

Soils and Crops

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

An Ice House You Can Build.

Each year we appreciate more and more the value of ice on our farm. Sometimes I wonder that more general attention is not given to the ice crop. For ice is a crop after all, and a very valuable one, too.

There is no one who can use ice to such good advantage as the farmer. All perishable products must be kept for a longer time than in the city, where there are stores to depend upon. And the cellar is not always as clean and sweet a place to keep meat, butter, and fruits as it should be. Consider the possibilities that lie before the farmer who has a small cold-storage plant to enable him to hold his milk, fruit, and vegetables until market prices improve, and we realize better just how valuable ice can become.

I believe many of us can profitably use ice to a far greater extent than we do, and when we put so much labor into harvesting it a little more trouble expended in keeping it is well worth while. A suitable ice house will save half the ice you are accustomed to putting in a shed that has poor insulation.

There are two or three weak points in general ice-house construction. The first is a poor foundation, preventing good drainage. The second is the kind of a roof which absorbs the sun's heat so that the inside of the house becomes like an oven. While there is usually little choice allowed in the selection of a site, there are certain precautions which should be taken:

If a site chosen be on a slight elevation, drainage will give no trouble; otherwise provisions for the drainage of water from the melting ice must be made. In building the floor, which can be placed on stone or cement walls, or on cedar posts set in the ground two or three feet, excavate at least one foot below the sills, and fill the whole of the inside between sills with cobblestones or very coarse gravel, smoothing off the surface with fine gravel or cinders.

If the digging shows a clay soil, a drain should be put in to carry off surplus moisture. Scantlings can be bedded in the fine gravel on which to lay the floor of inexpensive lumber, placing the boards one foot apart, in order to permit the water to escape readily.

It takes, on an average, from 40 to 45 cubic feet to hold a ton of ice. A building 12 by 16 feet, 12 feet high, will hold about 45 tons of well-packed ice. For a house of this size use 3x12-inch planing for sills, and for uprights use 2x6-inch scantling 12 feet long, placed two feet apart. On the top, spike 2x6-inch scantling doubled for plates. On the outside of the house nail sheathing of common lumber. On this tack a double thickness of building paper, then 1x2-inch strips, 12 feet long. Over this lay a double thickness of building paper, and finish with matched siding. This gives a hollow space of dead air of one inch to prevent heat of the sun from penetrating to inside lining. Care must be used to see that the space is well cut off at top and bottom.

On the inside, nail sheathing, filling the hollow space with cinders, shavings, or sawdust. Over this sheathing nail a double thickness of building paper, on which again to nail one inch strips, and over this sheathing, thus making two dead air spaces of one inch each, and one six-inch space filled with a good insulating material. For the roof, use shingles or best grade of rubber roofing, and filling in between the roof and ceiling with sawdust or cinders. Put a ventilator in the centre, made so that it can be closed inside if desired. Paint the building white, to reflect the heat and help to keep the building cool.

On the north side of another building is a good place for the ice house, or even on the north hillside, or in the shade of some trees.

An ice house of this kind will be as good an investment as you have on the farm, provided you have a pond or river close from which to fill it.

How to Water Milk.

If we are careful to water milk the right way, we shall never get into

trouble. In this method, we do not have to do the mixing, which is, of course, the hardest part. The right way lets the cow do the mixing and she will do it in just the right proportion, if we give her a chance. In other words, plenty, that is to say, all she wants, of good, clean, fresh water should be supplied the cow. Milk is 87 per cent. water, and besides the water she puts into milk, the bodily needs of the cow are large. For this reason she needs a good deal of water, and if she has to drink stale or polluted water, she will not take enough to make all the milk of which she is capable.

Speaking of the water supply reminds me of a woman whom I visited twice in the course of two years. She and her husband were pioneers in their section, and it was taking much hard work and still more patience and grit to get their little farm into shape for profitable farming. The wife was doing her full share. From the first she had insisted on keeping cows, for she came from a dairy country and knew the need of dairy stock not only for food for her children but also for fertilizing the land. In fact, she had bought the cows with her own savings, and with the help of the children took full charge of them. At the time of my first visit, on a cold windy day in late November, I found her with two of the little boys, pumping and carrying water to the cattle. The pump was a heavy one, and the stream of water was pitifully slender in proportion to the strength it took to raise it. They took turns carrying and pumping, and all were exhausted. The children were plucky and willing but they were tired and cold and it was growing dark. The mother's face was white and drawn and at last she said: "That will have to do. The baby is crying and I can't pump another stroke! The cows haven't had half enough but I can't help it!"

We went into the house, and I learned of this woman's pluck. Rather than give up the cows during the winter, when her husband had to work in the lumber camp, she was facing the heavy work that it meant. "I get along all right with everything but the pumping. The boys are too little to do much of it and it is so hard that it uses me up for my other work. But I just cannot give up the cows, though they are not doing nearly as well as they should and I am almost sure it is because they are not getting enough water. From my home training, I know a good deal about feeding and I take good care of them. We'll get through till Ben comes home, some way, and in the spring they can get good water from the lake."

A year later business took me that way again, and I called to see how the problem had worked out. She remembered me, as people do, where visitors are rare. "You see, I'm not pumping this time!" "Is your husband at home this winter?" I asked. "No," she replied, "but last winter showed me that I could not do again what I had then. So in the summer the children and I earned money every way we could. We saved what the bull calves brought for veal and I sold two of the cows to help out. Then we built a little pump house, bought a gasoline engine and piped the water to the barn and into my kitchen. I cannot tell you how different it has made life for me! By spring last year I was ready to give up and quit the farm. You see, I feel sure we cannot make this light soil pay without out cattle and I have not succeeded in proving to my husband that he could do better to stay at home in the winter and take care of more cows, instead of going to the woods. He was brought up in the city and does not understand about the land the way I do. But now we can go on and do fine! The cows are doing ever so much better this winter, too, so that I am making good money from my butter. I'm making lots better butter, too, since it does not half kill me to get enough water and carry it out again. I ship the butter to the city by parcel post."

The wheel-hoe should be stored in a place where there is no danger of its rusting. Also, see if it works properly. If for any reason it is to be replaced by a new one, winter is a good time to purchase, before the rush for garden implements begins.

In buying a new wheel-hoe it is well to make sure that the handles are at such a height as to accord with the height of the owner. The work is much harder when one has to stoop in pushing the hoe.

The writer finds it an advantage to have a long handle for the scuff-hoe. This allows one to advance the hoe beneath the soil quite a distance ahead of the operator, and makes a change and variety in the garden work.

The spading-fork in many instances can be used to better advantage in the garden than the spade. Particularly is this true when it is desired to break up the soil to a finer texture, and it is always well to have one of these implements on hand.

Absence of occupation is not rest; A mind quite vacant is a mind distressed.

Hogs

There were ten sows in my herd, and I succeeded in raising 76 pigs from them in a grassy lot, large enough to give plenty of room for exercise. Almost a pint of oilmeal and twice that amount of shorts were mixed with water to a thick-slop consistency, and fed early in the morning. Clean, fresh water was put in the trough after feeding.

No noon feed was given, although the sows had access to a self-feeding rack of second-crop alfalfa, and wood ashes, mixed with salt, were available at all times to guard against abnormal heat, throw off wastes, and act as a general tonic.

The evening meal was just enough of the slop to give them a good appetite, and a couple of ears of corn were given to each sow. For a change I sometimes gave a half-gallon of oats to each sow, the grain being scattered over the clean grass.

A month before farrowing time I put the sows in separate quarters, with a south-side pen. A large flap door, two feet wide and eight feet long, admitted the sunlight during the day, but was closed at night. Clean, fresh bedding was supplied, and changed as often as it became foul—usually about once a week.

The same feeding methods were practiced till farrowing time, the alfalfa being tossed into the pen each day. The corn part of the rations was decreased somewhat as farrowing time approached, to minimize body temperature and guard against complications. At farrowing time I was in attendance every time a sow dropped her pigs, and found it paid me well in practically every case.

After delivery of the pigs, I gave the sow a drink of water, with the chill removed. Don't be in a hurry to feed the sow at this time. The first feed consisted of the slop above mentioned rather thin—if slightly warm, so much the better. This slopping, with a wisp of alfalfa hay, was all the sow got for several feeds, then a small ear of corn was given. At the next feed a couple of ears were added, the amount being gradually increased until the sow was eating from four to eight ears of corn—depending on her weight, number of pigs, etc.

These methods yielded me a pig crop of 79 husky little fellows, 76 of them being raised to the weaning period—an average of almost eight pigs to the sow.

SPOLIATION

The cause of tuberculosis in poultry is an extremely small bacterium or germ, the tubercle bacillus, which closely resembles the germ responsible for tuberculosis in man, cattle, and hogs. This organism is so small that it can be seen only with the aid of a high power microscope.

The germs cannot grow outside the body, but once they become implanted in the body, they multiply rapidly, causing the formation of small nodules or tubercles; hence the name, tuberculosis.

Into the basket of thy day, Put each good thing and each thing gay That thou canst find along the way; Neglect no joy however small, And it shall verily befall Thy day can scarcely hold them all.

Your Grocer Is Not a Profiteer

Have a heart! Your grocer is not a profiteer! He is passing along to you reduced prices, as fast or faster than they come to him. Just because prices on many good things are still high, don't blame him. It is usually the poorest quality of everything that shows the greatest decline.

If he is as good a man as the average, your grocer is still doing his utmost to give you the best value for your money. But don't push him too hard. He is only human.

You don't know, but we do, that he is recommending goods that pay him less profit than other well known brands which he might easily persuade his customers to take if he cared to do so.

We know this because he pays us more for Red Rose Tea and sells it at less profit than other teas, so when he recommends you to buy Red Rose Tea, you will know it is because he believes it the best and is willing to take a little less profit for the sake of giving you the best value he can.

We are publishing this because we believe the more our people know of the true facts concerning the profits made by those they deal with, the more generous they will be in their judgments.—T. H. Estabrooks Co., Ltd., Toronto, Ont.

The School Boy as the Cerealist on the Farm.

In these days of agricultural advancement, the farmer must keep abreast of the times if he wishes to make a success out of his labors. As in other commercial pursuits, the farmer cannot attend to all the small details of the farm operations but has to use his time supervising the work. Consequently, if he cannot attend to everything personally, he must delegate some tasks to others and it is here that the school boy comes into his own. With the training he receives at school, he gets some idea of botany. At the school fairs he becomes acquainted with the different grades of grain by seeing one boy get first prize because his sample is clean from weeds and dirt, uniform in size and quality, and another boy not even win mention because he was too careless to remove the weed seeds and grains of other varieties from the sample. From the farm journals and periodicals, he gains ideas of what his district can supply and what the markets demand in the line of grain.

Lastly, from his father, if the latter is a good farmer, he sees how the land is prepared, the seed cleaned and how carefully the grain is handled from start to finish of the farm operations. When the school boy takes over the job of being farm cerealist, he should be given a piece of land for his own use on which he may experiment and grow what he pleases. A piece of land of about one-quarter acre in size should be ample for his activities for the first year. After getting his land fall plowed and in good physical condition for next spring's work, he can profitably spend his spare time in winter preparing his seed. If his father is growing good standard varieties, he can take several pounds of each of these and carefully hand-select good, uniform, well-matured kernels. He can write to the various government agencies and departments which distribute free samples of grain and thus obtain new and improved varieties suitable to his dis-

trict to try out in his new plots in the spring. When spring comes, as soon as the land is ready, he can sow his wheat, barley and then oats in plots of convenient size, say 47 feet by 7 feet 7 inches which will give a plot of one one hundred and twentieth of an acre. By leaving a four-foot path between plots, he can walk all around and examine the whole plot without any trouble. All through the growing season he should visit the plots frequently and pick out all the impurities such as wild oats. Any plants that are different from the rest of the plot should be pulled and thrown out, or, if they have desirable qualities, kept and grown the next year, each in a small separate plot. As the embryo cerealist will no doubt be comparing different varieties of oats, barley or wheat, he should carefully note when they head out and ripen, and should also observe their relative stiffness of straw. Besides attending to his small plots, he can have a look through the main farm crops and pick out the wild oats or other dangerous impurities present.

When the crop is ripe he should go through the plots and carefully pick a large number of good, uniform heads. These he can now thresh and clean up for next year's sowing. He should have sufficient grain from these heads to sow one-quarter acre, and the third year he should be able to supply his father with clean, carefully grown seed in a large quantity for the whole farm.

Thus the school boy will serve the dual purpose of supplying his father with good, clean, pure seed for general farm operations and at the same time train himself to know the worth of good seed and to be a careful worker.

The Growing Child—Article V.

Physical Education and Posture.

In any scheme for the upbuilding of human efficiency, physical education must necessarily be one of the fundamentals. It must be acknowledged that the average man or woman, boy or girl is most efficient when he or she is physically fit.

Moreover, physical education, in the modern sense, does not stop at physical fitness, but tends to mental and moral fitness as well. The boy whose nerve cells are fed by the quickened circulation, due to physical exercise, and whose mind is rendered alert and keen by the demand for the quick response to command in a drill or the necessity for prompt and decisive action in a game, is usually in better condition to solve a problem in mathematics than one who has not had these advantages.

Furthermore, the loyalty, courage and social qualities developed in team play, together with the self-respect that comes from the erect carriage of a well-poised body, strengthen the moral fibre of the individual and the nation.

The school owes physical training to your children just as truly as it owes them mental training. The educational program that aimed at the production of a few lightning calculators or erudite bookworms rather than a well-rounded education for every pupil would be considered absurd and freakish. In the same way the physical training that produces a few spectacular athletes to the neglect of the needs of all the pupils is fundamentally wrong. When all the boys and girls of the country are placed under the instruction of adequately trained teachers of physical education, the work will consist of corrective and recreational exercises in well-balanced proportions. These two forms of exercise—the first aiming at the production of good posture, and the second offering the advantages of healthy sport—will contain also all the essentials of educational and hygienic exercise.

The mother who has not at one time or another, told her boy or girl to "stand up straight" or "sit up" is the exception. Thoughtful parents are always concerned about the poor posture of their children, and rightfully so. Bad posture is detrimental from the standpoint of health, appearance, material advantage and, in a way, of character.

When the body is held erect and well poised, all the organs are in the best position for carrying out their special functions. When this is not the case it is easy to see how derangements of the health may come about. This fact, together with the vastly more attractive appearance of the child with good carriage, is enough to convince any parent of the importance of any measure designed to secure good posture. It is well, too, to remember that a well-set up boy is more apt to be considered intelligent and efficient, and more likely to be chosen for important work than if he slouches into an office with an awkward body awkwardly handled.

Elements of bad posture, such as round shoulders, protruding head, "sway back," fixed or overextended knees and weak feet, often appear in young children, and exercise for their correction must not be delayed too long. A trained teacher of physical education will know how to introduce some of these exercises even in the first primary grade. And be it understood, on the authority of one of the best teachers of posture in the country, that only the corrective type of exercise will improve posture. A boy may play football or dodgeball until he is gray-headed, or chin the bar a thousand times, and be as round-

shouldered (more so in the case of chinning the bar) as when he began. It is true that work, many games and sports exercise the muscles that must be built up to improve posture, but in these activities the muscles are not used in co-ordination necessary for good carriage. This is so well recognized that the best school systems include in their physical education program the type of exercise that contains this corrective element.

The supervisor of physical education who limits his activities to making out a syllabus of exercises for the use of untrained teachers, and the holding of an athletic meet once a year is falling short of the ideal to be desired. However, the parents of any community can have any kind of physical education they desire simply by demanding it. While the importance of this subject can scarcely be overestimated, there are large numbers of children in Canada who have no training of this kind. It is, therefore, imperative that all parents who wish their children to have the benefit of careful, scientific physical education should get behind any movement that promises to provide it.

Prevention of Tuberculosis.

Health authorities have agreed that the control of tuberculosis demands primarily care of the health of children. More and more they have found that it is in childhood that the seeds of tuberculosis are planted. Prior to the year 1882 no one knew what caused tuberculosis. In that year, however, Doctor Koch, the famous German scientist, discovered a very minute germ which he named the tubercle bacillus and which he demonstrated was the cause of many different forms of disease in various parts of the body. Study of the tubercle bacillus showed that it grows best in dark, moist places and that bright sunshine easily kills the germ. Experience has also shown that while no medicine which one can buy will cure tuberculosis, yet the disease may often be entirely arrested if the patient lives in fresh air, eats good food and gets sufficient rest.

There is one simple rule to follow, which will make it very unlikely that tuberculosis will lay hold on your child. In fact, by following this rule children will be protected against many other diseases. The rule is: Keep strong. If you keep your body strong and well, it will fight off the germs of disease so that they cannot harm you. And here are some smaller rules to make you keep strong:

First. Always breathe fresh air. Never sleep, study, work or play in a room without a window open.

Second. Eat nourishing food and drink plenty of pure water. Avoid food that is hard to digest, like heavy pastries. Never eat or drink anything that weakens the body.

Third. Make sure that everything you put into your mouth is clean. Wash your hands always before eating and baths your whole body often. Clean your teeth every day. Do not smoke.

Fourth. Exercise every day in the open air. Keep your shoulders straight. Take many deep breaths every day.

Not long ago the teacher in one of our city schools noticed that a delicate child of ten years was coughing a great deal and growing pale and thin. The school doctor examined the child and found that she had tuberculosis. After a visit from the school nurse the parents consented to let the little one go to a sanatorium in the country. Here she had the right kind of food and plenty of fresh air night and day. At night she slept in a cosy bed out on the porch. She stayed there six months and then returned home rosy-cheeked, plump, happy and strong. The fresh air did it all.

When he grows up, he will take his place amongst the leaders in his community and raise the standard of farming in that district. The careful boy of to-day will become the careful farmer of to-morrow.

Plan the Garden Now.

Draw garden plan for the coming season.

Order seed catalogs, study them, and order seed.

Order manure for hotbed, hotbeds and lumber for frames, ferribeds and lime.

Repair, paint and sharpen tools. Buy new tools needed.

Make seed flats for later use.

Bring in some soil to thaw out, if you haven't already a supply indoors.

Test seed for germination.

The mind of man is simply a form of energy acting on the brain.

Why is a baby like wheat? Because it is cradled, threshed, and becomes the flower of the family.

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Welfare of the Home

Reading to the Children

I have been watching two groups of little children at play. One group spends most of its time trundling themselves and each other up and down the sidewalk in various sorts of vehicles, kiddie cars, tricycles, toy automobiles and wagons, in gazing at the traffic and various happenings of the street; in going to the store for candy, and now and again chasing each other about. The other group is always energetically "playing something" lively outdoor games, and dramatic representations of Indians, Fire Departments, Red Cross First Aid, giants, farmers, explorers, builders. These and endless other imitative plays all have their turn.

Why should the little boy of the first group sit drearily on the doorstep when left to himself, apparently waiting for something or somebody to come along and entertain him? Why should the little girl of the second group sit under a lilac bush holding in her hand a switch tipped with a yellow dandelion head, and, like a dainty Fairy Queen touch everything nearby with her magic, gold-tipped wand, so absorbed in her imaginative play that she is entirely oblivious of passersby?

The answer is easy. One child has an undeveloped imagination, and the other a mind so full of pictures that she has unending resources for all unoccupied hours or moments.

Without knowing the exact circumstances, I can be reasonably sure that she and the other children of the second group have parents who make a practice of reading to them. They are probably quite as busy as those fathers and mothers who "would like to read to the children but somehow never have time," who recognize the importance of education by means of books, but who are unwilling to sacrifice inclination in order to give time

Welfare of the Home

Reading to the Children

to their children; who know full well that the early years are the impressionable ones, but let the golden opportunities and psychological moments drift away.

Those parents to whom my little Fairy Queen belongs find the time, make the necessary sacrifices, and live up to their privileges of enriching their children's imagination and cultivating a habit that means endless joy and future opportunity for self-education of the best possible sort.

Let me urge you, parents who read these lines, to make a practice of reading to your children every day of their lives until they are able to do it for themselves. The librarian of any public library will gladly select and furnish the books you need. Your effort and sacrifice will be repaid a hundred fold in the happy home hours which your children will never forget, in a wealth of play material for the time they must fill by themselves, and in a mental equipment for later years whose value cannot be overestimated.

The following books are favorites with children: Aesop's Fables, Grimm's Fairy Tales, Wonder Book by N. Hawthorne, Wild Animals I Have Known, by E. T. Seton, A Child's Garden of Verses by R. L. Stevenson, Just So Stories by Rudyard Kipling, The Water Babies, by Charles Kingsley; Alice in Wonderland and Through the Looking Glass, by Lewis Carroll; Robinson Crusoe, by Daniel Defoe; Tales from Shakespeare, by Charles and Mary Lamb.

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