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Clearing a Scrub Homestead

EDITOR FARMER'S ADVOCATE :

Some fifteen years ago I was persuaded into homesteading a quarter-section of willow scrub, poplar and oak. Cheap land and wild hay in the immediate vicinity were additional inducements for a real dense scrub farm is generally dear at a gift. I was fresh to the country and knew little about the work but I soon knew all I wished to know — and more.

I commenced by cutting about five acres of dense willow from four to ten inches through, chopping level with the ground, piling it when possible. I burnt the following summer. The burning and reburning the debris is laborious work, but necessary to get all the brush out of the way before beginning at the roots. I then found out what a mistake had been made by cutting level with the ground, for I had to cut round each root with heavy scrub hoe to get a "hold" with the logging chain. The labor in getting out that five acres of roots with a team and two men was immense.

The next five acre piece I chopped off about a foot from the ground, piled and burnt as before, and having the stumps to get hold of did the work more expeditiously. With the smaller roots I used a team with blocks and tackle which is light and handy. But the heavy solid willow roots require the stumping machine with steel cable, which I was obliged to purchase. The first five acres of roots must have taken two weeks, the second five acres about five days. But, of course, in the first instance inexperience must be considered.

Poplar trees are an easy proposition. Climbing the tree by a light handy ladder I attach the rope round the tree, above the largest branches, then cutting round a few roots at the bottom. I give the word to the teamster, who draws, sometimes straight on the tree or with block and tackle, according to the size of it. By standing near the tree, on the opposite side to the team, I cut any obstinate root and even the largest poplar is soon down. The rope is, of course, sufficiently long to ensure the safety of the team. Oak trees are more difficult, the roots are tougher and deeper and require more cutting round before the draw.

The difficulty of large trees of either kind is how to dispose of them when down, especially when numerous; the roots being attached makes them heavy to move and a winter has to elapse before being cut up into firewood or cordwood. Stumps, sound oaks especially, require the stumping machine and a good strong pull at that, besides cutting round the roots as before. To sum up, it is all hard work, but may the gods preserve me from anything tougher than the willow.

Man.

HORACE HEY.

Hires Galicians to Clear Land

EDITOR FARMER'S ADVOCATE :

I am not a novice at the work of clearing scrub land. I have had more than twenty-five years' experience, and if any statement or suggestion I should make here will be of any help to any farmer I will consider that I am getting my reward. I am not ashamed of my humble origin. I landed in Winnipeg with thirteen dollars in my pocket, though I might have brought another seventy-five, but left that to my widow mother.

On the 18th of April, 1883, I took an abandoned quarter-section, four miles south and a mile east of Minnedosa. The land in that vicinity was covered mostly with poplar bluffs, willows and an odd oak with patches of prairie. The willows grew around the duck ponds and sloughs as thick as hair on a dog's back.

The old mode of clearing land was to mow the smaller brush with the scythe and the larger trees were cut with the axe or brush hook, whichever was most suitable, and then piled up and burnt. That was very unsatisfactory. It was impossible to make a good job of the breaking on account of the roots and stumps. They would always be a hindrance for a number of years in plowing, harrowing and the cutting of our grain, as those on the scrub land are well aware.

I did not attempt to clear the whole of my quarter-section, but broke the easiest of it. The times were hard in those days, and I could not afford to hire help. It kept me busy keeping my body and soul together. There being room for expansion, I bought half a section from the C. P. R. across the road from my own place, and

broke the easiest on that. Again, there was still room for expansion, and I bought another half-section, until today I have six quarter-sections, besides some town property; have all the implements and horses to work the above land and do not owe a dollar. It was a great relief when I got out of debt. When I was in debt I felt, as Solomon says: "The borrower is a servant to the lender."

Last year I adopted a new way of clearing the land. We got broken about forty acres in two patches. I hired three Galicians to clear one patch. It was covered more or less with poplar bluffs and willows and quite a number of oak. They took the job for \$70; I to board them and



SANDY LOCHORE AND HIS PONY HERDING COWS ON DAIRY FARM, IN B. C.

supply the necessary tools such as axes, scythes and grub hoes. They worked hard. They earned a little better than \$1.50 per day. They took everything out by the root, and left the brush in windrows. It was the best investment I ever made. When we came to break that land we had a fourteen-inch brush breaker and four good horses. They went through everything, and it will be no time before we will be able to use the gang plow.

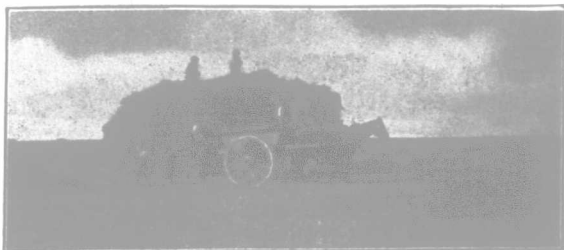
I had another twenty-acre patch, which was more formidable than the first. The Galicians did not like to tackle it on account of the size of the trees. I put my own son, with four horses attached to a four-horse double-tree and a 25-foot logging chain for the tall trees and an 18-foot chain for the willows; also a man and a boy with him. They excelled the Galicians on the larger trees and willows. They also took everything out by the root. One would be in charge of the team, the other two would be cutting the underbrush and roots that would be in the way and piling the willows into stacks to be burnt. The big poplars were hauled out of the way, where it was convenient; if not convenient they were left in windrows until we had time to cut the limbs and roots off them. It was astonishing the transformation made in a short time from a solid bluff to a broken field ready to be sown next spring, from which we can expect 30 to 40 bushels of wheat per acre. It appeared to me, an onlooker, that there was a keen competition between the two gangs.

People will say there is lots of hard work at that. That is true, but what is worth doing is worth doing well. Let me say here, as the bishop of Manchester said, if you want to succeed in anything you must count that drudgery is nine-tenths of it.

I intend each summer from this on to spend from \$150 to \$200 on Galicians to clear up the land, and I strongly advise others to do the same. If you have not the money, borrow it from the bank. It will be the best investment you have ever made. You will make your fields bigger, and you will be able to accomplish more work. I may state here that the result of our last year's clearing was the means of giving us enough fire wood for two years or more.

Man.

ELIAS JONES.



STACKING HAY IN THE OLD LAND

Alkali Soils and Their Treatment

Among the numerous and varied problems confronting the tillers of the soil in Western Canada, that of alkali soils and their reclamation is perhaps one of the most difficult to understand and cope with. Every year vast areas of new land are taken up by immigrants from the States as well as from across the ocean, who are able to find rich fertile soil that they quickly bring under cultivation and add to the rich resources of our great Dominion. Nevertheless, there are large areas of land, varying in size, scattered over the country especially in British Columbia and Alberta that are to a great extent if not wholly unproductive on account of the presence of what is commonly called "alkali" in the soil. This alkali is detrimental to the growth of many crops. American settlers may have had some experience in the treatment of such soils, but to many, including those who came from the eastern provinces, it is a problem that appears to have no solution and as there are few books published containing information on the subject, a few words here may throw some light on what is at present a more or less dark subject.

It is characteristic of alkali soils that they usually occur in arid or semi-arid countries of which India, Egypt, Central Europe, parts of Australia are some, and the reason of their occurrence is directly due to lack of rainfall. All mineral soils are the result of the disintegration of rocks of different kinds, and in the breaking down of rocks into various forms of small particles, many salts including lime, phosphoric acid and potash, appear. Where there is a plentiful rainfall many of them are dissolved and carried away in the drainage water, but in countries having a light rainfall, say less than twenty inches per year, although there may be sufficient moisture for the formation of these salts, the volume is insufficient to make drainage enough to carry them away, and the result is that we find in the soil a whitish powder, commonly spoken of as alkali. The rock elements of the soil are being continually, though no doubt slowly, decomposed, giving rise to soluble mineral compounds, some of which may be useful and others injurious to plant life and many of those contained in alkali soils are of the latter class.

In some soils the alkali is more apparent than in others for when evaporation exceeds the rainfall, the salt is left on the soil's surface in the form of a white incrustation, but in others, it pervades the whole surface soil and whilst this remains damp the white ingredients are not easily noticeable. All alkali soils are not alike but differ greatly in composition and may be classified in a wide sense into "white" and "black" alkalis. Both of these forms are found in Canada and are very detrimental to plant growth, and the difference in color is due to the elements or chemicals which they contain, and the action of these chemicals. While alkali consists chiefly of sodium compounds of sulphur and chlorine, the latter — sodium chloride — being common salt, but black alkali contains much sodium carbonate, and the black appearance of this form is due to this chemical compound decomposing the black humus of the soil and thus giving the surface a darkened appearance. Of these two forms the black is much more injurious to plant life than the white, because the destructiveness of alkalis depends almost altogether on the amount of sodium carbonate it contains, because the action of this compound is as a corrosive and it eats into the tissues of the plant. Fortunately, black alkali is not of such general occurrence as the white form, and the latter is more noticeable on account of its grey or white appearance, and the reason of the attraction that alkali spots have for cattle and horses is due to the incrustation of common salt that they are able to lick off the ground. Some of the salts in white alkali are injurious to plant life by extracting the essential moisture from the plant and instead of being turgid and upright, its growth is weak and it eventually withers and dies.

What are commonly termed "pot" holes of alkali, that are all too prevalent in our fields, are due to an excess of water collecting in a confined space and then rapid evaporation resulting. During the process of evaporation water containing these salts rises to the surface by capillary action, and when the moisture has passed off as vapors, the salts are left on the surface. In cases of this kind the injurious physical effect of alkali is apparent, as it causes the soil to puddle when wet and harden or "bake" into a firm surface after drying. It will thus be seen that the