Juices	L. Meunier.
201	May	1912	Peach Diseases Peach Growing in Ontario	F. M. Clement. L. Cæsar.
202	May	1912	Grape Growing in Niagara Peninsula	T. B. Revett.
203	May	1912	Cabbage and Cauliflower	A. McMeans.
204	June	1912	Decay of the Teeth	Ont. Dental Society.
205	Sept.	1912	Dairy School Bulletin (No. 172 revised) I. Cheese-Making and Butter Making	Staff of Dairy School
206	Nov.	1912	Dairy School Bulletin (No. 172 revised II. Dairying on the Farm	Staff of Dairy School
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213	April	1913	Bee Diseases in Ontario	Morley Pettit.
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216	Oct.	1913	Box Packing of Apples	E. F. Palmer.
217	Dec.	1913	Farm Poultry (No. 189 revised)	W. R. Graham. A. C. McCulloch.
218	Dec.	1913	Birds of Ontario (No. 173 revised)	C. W. Nash.
219	Jan.	1914	The San José and Oyster-Shell Scales	L. Cæsar.
220	Mar.	1914	Lightning Rods	W. H. Day.
221	April	1914	Food Value of Milk and its Products	R. Harcourt.
222	April	1914	Currants and Gooseberries	E. F. Palmer.
223	May	1914	Fertilizers	R. Harcourt. A. L. Gibson.
224	Sept.	1914	Greenhouse Construction	S. C. Johnston.
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227	Jan.	1915	Cherry Fruit-Flies	L. Cæsar. G. J. Spencer.
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