Soils and Crops

Address communications to Agronomist, 73 Adelaide St. West, Toronto

Blow Up Your Stumps.

Explosives have come to be used quite generally in many sections in removing stumps from logged-off land. It is impractical, often impossible, to pull large stumps before splitting and loosening them by the use of a charge of stumping powder. When large stumps are pulled without first being blasted, their disposal will often cost more than the pulling cost. It is next to impossible to pile them by the use of a team and blocks so that they will burn.

On the other hand, when stumps are blasted by the use of small charges of powder, just large enough to split and loosen the stumps without throwing them out of the ground, they may then be removed by the use of the stump-puller, a team with blocks and line, or a power outfit. When the pieces of such stumps are piled they usually burn quite readily. In some cases more powder is used in order to remove the stump entirely, or the largest part of it, so that a direct pull of a horse or team will remove any remaining root. This is not practical where the large stumps are found, but may be done in some sections where the white pine stumps predominate.

Blasting of stumps can be done most economically when the soil is well filled with moisture. At this time the water fills the air spaces and the stumps leave the earth more easily. The saving is very apparent in loose sandy soil. Stumps in such soils should never be blasted when the soil is dry.

Many settlers on logged-off land hesitate to use powder because of the danger connected with the handling of explosives. While there is an element of danger in their use, any one who is ordinarily careful can safely handle the low-grade powders used in stump blasting. All powder should be used when fresh. Never accept or try to use powder that has been on hand for a considerable length of time, or that shows by the wrappers that it has been subjected to varying degrees of heat. Powder that has been frozen should not be thawed unless for immediate use. Large amounts of explosives should not be purchased unless adequate means for storing them are provided.

In all but exceptional cases of stumping it is better to use powder of a strength equal to from twenty to thirty per cent. nitroglycerine powder. Powders of these grades are found to give good results at less expense than when the higher grade powders are used.

No man should attempt to use powder without first thoroughly familiarizing himself with the best methods of handling the explosive that he intends to use. This can be done by observing others at work, by reading directions furnished by the manufacturer.

In order to get results when blasting stumps, it is necessary to place the powder at the point where the maximum power will be exerted upon the stump. It can be learned only by experience where to place the charge and to estimate exactly the amount of powder to use under a given stump.

The hole in which the powder is to be placed may be made in several different ways, depending upon the kind of soil, rooting system, and size of stump. All stumps, except those having a tap-root, are blasted by placing the explosive in the earth beneath the stump. For small-sized stumps that do not require more than one stick of powder, the hole may be made with an ordinary crowbar. For larger stumps an auger of from two to three inches in diameter is used, while holes under the largest stumps are often dug with a bar and shovel. The making of the holes is the most important as well as the most laborious part of the work. The auger should be started at a point a short distance from the body of the stump between the two largest roots, and the hole should be bored at an angle of forty-five degrees or more with the horizontal, until it reaches a point from four to eight inches beyond the centre of the stump. The charge should be placed beyond the centre of the stump rather than in front of it. From observation it has been noted that the force of the charge is directed toward the side from which it is loaded, and if any part of the stump is left in the ground it is the opposite side. For this reason, in order to get good results, it is necessary to place the charge slightly beyond the centre of the stump.

After the hole has been completed and is in the proper place, the amount of powder decided upon is poured in. If a nitroglycerine powder is being used, it is compacted by means of a wooden tamping stick; but a chlorate powder is never tamped. The primer is placed on the charge. It consists of a blasting cap crimped upon the proper length of fuse and imbedded in a small piece of a stick of powder when using nitroglycerine powder; but only the cap and fuse are used when other powders are used.

The caps used to detonate the powder are very sensitive, and should be handled with care. While they are innocent looking, they are very powerful, and should be kept out of the hands of children and others who do not know what they are handling.

After the primer is placed on the charge, fine soil is sifted upon it to a depth of three or four inches, and packed lightly, after which the earth can be shoveled in and packed solidly by means of the wooden tamping stick. The tamping should continue until the surface of the ground is reached. When the tamping has been completed, the charge may be fired. If the ground is wet or cold the blast should be fired soon after loading. If neither of these conditions is found it can be left until convenient. The fuse is usually lighted by a match, but often some other form of lighter is used, as a red-hot iron, rod, or a short length of fuse.

The objections that are offered against the use of explosives in land clearing are that they are dangerous, that the use of some kinds cause headache, and that they are too expensive. And in many sections it is true that the cost of explosives is prohibitive. The other objections have been almost entirely met and co-operative buying of car-load lots of explosive will reduce the cost.

Early Plowing Brings Bigger Wheat Yields.

Early plowing is one of the essential factors in growing high yields of wheat as shown by results at the Ohio Experiment Station, where from 3 to 8 bushels more per acre have been secured by observing early plowing dates.

Agronomists point out that early plowing makes it possible to prepare a firm, fine and moist seedbed, which is regarded so essential in successful wheat growing.

Frequently a pest of the wheat can be controlled by early plowing, particularly the wheat midge this season.

Most hens will lay if they are allowed to; many successes with chickens are made in spite of the owner rather than on account of him.

Buy Thrift Stamps.

Financial Notes

Dawson City—According to Hudson Bay Company's Governor, H. Kindersley who has just arrived here after having travelled the full length of the Mackenzie River, drilling for oil is going on actively along the river. The Imperial Oil Company has crews prospecting at Fort Smith on the headwaters of the Mackenzie River and also 45 miles north of Fort Norman.

The Fort Norman party is stated to have struck oil running 30 gallons a day. It is of a much finer grade than the ordinary kerosene; and the well is believed to have good prospects. At 80 feet the well commenced production which has improved as lower depths were struck. It is believed that at the 600 foot level the full flow will be struck. One feature of the district is that even in very cold weather oil can be taken from the wells.

Regina—Eastern financial interests have organized a company capitalized at $500,000 for the purpose of developing a part of the Saskatchewan lignite fields in the Eastern district. The company has secured an area of 630 acres at Roche Percee and is styled the Western Collieries, Ltd., with H. Wallace of Cobalt, Ont., one of the promoters, acting as general manager.

Fredericton, N.B.—In preparation for proceeding with the construction of dams on the Tobique River and a pulp and paper manufacturing plant at Tobique River, a few miles from the Town of Handover in Victoria County, the Fraser Companies, Limited, who now operates several pulp mills and about a dozen lumber plants in New Brunswick and Quebec, are said to be obtaining options upon properties which will be required in carrying out their immense new project.

Hon. J. W. Tweedale states that it is generally believed that the Frazer interests are about ready to start work under a charter obtained from the Provincial Legislature, last spring, for a $10,000,000 development scheme.

Vancouver—It is announced that the Premier Company will erect a 100-ton cyanide mill and that it will be ready for use before the end of the present year. This will be run in connection with the concentrating mill that is now being erected.

The Premier mine ore, it should be remembered, is a gold ore as well as a silver ore, the gold value running about 60 per cent. of the silver value. In concentrating such an ore, it often is advisable to cyanide the tailing, as the loss of a comparatively small weight of gold which would be negligible in the case of silver, might mean a big loss in value. By cyaniding the tailing from the concentration process this loss often may be eliminated. Though we have no authority for making the statement, we imagine that the method that will be adopted at the Premier will be to continue to ship the high grade to Tacoma, to concentrate the mill-grade ore, sending the concentrates to the smelter and cyaniding the tailings for the recovery of gold and silver lost in concentrating.

If sunshine will keep milk pails clean and fresh, it won't hurt to let it into the barn.

Our Good-Looking Home.

Seven years ago we moved to a new farm. The place was a fine example of a good farm left to run down and gave us a chance to show what we could do to beautify our home. The house and other buildings were badly in need of paint. The trees and shrubbery had not been trimmed for some time. The fences had been put up cheaply and were an eyesore to the place. We had a good location and a large number of trees on which to base our plans.

The house faces the east and the grounds slope slightly in that direction. There is a tenant house just south of our own home with a driveway between the two. The two houses are surrounded by a row of poplar trees which were planted in 1900 and at present are very large. This, with the mention of a few shrubs and evergreens gives a general description of the home.

Believing that the appearance of any group of farm buildings is much bettered is they are all painted the same color, we painted the house and other buildings a dark grey combined with white. There were four white birch trees in the front yard but they his charts and wrench the wheel out of his hands. Your mind is your pilot died shortly after we came to the farm. Two of them were cut down and the other two were cut down to just above the place where the first branches came out. I planted woodbine and wild cucumber at their bases and they make a pretty sight.

The elm tree just south of the large house is dying and we have planted two hard maple trees, one on either side, to take its place when it has to be removed.

To the south of the back part of the house we planted a silver maple. In the summertime the sun heated the rooms on that side so much that we decided to place a tree there to provide some shade.

We do not have our yard fenced. A terrace extends along the front of it and there are fences along the north and south sides. At the corners of the yard facing the road we placed large cement posts with our name printed in the cement. The remainder of the posts are steel. Heavy wire fencing was used for fence.

In the matter of flowers and shrubs there is a chance for the family to show its individuality. We used mainly those species which we knew to be hardy in our community. We have roses, wisteria, orange blossom, spirea and lilac shrubs near the house, with borders of geranium, lily of the valley, peonies, iris, pinks and gladioli.

The peonies south of the house always bloom earlier and have larger flowers than those which are planted out in the open. Moss roses are one of the best flowers for summer blooming.

Old Bony Scrub.

Good-bye, old Brindle, bony scrub,
The time demands a better breed.
You eat enough, but there's the rub,
You never pay for half your feed.
So after all these years we part,
But pray remember, as you go,
If this should break your bovine heart
You broke my purse long, long ago.

Besides making the house and yard attractive, flowers add actual money value to the place. Plant some tulip bulbs this fall.

How to Establish a Health Centre

This is a most interesting account of a Health Centre established in one of the towns across the border, which affords a good example of what might be done in many of our Canadian communities.

Bridgeton, New Jersey, is a city of approximately 15,000 inhabitants. The surrounding territory is settled by farmers. There are about five villages within a radius of ten miles of Bridgeton, each having a population of from 300 to 1,000 persons. After the war, Bridgeton's large and enthusiastic Red Cross organization wished to continue its work for humanity and therefore established in Bridgeton a Health Centre.

The centre secured commodious first-floor rooms in the centre of the city. These are used for offices, rest room and comfort station, nurses' office and class room for teaching Home Care of the Sick, the holding of baby clinics and for general health purposes.

Two Red Cross Public Health Nurses were hired. One of these was assigned to give one-half of each day to school work and the other half day to class work and bedside nursing. The second nurse was assigned to bedside nursing and child welfare work. In order to make the most of the nurses' time a small automobile was secured. This was marked with the insignia of the Red Cross and the words, "Public Health Service."

The rooms of the Public Health Centre are used by the farmers, particularly their wives and families, as a rest room and meeting place. After the day's errands have been accomplished there is always the open door and comfortable chair until the husband arrives. The various family health problems may be presented to one of the nurses on duty who freely gives safe counsel, and very excellent results have been obtained.

A third nurse has been requested from the Red Cross and when she has been assigned, the school nursing service will be extended to four of the outlying villages.

In Bridgeton, the Board of Education pays for the time the nurse devotes to the school work. The Boards of Education in the farming district will be asked to take over a portion of the expenses of such health service when it has been demonstrated to them that this service is of value. In the Bridgeton schools much has been accomplished by the nurses. Eyes that have needed glasses have been fitted. The nurse in many instances has found it necessary to visit the home and explain in detail to the parents just why the expenditure for the child be made. Undernourished children have received proper nourishment through the instrumentality of the Red Cross Nurse. Parents were only too glad to be told why their children were weak or stunted in growth. Children and adults in the first stages of consumption have had the advantage of a trained nurse and that means proper instruction in preparing food and in the care of such persons. A charge of 50 cents for each visit is made, but it is only accepted when the person receiving the servce can afford to pay.

The Bridgeton Health Centre has secured a woman as a social service worker. She is one of their own citizens and as soon as her course is completed she will begin her duties, and those responsible for the work are confident that most excellent results will follow.

During the present summer, the nurses have been visiting the various farms to make a survey of living conditions and the health of each family, particularly the health of the children. All this data will be indexed and recorded. Such aid as can be given by an organization that has for its object the improvement of the public health, will be extended to the families requiring assistance.

From a few visits a month, this health service has grown to cover from three to four hundred visits per month and these do not include visits to school children.

The Welfare of the Home

The Housewife's Problem of Feeding the Family

He who makes two blades of grass grow where only one grew before is a public benefactor. The housewife who plans daily to improve the food which nourishes the family, working into this food thoughts of health and of love, is truly the mother of the nation.

Food that is used just to fill the stomach does not make efficient men and women; the food we eat each day must fulfill various missions in the body. If the person is under twenty-five years of age, it should build body tissue, bone and tooth structure and supply the ever-increasing energy demands, while if the person is over this age and under forty-five he will need less body building foods and energy foods and more bulk or ballast foods. From forty-five and on, a decided cut down in the protein foods and a liberal amount of green and energy foods with an abundance of ballast and pure drinking water. This is one of the real reasons why the great number of men who are sedentary or indoor workers have nerve and nervous breakdowns after forty years of age.

If one will but study this subject, in order to be as efficiently fit at sixty as one is at forty or forty-five years, age has nothing at all to do with the decline of bodily tissue. For just look about you and you will see some folk old at fifty and others young at seventy years of age.

Good food in proper amounts that contains sufficient bulk or cellulose (roughage) to assist in removing the poisonous waste and a generous flushing of the digestive tract with pure water will keep you sufficiently fit at one hundred years of age. Learn to anticipate Mother Nature's wishes.

Every baby inherits the dominant right to be fed at its mother's breast, and unless serious illness and complications prevent, every mother should take real pride in her ability to so feed her child. Between nine and ten months old, the baby should be weaned and gradually brought to the table for its nourishment. This is the starting point or the beginning of an inheritance of a perfect physical health.

Until the child is six years of age you should plan your child's diet in order to give it one quart of the best milk daily you can procure. A high-grade milk is a real food that contains the vital and necessary mineral elements that are needed in the tooth, bone and muscle structure. So no matter what other economy is necessary, do not stint or curtail on the milk and other foods which are necessary for the child.

Feeding the One-Year-Old.

Feed the year-old baby, at 7 a.m., juice of one-half orange, three-quarters of a glass of milk and three tablespoons of well-cooked cereal. This means that the cereal should be cooked in a double boiler for at least two and one-half hours. Over night in the fireless cooker is much better.

At 10.30 a.m., three-quarters of a glass of milk, heated and poured over slice of thick toast; scraped baked apple.

1.30 p.m., poached or boiled egg, four tablespoons of cooked spinach, rubbed through sieve; one thin slice of bread cut into tiny blocks; one-half glass of milk.

4.30 p.m., small baked potato with a little butter; small cup custard, four stewed prunes, one-half glass of milk.

6.30 p.m., glass of milk.

This menu may be varied. Fresh asparagus, well cooked peas, carrots may be rubbed through a sieve and used for variety in place of the spinach. Chicken broth and well cooked rice may replace the milk and custard in the afternoon meal. Celery, spinach or cream soup may replace the egg; usually three eggs each week will be found sufficient.

At two years of age the child should be taught the use of a knife and fork. A small child's set of knife, fork and spoon can be purchased at a very reasonable price and they make the teaching of correct table manners a very easy problem.

Teach the child to use a napkin with each meal; these can be made and are quite inexpensive. The child should be taught to brush its own teeth after each meal and just before bed time. I think it far the better plan to feed the small child four times daily in place of he usual three adult meals. Plan the meals as follows: 7.30 to 8 a.m.; 11 to 11.30 a.m.; 3 to 3.30 p.m., and the last meal, which should be light, about 6.30 p.m.

The Two-Year-Old's Diet.

For breakfast: juice of an orange, baked apple or stewed prunes with raisins; three tablespoonfuls of well-cooked cereal with two-thirds cup of milk. Slice of bread and butter.

At 11 to 11.30 a.m.: cream soup, using either potatoes, peas, spinach, celery, lettuce, part of chicken stock and part of milk may be used. Whole wheat bread and butter with little finely shredded lettuce.

Rice, tapioca, hominy or Indian meal pudding, old-fashioned bread pudding, custards, baked apples, stewed prunes and raisins may be used for variety in dessert with a glass of milk.

For the meal at 3 to 3.30 p.m.: little very finely minced well-cooked chicken or lamb, not more than one tablespoonful for two-year-old to three tablespoonfuls for the four-year-old. Baked potatoes, spoonful of well-cooked vegetables, such as spinach, carrots, turnips, celery or lettuce.

The last meal of the day, at 6 or 6.30 p.m.: bread and butter and a glass of milk. Whole wheat bread contains the sixteen food elements that the human body requires, and with a glass of milk it forms a perfect food for the growing child. Good fresh dairy or creamery butter is vitally necessary to the growth of the body. Milk, butter, eggs, fresh uncooked lettuce and finely shredded celery contain abundant materials for body growth and physical well-being, so be sure to use these foods abundantly.

The active child consumes a lot of energy and bodily heat in its playful efforts, and for this reason must have sufficient energy foods if it is to remain physically fit and supply the necessary materials for the upkeep and growth of the body.

Shall the child have candy? That depends entirely upon yourself. With many children around and all of them having their sweet tooth appeased, it is hard to deny your child some of the sweets, but be wise and prepare it at home.

A careful watching of the diet will entirely eliminate intestinal and other digestive disturbances. If the small child becomes sleepy and dull, finicky about this or that, have the physician look him over at once. It will not only prevent serious illness, but will prevent the child suffering.

Tea, coffee and other beverages have absolutely no place in any child's diet. So do not give him these things. Plenty of cool, but not iced water, and then remember that a good, pure ice cream is a real food.

The Hired Dollar.

Men who boldly bargain for man labor cringe at hiring dollar labor. Debt looms up to them as a monstrous evil forever set in wait for them. They fail to realize that the power of debt can work as mightily for a man as it can against him. More men have risen by debt than have fallen through it.

Debt carrying disaster in its wake does so in the vast majority of cases for just one or two reasons; either the man who borrows goes too far beyond his depth, or he secures the money to hazard it in some enterprise in which he is not thoroughly versed.

If a man operating a farm cannot make, year in and year out, enough to allow himself a margin beyond the interest on the money invested, he is ill-fitted to his business; for it is this extra margin that presents his worth as a man. Failing to secure this compensation for his personal services, he would be far better off to turn the value of his land and equipment into interest-bearing paper and then hire himself out for wages.

On the other hand, if he is capable of making a good profit beyond the interest on his invested capital, as most farmers are, he is wise if he by judicious barrowing secures additional capital, thus placing himself in a position to operate a larger business.

Few men mount to positions which in size match their full capacity. It is doubtful that there exists a man who has not the ability to manage a business a trifle larger than the one he heads, provided of course he has made some measure of success.

One Middle West farmer of large acres thinks that the stumbling block of so many farmers is that they have the wrong goal. They make it their aim to get out of debt. Once they have taken the icy plunge they harass themselves until with heart-breaking sacrifice they have paid off every dollar. He believes they should increase their debt as rapidly as they can with sound judgment.

The man who is courted by the banker is the man who borrows, not because he is a prospective victim of the foreclosing mortgage, but because the intelligent heavy borrower is usually a big money maker.

Less Labor—More Wheat.

By giving proper attention to all the factors which enter into successful wheat growing, much larger yields can be produced. This has been established, times without number, by efficient wheat growers of Europe. The average man is disposed to say that Europe had until lately an abundance of cheap labor, which fact in itself accounts for the 30 bushels of wheat per acre which Great Britain harvests, as compared with the 18 to 20 bushels per acre which are gathered in Canada. Cheap labor has its counterpart in our highly efficient farm machinery. By adding a horse to the team and by using wider plows, wider harrows, disks, binders, etc., it is possible to reduce the man-labor required in raising wheat from 50 to 75 per cent. This is America's answer to European abundant and cheap labor.

The growing of wheat produces much more highly important food for each hour of man-labor put upon it, than do either potatoes or corn. When wheat yields 30 bushels to the acre, reliable figures show that one hour of man-labor produces 1 2-3 bushels of wheat. At prevailing yields, one hour of man-labor on potatoes produces about a bushel of that crop, while on corn, one hour of man-labor produces about 1¼ bushels. It is obviously a matter of labor economy to grow wheat.—Henry G. Bell, B.S.A.

Look through closets carefully for signs of moths or other pests.

"APPLY WITHIN"

"Oh, Aunt Madge," Sally's voice was very plaintive, "do come and cheer me up! Everything has gone wrong!"

"Outside and inside?"

"Yes," Sally answered stoutly, "outside and inside, both."

"So then, of course you are beginning to put things right as fast as you can?"

"But how can I?" protested Sally. "How can I do anything with the fact that it is raining so we can't go on our class picnic; or that Sarah Shumway said the most horrid things about me; or that father says I can't have another new dress! And—oh, everything! That's the great trouble; I can't change a single one of these horrid things!"

"Well, those are only the outside things, and, after all, the outside things are the ones that count least."

The puzzled look on Sally's face deepened. "Dear me, Aunt Madge, you certainly don't think I've got troubles that are worse than those, do you?"

Aunt Madge smiled—one of her wise, understanding smiles.

"Why, yes," she said, "I certainly did think I saw the signs of considerably worse things— and yet, after all, things that are absolutely in your own hands."

"Aunt Madge, please don't talk in riddles! How are any of these horrid things in my hands?"

"Because all you need to do is to follow one little direction that we all see somewhere nearly every day: 'Apply Within.' It's the only place I know of to find satisfaction and content, and even mastery over the outside things that trouble us."

Sally's look became almost indignant.

"Now, look here, Aunt Madge," she said, "that sounds well; and of course I've read it in books. But it doesn't pan out. Will you, for instance, tell me, please, how I can 'apply within' and change the weather, or Sarah Shumway's remarks, or father's feeling about what he can afford? Those happen to be some of the things I want to 'master' just now."

Aunt Madge smiled serenely.

"It all depends on what we mean by mastery, I suppose," she said. "There was a time when you used to quite very frequently those fine lines of Henley's:

"I am the master of my fate;
I am the captain of my soul.'

"Now of course I don't know just what that meant to you, but to me it meant that because I am the captain of my soul I am the master of my fate—cause and effect. Does anyone suppose that all of the outside things in Henley's life were to his liking? 'Rather not,' as the British say. Henley lay on his bed suffering tortures of pain; but he was captain of his soul, nevertheless.

"That doesn't mean that he didn't meet bad storms, you see, or possibly the threat of mutiny and the danger of shipwreck. But when a captain gets into perilous waters does he drop his wheel, throw aside his charts and instruments, and rush out upon the deck and entreat the storm to stop and the waves to be still, and rail against them when they disobey? Not at all. He goes 'within'; he lays out the course that will be right, whatever happens; he seizes the wheel, and so he rides the storm! Isn't that the way to be its master?"

"Ye-es," assented Sally slowly, "I suppose so, but how does that apply to me?"

"Well, of course you have heard this before, too; but it doesn't make it any the less true. It's not the thing itself that hurts you, but the way you permit yourself to feel about it. Now, the wise captain does not allow anyone in his pilot house without a special invitation—and certainly he does not invite anyone who is likely to tear up house. Suppose you decide once for all that it is from there that you must guide your ship, and then go in and shut the door on every thought and feeling that can make you unhappy.

"Oh, yes, my dear, it can be done, and the earlier you learn the secret of doing it the happier your life will be! As my favorite author says:

" 'If happiness arises from cheerfulness, kindness and rectitude (and who will deny it?), what possible combination of circumstances is going to make you unhappy so long as the machine remains in order?'

"Another more important reason why you should 'apply within' for your happiness is that, as our Lord Himself tells us, 'the kingdom of God is within you.' "

Gas in Silo.

Gas may form in a silo at the time of filling and for a week or so afterwards. This gas is heavier than air and so will settle in the silo and make conditions uninhabitable for the workmen. As soon as filling the silo is started the falling silage and the air currents caused by the blower will stir up enough air currents to drive out the gas. A good way to determine if there is gas in a silo is to lower a lighted lantern. If it goes out, it will not be safe to go into the silo. Keep the doors open as long as possible when filling.

The term "gas" was first used in chemistry in the sixteenth century.

Busy people are happy people when they live on the land and work in the soil.