

Soils and Crops

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Selecting the Seed Corn.

You can make good money selecting your seed corn in the field. A very successful corn grower told me that he attributed his success as a grower of corn to the fact that he made a practice of carefully selecting his seed each season in the field. He makes a business of seed-selecting, and devotes more time and thought to it than to any other operation in growing the crop.

A little thought will convince any intelligent corn grower that the best seed can be secured only by field selection. In no other way can the grower know the character of the stalk upon which the ear was produced. Seed of strong vitality, that will germinate quickly and make a vigorous early growth, even though the weather is slightly unfavorable, is absolutely necessary if you are to obtain a good stand of corn.

Do not underestimate the value of good seed. Since one bushel of corn will plant from 6 to 12 acres of land which will produce from 300 to 800 bushels of grain, it is apparent that the character of the seed planted is of the greatest importance. You are warranted in spending all the time and trouble necessary to insure the best possible seed.

Good farmers have found that the best way to secure good seed is to select in the field. After your corn is mature, and before the crop is harvested and shocked, go through your field with a sack or basket and select good-looking mature ears that are growing on sturdy-looking stalks.

The character of the stalk upon which the corn was produced is of as much importance as the ear itself. They should be strong, upright and leafy, of medium height, and largest at the ground, gradually tapering to the tassel. The ears should be located on the stalk at a convenient height for husking. By selecting each season stalks with ears at this height, it is possible gradually to develop a strain of corn that will be very uniform in this respect.

I find it best to select ears that have a shank of medium length and diameter, and which have been sufficiently to prevent water from entering the tip. Make sure that the stalk selected grew under average field conditions—that is, where the stand was normal and where there were no special advantages of moisture and plant food. The ear selected should be good because of the vigorous breeding of the parent plant rather than from any advantage it may have had over other plants in the way of location. Do not select ears that are too large or too immature. Average-size ears are most desirable for seed. Strong, symmetrically developed ears, with straight even rows and well-dented kernels, will give the best results in good corn growing regions. Seed ears should be a little rougher than the average, because of the tendency for a variety gradually to become smoother and the kernels shallower.

Remember, in selecting seed corn, that the ability of the corn to grow will depend largely upon the conditions under which it matured. If for any reason the ear failed to mature properly, the vitality of the seed is very likely to be deficient, and a poor stand of corn may result. A sound, firm condition of the ear and bright glossy grains are the best indications of proper maturity. If the ear is not firm, if the kernels are lacking in lustre, or if the grains are more or less discolored at the tip end, do not select it for seed. These signs indicate poor vitality. Ears of this kind will not yield as well as those that are well matured.

It is a good idea to select two or three times as many ears as will be needed for planting. It may be advisable to discard many of the field-selected ears when they are more carefully examined. If an abundance of seed is selected, only the best need be used.

World Agriculture.

At the last general meeting of the International Institute of Agriculture held in Rome and attended by Mr. T. K. Doherty, Chief of the Institute for Canada, many important matters were dealt with. Proposals for greater speed in the collection and circulation of crop reports introduced by the Canadian delegate at a previous meeting were adopted. These reports are to be cabled before the 10th of each month, a summary made and cabled to the governments represented two days later. The establishment of a special bureau in each country to carry on correspondence, the same as exists in Canada, was represented. Some changes were made in the classification of live stock for annual report and census purposes. A table of the classification adopted by the Institute is given in The Agricultural Gazette. The permanent committee was asked to report on expenditures incurred by the different governments in the interests of agriculture. The Institute was requested to publish the result of inquiries into the methods adopted during and immediately following the war for the increase of agricultural production. It was decided to recommend to affiliated governments the appointment of agri-

After your seed is selected, be sure that it is thoroughly dried and properly stored. Corn gathered in the field always contains a large amount of water. If it is not properly dried it may mold or be injured later by freezing. Dry corn will not be injured by cold weather, and corn that matures properly in the field can often be stored without taking extra precautions.

But if the corn matures late and contains considerable moisture when the first frost occurs it will be necessary to dry it by artificial heat in order to obtain seed of the best quality. It is always the safest plan to dry carefully the seed corn each season. If you do not have a regular corn-drying room you can use the kitchen, the attic, or some other warm, well-ventilated place. When the corn is thoroughly dry, it can be transferred to a more convenient place for winter storage.

If for any reason you are unable to select your corn from the standing stalk before harvest, the next best time is when the crop is husked. A box for seed ears can be attached to the side of the wagon. In this way they can be kept separated from the other corn.

Even though you select your seed corn in the field, and store it carefully, do not fail to make a germination test before planting the next spring, if you want the best results. Corn properly selected and stored will probably grow, but it doesn't pay to take chances. The germination test before planting will insure a good stand.

Bordeaux Mixture.

The standard Bordeaux mixture which is commonly used on grapes, potatoes and other plants for the control of fungus diseases, is made of four pounds of copper sulphate, four pounds of stone lime and fifty gallons of water.

In making small quantities the lime should be slaked with hot water and diluted to about twenty gallons. The copper sulphate should be dissolved in hot water and also diluted to twenty gallons. These two dilutions should be poured together into a separate container and enough water added to make up the fifty gallons.

In making large quantities fifty pounds of copper sulphate may be put in a burlap sack and suspended in twenty-five gallons of water. When this is all dissolved it will make two pounds of copper sulphate to one pound of the solution. Therefore if you wish to make a fifty-gallon batch of Bordeaux, two gallons of the solution will give you enough copper sulphate for that batch. There is one precaution necessary in making this stock solution and that is the copper sulphate should not come in contact with iron, nails, hooks, etc., as its chemical action will ruin them. In handling copper sulphate in this concentrated form use a wooden pail instead of a galvanized one.

Lime may also be made in stock quantities. Fifty pounds or more may be slaked in a tub or other receptacle. Agitate well when slaking to prevent burning and to make lime firm and smooth after it has been slaked. This should be kept covered with water to prevent drying out. To get a fairly accurate measure of the quantity of lime to use, slake four pounds in a pail and mark on the pail the height to which the lime comes. This pail will then be a measure for your lime. It is better to use too much lime than not enough.

The great precaution necessary for making good Bordeaux is to have both the lime and copper sulphate diluted before mixing. If either of them are in concentrated form and mixed, the Bordeaux mixture will be coarse and will settle quickly. Poorly made Bordeaux will curdle somewhat like sour milk. As the Bordeaux is a mechanical mixture and not a chemical one it is very essential that it be kept thoroughly agitated while spraying.

cultural attaches to their embassies. On the suggestion of the French delegate a permanent committee on agricultural meteorology is to be appointed. A proposal for the creation of International Research Institute of Plant Pathology was adopted. A proposal was made that the governments should establish scholarships enabling students to visit the Institute at Rome for purposes of study. It was decided that a consultative committee of specialists from each country should be established for the better co-operation of the bureaus and to meet in annual conference. When adequate funds are available a Year Book of Economic and Social Institutions and a dictionary of technical words are to be published. There was a consensus of opinion strongly opposed to the fixing of an eight-hour day for agricultural labor and even to the consideration of that subject by delegates who represented town labor. A desire was generally expressed that most cordial relations should be maintained between the Institute and the League of Nations.

When the pasture gets short a broken rail in the fence along the corn field creates a big temptation for the herd to sample the corn or roots.

British Bacon Market Goes Back to Old Requirements.

The British bacon market has reverted to the rigid limits of weight for Wiltshire sides. During the war the demand for bacon and for fat was generally so keen that the limits were relaxed, so that for a time a Wiltshire side weighing anywhere between 45 pounds and 100 pounds was accepted. As a consequence there was not the same discrimination made by packers' buyers between the prices for light and heavy hogs and the price paid for select hogs. The extraordinary demand, however, is over. The fat, lard-type hog is at a distinct discount in Canada. So with the light-weight hog; it should be finished on the farm.

For some time past the British Ministry's limits for Wiltshire were 45 pounds to 90 pounds. The market is returning to normal and the weights are now 45 pounds to 75 pounds. Packers have long since recognized that the return to normal was inevitable and warned farmers and breeders against going in for any but the well-known-bacon hog. They repeat that it is all-important for the future of the bacon industry that farmers breeding types and breeds of hogs unsuitable to produce select Wiltshires should at once get rid of them and stock only hogs which will yield prime Wiltshires that the British trade demands as well as the products required in our domestic market. "Out-weights" below 45 pounds or above 75 pounds are heavily penalized in the export trade. The hog to give best results should average about 185 pounds live weight. At present packers are compelled to make a difference of from \$1 to \$2 a hundredweight in what they pay for light weights and from \$2 to \$3.50 for heavy weights, as against hogs of selected weights.

Grading Dairy Produce.

All the grading of dairy produce being done in Canada at the present time is more or less voluntary and has no authority of law behind it. There seems to be some misapprehension regarding the Act recently passed at Ottawa regulating the grading of dairy produce. Objected to the measure appears to be the fact that in the first place, on the supposition that the grading will entail additional expense to the producer and, in the second, that all butter and cheese for export would have to be graded at Montreal. The reasoning is unfounded. The producer will be subject to no additional expense and there is nothing in the Act calling for the grading to be done at Montreal. The Act empowers the Governor-in-Council to make regulations for grading and assurance is given that before such regulations are adopted a draft thereof will be submitted to interested parties. When the preliminaries have been agreed upon the grading will be entrusted to well qualified and disinterested persons who will be governed by official standards and definitions. Grading, which is another term for standardization, will be the means of enhancing the reputation and value of Canadian dairy products.

Make sure that there is a constant supply of water and salt before the livestock.

Laying Out Land for Fall Tractor Plowing

In laying out a field for fall plowing with a tractor, one should do away with all unnecessary traveling, as it is simply a waste of fuel and time and wears out the tractor without giving returns. A field should be marked off therefore and plowed systematically.

One of the best ways to plow a rectangular field is by use of the continuous furrow. If this plan is followed, the first thing to do is to set stakes along the centre line of the field. This line of stakes should extend ten or fifteen feet closer to the ends of the field than it is to the sides, which will allow for narrowing the furrows in turning at the ends.

The first tractor furrow should follow the stakes which have been set out. When the tractor reaches the end of the stakes, the plows should be lifted, the outfit swung to the right, and then back to the left in a complete circle. At each turn the ends should be rounded as much as possible so that after a few rounds have been plowed the outfit may be swung around the ends without lifting the plows. Thereafter a continuous furrow may be plowed. If properly laid out and plowed, the whole field will be turned except a small spot in each corner.

Curve plowing, however, is rather hard on the tractor gears, and a different method is usually recommended. This method is the back plowing or dead-furrow plowing. By this method, nearly all the plowing is done on a straight line and the outfit is turned with the plows out of the ground.

To plow by this latter method, leave about forty-five feet all around the field on which to turn the tractor. With one bottom only in the ground, plow around the field to mark this distance. Then at one side of the field, set a line of stakes, sixty feet from the furrow marked off forty-five feet from the fence, and parallel with that furrow. Sixty feet from the first line of stakes, set up another line, and 120 feet from the second line of stakes, set up another. The operator now has three lines of stakes to plow by—

THE CHILDREN'S HOUR

Once upon a time the king of the forest lost his best tooth. A tooth is a very important possession of a king, and old Leo dared not roar or smile in the presence of his subjects, because once they missed that sharp tooth they would plot for his downfall.

The old lion thought and thought, and at last resolved to consult Abner Elephant, one of his most trusted friends, and get his advice. The house of Mr. and Mrs. Elephant, with whom Uncle Abner lived, was in the deepest part of the jungle, and the whole family was thrown into a flutter by the unexpected visit from the king.

Oliver Elephant, Uncle Abner's little nephew, was sent straight to bed because the king explained that he had come upon a very secret mission. The king looked anxiously all around to be sure no one was listening. Then in an agitated whisper he told them of the loss of his sharp tooth. He could remember nothing about it, he said, but waking up in the morning and finding it gone.

"If you can find it for me I shall give you the freedom of the forest and a royal talisman to protect you from every beast in the jungle," said the king.

Uncle Abner did what he could to comfort his royal majesty, and promised to search diligently for the missing tooth. So the king returned to his castle greatly encouraged.

Now I know Oliver Elephant was supposed to be asleep. But what little boy, elephant or human, is going to sleep with a king sitting in the parlor? Oliver, I am sorry to say, put his big ears to the floor and heard the whole story. He resolved himself to find the king's tooth and win the freedom of the jungle.

Next day instead of going to school Oliver went off under a tree and sat down to think.

Of course, one thing was sure. It was impossible for Oliver to go to the king's palace without disclosing his purpose. But he went to the end of the gate and looked reflectively into the monarch's private drinking pool, which was just outside. No one was in sight, and the water was so clear and tempting that Oliver resolved to have a swim. A big sign stood on the edge of the pool stating clearly: "King's pool. All trespassing forbidden under penalty of fine and imprisonment."

But Oliver decided to take one plunge and come right out. Down, down, down, he dived, then gave a gurgle of pain. Something had stuck in his trunk. He rose to the surface and clambered crossly out on the bank.

Then he gave a squeal of surprise. For there stuck in his trunk was the missing tooth! He clapped it into his pocket and was about to start off when two of the palace guards seized him and hustled him into the king's presence.

The king was holding court—talking out of one side of his mouth so his missing tooth would not be seen. But when he heard that Oliver had dared to swim in his drinking pool he gave a roar of anger. Then, clapping

The Welfare of the Home

Rainy Day Pastimes—By Mabel R. Young

A rainy day in the kindergarten is always just a little freer, a little brighter and happier than the ordinary day.

Why should a rainy day at home be long and dull? Here are a few suggestions for making the next one a red letter day for your little folks.

First, let the children make scrap-books from all the pieces of saved wrapping paper; let them cut the paper the right size, then fold and sew the sheets into book form. Have one book for crayon drawing, one for free-cutting pictures, and another for clippings from magazines, papers and seed catalogues. Provide a pan or basket for the scraps. This occupation will keep the children amused for an hour or more, at the same time developing accuracy and originality.

Another period can be happily spent making potato animals. Burned matches fasten heads and bodies together and make splendid legs, elephant trunks and necks for giraffes. A potato circus in full parade is a sight to make even the cross-eyed grow-up smile in spite of himself.

If potatoes cannot be used, small animal crackers from the grocery store make a good substitute. With the help of building blocks, the children can make a farm and barnyard, and the animals and blocks will provide a play "Noah's Ark."

his paw over his mouth and gazing around anxiously, he ordered Oliver to be turned out of the jungle.

"If it wasn't for your Uncle Abner I'd have you made into chowder," he shouted sideways. Oliver was terribly frightened, but begged to speak to the monarch alone, saying he had a message from his uncle.

The king looked at him sharply, then waved his subjects out.

"Your majesty," said Oliver, regaining his courage, "walking on the edge of your pool this morning I was attracted by something white shining on the bottom. Looking closer I saw that it was—" (the king began to tremble with nervousness).

"What?" he asked weakly.

"Your majesty's peerless tooth!" said Oliver, producing it from his pocket with a great flourish.

"At great risk to myself I recovered it and am here to claim the reward." The king was so delighted to get his tooth again that he forgot to ask Oliver how he had heard of his loss. Pulling a small gold ring from his robe he tied it on a piece of red string around Oliver's neck, and after that none of the jungle animals dared so much as growl at the little jungle boy, for he possessed the king's talisman of protection. As for the king, he had his tooth soldered in and, although he could not chew on that side, his subjects never discovered it and, as far as I know, he is still monarch of the jungle.

The Apple in Canada.

Apples being of prime importance to Canada, not alone owing to the wholesome domestic consumption but more because of the export value, special attention is paid to their culture at the experimental farms and fruit stations. At the central farm in Ottawa there is a large test orchard where varieties are compared and their relative merits studied. Carefully weighed information has been disseminated throughout the country as a result of these experiments. From time to time during the thirty-three years that this orchard has been established, winters have occurred in which varieties were subject to very severe weather conditions. The latest of these was in the winter of 1917-18, when many trees were killed. The effects of that winter extended into 1919, when trees died that had been previously weakened. In the last ten or more years these tests have not been confined to the central farm but have been aided and confirmed by experiences at other farms and stations in different parts of the country. A number of new hardy varieties have been originated, prominent among them is the Melba, a seedling of the McIntosh. Efforts are also being made to obtain apples by cross-breeding that will prove of value to, and worthy of, cultivation in the Prairie Provinces. The wild Siberian crab-apple is hardy and fruits well over a large part of the prairies. Crosses that have been made have also proved hardy and encouraged further experiments. The Experimental Station at Morden, Man., is specializing in horticulture and about forty acres have been planted in fruits. Some of the varieties show considerable promise at this station. It has been said, and said undoubtedly with a degree of truth, that an apple a day keeps the doctor away.

Imperial Fruit Exhibition.

Entries to the Imperial Fruit Exhibition close September 30th. All entries and entry fees in the Overseas and British Empire Sections must be in the hands of the Fruit Branch, Department of Agriculture, Ottawa, on or before September 20th.

British Empire and Overseas exhibits must be entirely separate. C. W. Baxter, Fruit Commissioner.

Are you using more horse-power per man-power this year? When you are discouraged and think that there is no use trying, then get busy.

Save all the clean burned matches, lollypop sticks and meat skewers in a box, as they provide a never-failing source of amusement. The stick pictures that can be made! Houses and barns, fences and ladders, beds, chairs and tables can be formed by the little hands. Even a park can be laid out, with trees, benches and flower-beds; or a camp with rows of tents and soldiers marching in line.

There are many games adaptable for indoors. Ball, tennis and bean bags are always good.

Stories and nursery rhymes can be dramatized and sense games played, for instance, the "Bell-ringer," in which one child, blindfolded, tries to catch another, who rings a bell as he moves about. Another good game is the "Mystery Man," who can be impersonated by one of the children. All kinds of articles are placed by him in the hands of the "blind man," who must guess what they are. Then the play of tasting and smelling makes the time pass profitably and pleasantly.

With a few helpful suggestions, children can work out and adapt for themselves all of these games and spend the hours indoors happily busy, while a favorite story re-told by the mother gives a perfect ending to a joyous rainy day.

Home Bread-Making.

Bread-making is an art not nearly so extensively practiced in the household as it is bygone days. In urban districts it is so little practiced that home-made bread has come to be regarded as a luxury. The reason is not far to seek. Trouble is avoided, and professional bakers turn out an article of good quality generally, and at a price little in excess of what the cost would be if made by the housewife or the cook. And then the baker has facilities that the housekeeper has not. For instance, one of the main difficulties encountered when bread is being made in the home is the lack of a place where the dough can be kept at suitable and even temperature throughout the whole period of fermentation. Relative to this fact, Dr. C. E. Saunders, the Dominion Cerealist, in a bulletin recently issued at Ottawa on "Wheat, Flour and Bread," says that where bread is made very often it would be advisable to construct a special fermenting box or cupboard, where the temperature can be maintained at between 80 and 90 degrees. Once the process of fermentation has started the dough must not be allowed to become either chilled or overheated. A little butter, lard, or other shortening reduces the toughness without detracting from the flavor. Sugar should be used in great moderation. Dr. Saunders goes fully into the subject and quotes methods that he recommends for home bread-making, which he says is undoubtedly cheaper than the product of the bakeries, particularly in the winter, when no special fire has to be made.

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Gluten Flour—Its Uses and Characteristics.

Nearly all of the so-called gluten flours offered to the public are not made from gluten. Such is the frank statement made by Dr. C. E. Saunders, the Dominion Cerealist, in a bulletin entitled "Wheat, Flour and Bread," recently issued by the Experimental Farms Branch at Ottawa. The name used, says Dr. Saunders, is entirely misleading, as these flours often contain a high percentage of starch and are quite unsuitable for diabetic patients. As a rule the gluten flours offered for sale are practically identical with the whole wheat and graham flours. Genuine gluten flour, which is made by washing the starch out of wheat flour and then drying and grinding, is extremely expensive. Gluten bread has no resemblance to ordinary bread and as a substitute for such is an impossibility. Rather less than 50 per cent. of genuine gluten flour can be mixed with ordinary flour, and bread of medium quality be made. Gluten flour can also be used in the production of cakes, biscuits and other products provided it be mixed with ordinary flour, fine shorts or ground nuts, together with eggs, milk, baking powder, etc. There is, however, no possibility of producing any form of palatable bread, biscuits or cake with a very large proportion of pure gluten flour. Dr. Saunders suggests that physicians would be well advised to take cognizance of these facts and not to expect their patients to purchase what is unpurchasable or to eat what is inedible. The bulletin, it might be remarked, goes thoroughly into its subject, treating it in all its phases.

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BABY IN THE SICKROOM

One of the most important requirements of the sick child is rest. It is not the absence of sound itself that is so necessary as the absence of all discordant sounds or noises. The opening and shutting of doors, the tramping of feet, the sound of voices, the clatter of crockery—these are not soothing sounds.

The little invalid needs all its strength. An overheated room, in which the air is stagnant, is about the worst possible environment for a sick baby. The temperature of the room should be kept at an equable level. This cannot be guessed or judged by mere feeling, but should be regulated by a thermometer placed near the child's crib. Its own comfortable little crib, with light but warm bed clothing, as a rule tends far more to the comfort and well-being of the baby than a sofa or bed on which heavy shawls or blankets have been piled. The bed clothes should be well-aired, fresh and sweet and neither too scanty nor too warm.

As soon as a child becomes ill a proper regimen should be established. Bowel function, temperature, ventilation and sleep are all to be considered in the proper care of the child. In all cases good nursing and good care are most important.

A tepid sponge bath refreshes the baby and tends to make it more comfortable, promoting the evaporation from the skin and thus helping to reduce fever if there be any. A cool bath is often recommended when there is fever. But care should be taken not to chill the little one, or expose it to draughts or extremes of temperature while receiving the bath. When any doubt exists, and in fact in practically all cases, advice of the physician should be sought, as to the kind of bath. If the child is cold and chilly a light but warm coverlet may be added to the clothing and a hot water bottle wrapped in blankets may be placed in the bed.

Always call a doctor if there be any doubt as to the severity of baby's illness. But remember that the doctor needs your help. If the room is crowded with persons, if well children are romping about making it impossible for the baby to sleep, if the child is uncomfortable, pressed down by heavy bed clothes or placed in a child draught, it is just that much more difficult for it to make a speedy recovery. A sick baby needs even more attention than a sick adult, for it is unable to make its wants known and its powers of resistance are less.

An Agricultural Enemy.

Officials of the United States Department of Agriculture have estimated that weeds do \$300,000,000 worth of damage to the agricultural interests per annum. In Canada also the yield of field crops is enormously reduced from this cause. It is hardly necessary to refer to a bulletin issued by the Seed Branch at Ottawa on "Weeds and Weed Seeds," that gives a list of nearly three hundred varieties known to this country, to realize that weeds lower the yield, depreciate the quality and value of crops, and add to the cost of production. They rob the soil of plant food and moisture; they crowd out more useful plants, being hardier and generally more prolific, and they attract injurious insects and harbor fungous diseases. They are spread from district to district through transportation facilities by land and water, through impure seed; the wind carries them long distances and animals distribute them through their excrement and from lodgement in their coats. Every province has adopted legislation looking for the suppression of noxious weeds and this year an instruction train was operated through the three prairie provinces to give information to farmers regarding the weed problem. It might be mentioned that a publication referred to gives a minute description of the majority of the weeds, with methods that should be followed for their eradication. It also states that no fewer than over 150 different species of weed seeds were found in samples of grain and seed submitted to the Ottawa Seed Branch for analysis in one year.

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The Other Side of the Hill.

Oh, the long, long road is gray with dust—
And it winds on over the hill;
The sky, like a burnished bowl bends low.

And all the winds are still,
But what to us is the distant height
And what is each weary smile?
At the other side of the hill, dear heart,
There surely is something worth while.

It always comes to an end at last—
The road that is long, so long,
And each sign that marks the weary day.

Will change to an even song
Then what to us is the dull, gray road,
And what is each weary mile?
At the other side of every hill
There is always something worth while.

—Florence J. Hadley.

An ordinary brick will absorb 16 ounces of water. Thus the walls of an ordinary brick built cottage would hold about 6½ tons of water.