Soils and Crops

By Agronomist.

This Department is for the use of our farm readers who want the advice of an expert on any question regarding soil, seed, crops, etc. If your question is of sufficient general interest, it will be answered through this column. If stamped and addressed envelope is enclosed with your letter, a complete answer will be mailed to you. Address Agronomist, care of Wilson Publishing Co., Ltd., 73 Adelaide St. W., Toronto.

Care of Young Pigs.

Every owner of a brood sow, whether he lives on a large farm and has many, or whether he is a suburbanite and owns one, should feel a personal responsibility to see that the pig litters born this spring are received with the utmost care. That means the matter of providing proper housing for the brood sows, and their young should have immediate attention.

The high mortality among young pigs in some part of the country can be materially reduced if proper housing and feed are provided for the sows. According to one investigation, which covered about fifty herds, representing 930 brood sows, the average loss was about thirty-three per cent., while some farmers lost fifty to seventy per cent. of the pigs.

It has been found that the larger losses usually occur on farms where the housing facilities are poor. In one investigation it was learned that where good or fairly good hog houses were used, the average number of pigs raised in a litter was five and one-quarter, while on farms where the housing was poor the average number reared from each litter was only three and one-tenth. The average saving, therefore, where good houses were used, amounted to more than two pigs to the litter.

There are many kinds of satisfactory hog houses which can be built at comparatively low cost. Any one of these will soon pay for itself in the increased number of pigs saved. Both the individual house and the colony hog house have a place on the hog farm. Both give very satisfactory results if they are properly constructed. If only one can be had the colony house usually is to be preferred, especially where a large number of sows are to be kept. The farrowing period usually extends over several weeks if there are many sows. In such cases each pen in the house may be used for two or more sows during the period. Assuming that two sows use a pen and that by reason of the satisfactory quarters provided two additional pigs are saved in each litter, it would not be long until the hog house paid for itself. Good quarters are one of the best investments the swine grower can make.

The satisfactory hog house provides warmth, dryness, abundance of light, ventilation, sanitation and comfort. To meet these requirements the house need not be expensive. As a matter of fact, many expensive hog houses are not satisfactory because they do not possess all these requirements, while many less expensive ones properly planned and built give excellent satisfaction.

The care given the brood sow, especially in her feeding, is equally important. Help on this point can be obtained from bulletins which the agricultural college or the Department of Agriculture will furnish.

There is no animal on the farm which requires better protection from the cold than the hog; none for which a good bed is more necessary; and none so much in need of sunshine as the little pig. The horse and the cow have good coats of hair—even a calf or colt left in the cold is provided with a good fur coat; the hens' feathers are the best protection against low temperature, but the hog has almost nothing between his skin and the weather. One of the first requisites for success with hogs is a shelter where young pigs can be kept warm and well supplied with sunshine and fresh air. A little pig takes cold very easily and recovers slowly, if at all. To prevent taking cold he must be kept dry, warm, away from draughts and provided with good fresh air.

Cultural Methods for Eastern Canada

On the Central Experimental Farm, Ottawa, and several of the branch Experimental Farms in Eastern Canada, an exhaustive study of methods of cultivation has been conducted for the purpose of improving the soil condition and thereby increasing crop yields. The results obtained warrant the accompanying recommendations and explanations being made which are applicable to average conditions on Eastern Canada farms.

UNDERDRAINAGE is without doubt a most important factor and is indispensable where the rainfall is great and soil conditions warrant. The carrying away of surplus water allows the entrance of air into the soil, which aids in raising the temperature. On the whole, underdrainage improves the mechanical condition of the soil; assists in the liberation of plant food elements and facilitates the working of the soil.

PLOUGHING is the basic cultural operation and for this reason should be performed with the utmost care and judgment. Poor ploughing, including unevenness in depth and width of score, imperfect backs and finishes, cannot be rectified by succeeding operations of discing and harrowing no matter how efficient the implements available. No clear rule can be laid down defining the best method of ploughing. A safe rule is to plough only when the soil is in shape, not too wet, especially if of a heavy clay nature. Plough deeply in autumn, as deeply as the surface productive soil will allow, turning an up-standing furrow. Plough shallow in spring, turning a low-lying or flat furrow. Plough well, turn all the land and finish with straight, even furrows and lands. Last season, in some localities, fall ploughing was not completed. Very thorough treatment is necessary to insure a crop of grain on spring ploughing. The following general treatment is suggested.

Plough shallow, four to five inches, when the soil, especially of a clay type, is in condition, not too wet nor too dry. Disc-harrow within a day after ploughing. Disc often enough to establish the connection between surface and subsurface soils necessary for the unchecked passage of soil water to the seedbed. Roll and drag harrow to pulverize the soil. Ploughing may be speeded up by using two-furrow ploughs. Spend the time saved in extra seedbed preparation.

HARROWING or seedbed preparation may be performed most economically by means of the disc-harrow. Thorough cultivation at this time is indispensable and should be continued until the seedbed is level, uniformly deep and loose.

The drag or spike-tooth harrow, too, may be employed advantageously in seedbed preparation, especially following the disc or roller to restore a mulch, or blanket, of loose soil, a couple of inches deep, to check evaporation of moisture. A light or slant-tooth harrow of this type is also useful in the corn field a few days after sowing and after the corn is up to stimulate a rise in temperature in the soil, to destroy small weeds and encourage germination of weed seeds and to restore the essential mulch.

SEEDING—This operation is now satisfactorily done by means of the seed drill. Several types are on the market, but the single disc drill is probably most popular. Do this work carefully and accurately. Misses between drill widths are wasteful, unsightly, and furnish breeding places for weeds; excessive variations in rates of seeding from too light to too thick may result in heavy losses in yields.

ROLLING—The roller is too frequently used to put a finishing touch to the field after seeding. It may be so used to advantage on light soils, but even then should be followed by the drag harrow to break the quickly crusted surface. The chief use of the roller should be to firm and crumble the soil before seeding. It should not be used on very dump soil, especially clay; let the surface dry first, then use the roller to break the crust.

A good seedbed may be defined as one mellow, uniformly level, fairly loose and fine at the surface but firm below, and well supplied with plant food suitable for the crop to be grown. To get such a seedbed means thoroughness and judgment in carrying out each step in its preparation.
—Experimental Farms Note.

Care and Repair of Farm Machinery.

A big leak, usually unrealized, occurs through the meagre attention given farm implements. The care of farm machinery is a phase of farm management that does not usually receive the attention its importance warrants. In the rush to get the crop into the ground at the proper time and in the best possible condition for satisfactory returns or to gather in the harvest promptly, the care due the implements which have made each operation possible is lacking or performed in a more or less haphazard manner. As a consequence, part of the toil-earned revenue of the farm is swallowed up in the purchase of new machinery or in expensive repairs which might have been avoided had proper precaution been taken in time.

On every well-managed farm attention is given, so far as circumstances permit, to this factor in farm management. All implements are cleaned and placed under cover when not in use, all polished surfaces receiving an application of an anti-rust preparation. Axle grease or other lubricant will answer this purpose. As shelter, many types of structure are suitable, and an expediture not exceeding $400 will usually provide a suitable building. Besides it is not always necessary to go to this expense since any weatherproof building already available will answer the purpose.

It is advisable to go over each machine after the day's operations, making proper adjustments, tightening loose bolts, making sure that the lubricating devices are working properly, that the bearings are not too tight or too loose and that cutting parts are sharp. An assortment of bolts, rivets, springs, etc., for each machine is provided and allotted a definite location in the tool room. This saves many trips and probably valuable time and the plan, systematically carried out, results in the prevention of many breakages. Besides it has been proven that an implement in repair at all times has a longer life and gives more satisfactory service than one that receives erratic attention.

To carry out this work systematically a properly fitted workshop is necessary. It provides a comfortable place to work in during bad weather and in which those who so desire may develop their mechanical skill. It should be equipped with the necessary tools, including anvil, forge, workbench, vise, tongs, hammers, hardies, punches, drills, square, chisels, saws, wrenches, etc.

Poultry

The farm flock will keep in a more thrifty condition if they are provided with shade, and there is no better shade than the fruit trees, which protect the birds and furnish a profit at the same time. Raspberries will form a fine shade in a poultry yard. The canes covered with thick foliage form a dense shade where the birds can dust or hide from hawks. The birds do not injure the fruit as might be supposed. The berries seem to be hidden from them by the leaves and they cannot jump up high enough to discover the berry and then pick it off.

Blackberries also can be raised on a poultry range but we have not found them as satisfactory as red raspberries. Currants and gooseberries grow too low on the bush to permit their production where the poultry can find them.

Of the fruit trees, plums are undoubtedly best for the poultry range. Peaches have a thick foliage and they will do for shade but they have to be sprayed often to produce good fruit and it is sometimes awkward to spray trees near poultry buildings than when they are growing in the orchard. Apple trees do not grow as rapidly as plums and we have not found them as desirable as plums in poultry yards.

Sunflowers can be planted in yards and the birds allowed to run among them as soon as they are a little over one foot high. The seed are valuable in the ration in the fall during the moult, and if the stalks are broken over, the birds will do all the harvesting. Sunflower seeds are valuable when saved for winter. The entire heads can be stored in bins and the birds will enjoy picking out the seed on cold winter days. The stalks when planted in rows form densely shaded pathways over which the birds can run and dust on the hot days of summer. For a permanent windbreak and a desirable shade for the yards, it pays to plant evergreens. They are hardy and grow quite rapidly and need little care after once obtaining a start. They form a pleasant shade for the hens and in the winter they are valuable as a windbreak. They do not produce a profit, of course, but the fact that they need no care may serve to balance. Fruit trees will not produce a profit unless they are properly sprayed and pruned and, of course, this costs money and takes time in the spring when the poultryman or general farmer is very busy.

April.

With shadowy clouds and with sunshine of gold,
O'er velvety meadow and forest and wold.
She whispering goes, like a bride to her mate,
Shy, lingering maiden, a-tremble, elate.
Her garlanded tresses unbound to the breeze,
Her maidens the forests, the plains and the seas.
Shy April, our gifts are good wishes, we pray
The god of the seasons, shall bless you to-day.

You can't expect your hens to lay well unless they have facilities for taking a bath. This doesn't mean, of course, that you must give them a tub full of water. Hens naturally take their bath in sand or earth. It is just as necessary, though, as a tub is to you. Have a box of earth or sand where the direct sunlight will fall upon it several hours a day. A little sulphur added to the contents will help to keep vermin in check.

Your Health

BY THE MEDICAL EDITOR

Dr. Currier will answer all signed letters pertaining to Health. If your question is of general interest it will be answered through these columns; if not, it will be answered personally if stamped, addressed envelope is enclosed. Dr. Currier will not prescribe for individual cases or make diagnosis. Address Dr. Andrew F. Currier, care of Wilson Publishing Co., 73 Adelaide St. West, Toronto.

Milk in Summer.

Perhaps the most vital of all summer subjects is milk. Impurity of milk is one of the greatest factors in the large infant mortality. Breast fed infants almost never suffer summer complaints and dysenteries; these diseases come largely from cow's milk, either impure or improperly prepared. And this mortality can be largely avoided—is indeed, summer after summer, being progressively diminished. Municipal authorities, aided most nobly by unofficial philanthropy, have been accomplishing vast improvement in our milk supplies. Pasteurization has become the process universally required by rendering milk a safe fluid. Large dairy concerns now serve their milk pasteurized, or pasteurization can be done in the home by means of the Straus Home Pasteurizer. This consists essentially of three parts: a can, a rack to hold the bottles of milk and a top for the can. The bottles are filled to the neck, the patent corks are snapped on and the bottles are placed in the rack. The rack is then so placed in the can as to be supported by three projections on the inside of the can. Boiling water is then poured into the can until it reaches a certain mark just below the bottoms of the bottles. The covers are then placed on the can and the bottles left in this position for five minutes to heat them through. When five minutes have passed, the cover is taken off, the rack is given a half turn, so that it is no longer supported by the projections on the inside of the can; and it sinks slowly to the bottom of the can. The cover is then replaced. The whole is then allowed to stand for twenty-five minutes, when the cover is removed, the rack lifted out, the hot water partially emptied, and cold water poured into the can in its place. When the bottles are cool enough so that they will not be cracked by contact with the ice, ice is added to chill them as thoroughly as possible. Pasteurization is thus accomplished with a degree of exactness almost unbelievable unless one has seen the experiment with the thermometer. For the first five minutes that the bottles rest in the water the milk reaches a temperature of 157 degrees F. It then remains at exactly this temperature without variation of more than two degrees for the remaining twenty minutes that the bottles are in the hot water. The cost of this contrivance is nominal, about a dollar and fifty cents.

Does Not Eat Enough.

Question—I would like to know what you think of my diet. In the morning—I have an orange and a cup of coffee without sugar. For lunch I have four slices of bread without butter and an apple or two. For my dinner I have a vegetable, and bread,—no meat except on Sunday, but I have an apple before going to bed.

Answer—The diet you mention might be ample for a canary but not for a human being. I judge from your letter that your aim is to become svelte and willowy. Better give up the idea and stay healthy, though tending to embonpoint.

How to Seed the Lawn.

"What success do you expect to have?" I inquired of my neighbor who was sowing lawn grass seed.

"Well, I don't suppose it will grow at all, for it seems impossible for me to get a good stand of grass on my lawn."

I watched him sow the seed. The ground was frozen, and there was little chance of the sun shining enough to thaw it much that day. There was a brisk wind blowing and it was a safe guess that there would not be much of the seed left on the lawn by noon.

Noticing that I was watching him with a questioning look, he asked, "What's wrong with that?"

"Nothing," I responded, "only I would like to have my lawn next to yours. I would never need to sow grass seed on it. I would just let you sow it on your lawn and let the wind blow it over to mine, and get my lawn seeded for nothing."

He caught the point; and when I started away he went around the corner to get his wheelbarrow, at the same time remarking, "I'll just go over to the barn and get a few loads of fine mulch and sprinkle over it." He had learned the lesson that others must learn if they want to get best results from their efforts and money when they sow their lawns.

Just sprinkle a little dry dirt, a little fine stable manure or something of that sort over the spots after sowing the seed.

Ground bone is one of the best fertilizers to use on lawns. Tankage and fish scraps are good, but have an unpleasant smell. Prepared sheep manure is excellent; cottonseed meal, if not too high in price, may be used to advantage. In connection with these fertilizers use some wood ashes. —C. E. S.

How to Make Hotbeds.

By the use of hotbeds and cold frames, plants can be grown through their earlier stages out of doors even before the growing season has arrived. By the use of these, garden crops can be secured much earlier in the season than if seeding is delayed until the soil is warmed up in the open garden. Such vegetables as peppers, egg plant, melons, etc., can be so hastened in the spring as to ensure their maturing before the frost period arrives in many parts of Canada where these crops are not usually grown. Such crops as radish, lettuce, spinach, and other vegetables can be made to reach a marketable size relatively early in the summer.

While hotbeds, as the term signifies, are heated with fermenting manure, the cold frame depends upon the sun shining through the glass sash to warm up the soil and start growth. The cold frame, for that reason, is more easily adopted, although it cannot be used to so great an advantage.

This information is taken from Pamphlet No. 19 of the Dominion Experimental Farms, written by Mr. W. T. Macoun, Dominion Horticulturist, and available at the Publications Branch, Department of Agriculture, Ottawa. The method of constructing hotbeds and cold frames, as well as the system of using them, are fully described in this publication.

Rice is the principal diet of one-third of the human race.

Government Publications.

The new list of publications of the Department of Agriculture at Ottawa contains titles of about three hundred bulletins, circulars, and other pamphlets that deal with agricultural practices. These cover the whole range of agricultural and horticultural pursuits, including dairying, field crops, live stock, orchard and garden crops, poultry, insects and plant disease, farm building construction, farm machinery and many other topics. The subjects are arranged alphabetically under general titles. Not only are the lists themselves available from the Publications Branch of the Department, but any of the publications therein contained.

BRING THIS BILL WITH YOU

Mrs. Duncan went through the morning routine with conscientious thoroughness—the children's breakfast, the upstairs work, including the room occupied by the two school teachers, the examination of ice box and pantry. Finally, she sat down at her desk to plan her meals for the next twenty-four hours. As she pushed aside the morning mail—mostly bills, for it was the first of the month—a big, black-lettered sentence fairly leaped out at her from the pile: BRING THIS BILL WITH YOU.

Mrs. Duncan was seized by a fierce desire to tear the thing to scraps. Bring it with her! As if she were not carrying them all with her, everywhere she went—as if even in her sleep she were not conscious of those steadily mounting bills! She had not been extravagant—she never had been so careful in all her life; yet everything kept climbing—milk—meat—butter—eggs—gas. She sat with lips set, staring straight before her.

It was hard, of course—harder than anything she had had in her life. If she could only talk it over with Roger! But Roger, writing so cheerfully from France and making light of staying over indefinitely until the job was cleaned up, although she knew how homesick he was, Roger, who never had wanted to be even a day away from "the kiddies"—no, assuredly there must be no sign to Roger. Besides, how could she, when thousands of women in the world had nothing left—nothing! Of course she could manage somehow, with finer and finer contriving, only—

BRING THIS BILL WITH YOU. Suddenly, as if it were written above the insistent words, she saw a sentence from one of Roger's letters—the last one before the fighting stopped.

"You wonder how we can stand it all. I do myself, sometimes. But for one thing we insist upon our right to every bit of fun and laughter and happiness that we can get hold of; we refuse to carry the battles into our rest billets or even into the hours when the guns are silent."

Why, of course. The thing was as true of bills as of shells. She would pay the old thing and then refuse to have anything more to do with it. She would enjoy the walk to the store, and carry two of her Chinese lilies to old Mrs. Willets, and borrow that new book Myra Dale had offered her.

She beat her small fist resolutely upon the offending bill. "I'll take you with me as far as the gas office and not one step farther!" she declared.

Maintain Pulpwood Forest.

The Abitibi Power & Paper Company, Ltd., intends to begin a re-forestation programme this year and has asked for the co-operation of the Commission of Conservation in this work. The Commission has been co-operating with the Riordon Pulp & Paper Company and The Laurentide Company, Ltd., for one and two years respectfully in re-forestation work, and considerable headway has been made. The initial studies have concerned the rate of re-forestation of cut-over pulpwood lands under natural conditions. Investigations to date point to the fact that it will take from 50 to 100 years for spruce and balsam to grow to merchantable size on these cut-over lands, whereas lumbermen have thought that reforestation would take place in about 30 years. Another disquieting feature the investigations have disclosed is the fact that where the pulpwood species are cut down, the new growth is predominately hardwood for which, as yet, there is little market. These scientific facts are of paramount importance both to the pulp and paper industry as well as to the governments concerned, which have always drawn large revenues from the forests.

Passing of the Homing Pigeon.

It is odd to realize the practical use of the dove, generally accepted as the symbol of peace, in carrying on war, and it has probably surprised many people to learn that the homing pigeon differs materially from the carrier pigeon so long associated with the bearing of messages. As a matter of fact, the carrier pigeon has practically ceased carrying and is nowadays raised for its fine looks rather than its homing instinct.

The homing pigeon used in the army and navy is of another type, which has been trained through many generations to fly. Training begins when the birds are about three months old, and the flying distances are gradually increased to 500 miles, when the bird is held to be qualified for real work.

Teach Unselfishness.

If a child is not schooled to do without things when he is six, eight and ten, then most certainly he will have a very hard time making up his mind to do without them when he is eighteen and twenty and so on. Character can only be strengthened little by little. Those who cannot practice little acts of self-denial cannot practice big ones. Teach a child to give up to other children sometimes; teach him to consider his father and his brothers and sisters and to do the hundreds of little things that require thought for others.

"The dignity of truth is lost with much protesting."—Ben Jonson.