

Soils and Crops

Address communications to Agronomist, 72 Adelaide St. West, Toronto.

Selecting Seed Potatoes.

I find that I get far better results by selecting my seed potatoes from the hills as they are dug. I have never experienced with this on a big scale, for I am not a big potato grower, but it pays me on a small scale, and perhaps would pay even better on a bigger one.

In selecting the big nice tubers from the pile of potatoes in the spring of the year, you do not know that you will get a good yield of big nice potatoes even with a very favorable season. You may be getting diseased tubers from hills infected with scab, dry rot, and the like, even though the individual tubers may not show it to any marked degree. Whenever possible, I like to dig my seed potatoes by hand with an ordinary potato fork. This takes little extra work when only a few bushels of seed are needed, and by turning out each hill to itself I am sure of getting no bad potatoes mixed with the desirable ones as they are mixed up.

When I don't freeze a hill of nice, stable tubers, free from scab and other diseases and with a generous yield, I know I am getting strong, vigorous stock that should produce well the following season. For such a hill could not have been infected with disease, and it is vastly superior for seed to that from a puny neighbor. A good-looking potato may come from a bad hill, but the disease germs will get in their deadly work after it is dug. By selecting your seed at digging time, you can store these better-producing tubers separately, and thus keep your seed stock in first-class condition.

Good tubers stored in a bin with decaying spuds will become weakened in vitality, and be less able to produce a good crop. I know from experience that it pays to select and store seed tubers separately, especially for late potatoes. I have helped plant fine-looking spuds from a bin where the potatoes were from one-third to one-half decayed, and I have never known such to make a stand. The heat from the decayed tubers often destroys the eyes of those remaining. Such tubers may look all right, but they will not sprout and produce.

For best results it will pay you to select your seed potatoes in the fall, and to store them in small well-ventilated compartments; this rule holds good whether you expect to

grow potatoes successfully on either a small or a large scale.

Fall Work in the Orchard.

The practice of plant sanitation to prevent parasitic diseases and rotting of farm produce, if heeded in time will save many of the trees and keep vegetables from rotting.

The raspberry patch should be "cleaned" to remove all dead and badly diseased stalks. This is more or less of a sanitary measure and it gives the ground a chance.

In fall pruning of apple orchards the farmer has a chance to rid the trees of cankered limbs. In deciding what cuts are to be made, the vigor and freedom from disease of a limb should be borne in mind.

Any pruning cut exposes the heartwood of the tree and opens the way for heart rot fungi. As soon as the cut surfaces are dry they should be painted with a white lead paste (not zinc white). Common barn paint or ready-mixed house paint has small protecting value for pruned surfaces. The pruning cut should be made flush with the main branch. The heading of wounds comes about from a "callus" growth from the cambium. If stubs are left the projecting parts prevent the healing.

Hold-over cankers of fire blight can be located by the blighted twigs on which the leaves have withered and dried. The canker is at the base of the twig. These should be located and removed. Thorough winter eradication coupled with vigilance in the early part of the growing season will control fire-blight.

Ventilation is necessary in the storage cellar if disastrous rotting of the produce is to be avoided. Vegetable pits should be provided with a straw floor and a straw or crate chimney. Black heart of potatoes and black speckling of cabbage are due to lack of oxygen in the storage room.

A cleanup of all trash from the preceding crop should be taken place promptly in the garden. Many fungi survive the winter in such trash. Sanitation is the gardener's greatest protection.

In the field sanitation is obtained by crop rotation. Those who followed corn with corn, beans with beans, or beans with beans, have this year found that disease has been one important factor in their farming. Aside from its relations to soil fertility, crop rotation is necessary to avoid disease intensification.

from the ground, and some absorbent, such as ashes or sand spread underneath to catch the droppings. The crate should be placed in some rough shelter, preferably where most of the light can be excluded when the birds are not feeding.

Vermine. Before being placed in the crate, the birds should be well dusted with fine sulphur.

Feeding. They should be starved for 24 hours and then fed only sparingly for the first two days, gradually increasing the quantity, up till the third day, when the troughs should be kept filled until they settle down and refuse to take more.

Feed twice a day, with as long an interval between feeds as possible commensurate with light, and immediately remove or empty troughs after feeding. If possible, darken the crate and leave birds quiet till the next feed.

Ration. A satisfactory ration should be exceptionally palatable and one that will produce the whitest and finest texture of flesh, in the shortest period. For this purpose, finely ground corn, mixed with sour skimmed milk or buttermilk, to the consistency of thin porridge, so that it will pour into the troughs is best.

If a quicker gain in weight is desired, corn meal or buckwheat flour may be added, but it must be remembered, that the addition of either to save time, is at the expense of "texture" in the finish of the flesh.

The addition of corn to the ration will put on fat, but in some markets a fat chicken will be accepted as equal to the best finished poultry.

The fattening period will vary from 10 days to 3 weeks and the gains will be from 1 lb to 3 lbs. on good robust chickens, that have been carefully fed.

As it is possible to put on a pound of gain to 3 to 4 pounds of grain consumed, plus sour skimmed milk, it is easy to see that the successful fattening of poultry is a profitable undertaking.

Despite the easier feeling in the feed market, every precaution will have to be taken to prevent waste in feeding this winter or a shortage will result.

If you do not think it a privilege to have children and a place for them to play, try living in a large city for a year. As for providing children with the normal food for growth—eggs, milk, cream, good butter, fresh fruit, vegetables and meat—it passes the average city dweller's ability. Thousands of people are out of work in Toronto, and the bread lines in other centres are steadily lengthening. To the discerning there is no need of pointing the moral.

THE CHILDREN'S HOUR

Into the lives of two Scotch Boy Scouts there has come Adventure with a capital "A." They have started a voyage of 30,000 miles, through uncharted Antarctic seas, upon a little schooner scarcely bigger than an oyster boat. And, what is as important to them, they are serving Sir Ernest Shackleton, the explorer, as cabin boys.

A few weeks ago it became known that the little Quest was to put into London for her finishing touches before starting on her long voyage of exploration in the South Polar regions. And then Sir Ernest Shackleton casually announced that he would probably need a cabin boy to go along, and that he thought a Boy Scout would fill the bill best.

One thousand Boy Scouts promptly applied for the job. If the others had heard of it in time, they probably also would have begged to be taken along. The spirit that sends the Englishman out to the ends of the earth in his wanderings still is pretty much in evidence, despite what the pessimists say about the decline of the empire. (That is not to mention the spirit which would prompt any normal boy of any Anglo-Saxon country to volunteer for a little jaunt such as the Quest's.)

The 1,000 applicants were narrowed down to ten by the Boy Scout headquarters at London, and these ten boys were called to London to interview Sir Ernest, in order that he might choose one of them.

The choice narrowed down to two, both of whom seemed equally good. Sir Ernest solved his dilemma by accepting both of them. If there were two prouder boys in the British Isles at the moment when the explorer made known his decision, persons who watched the faces of the two chosen Scouts would like to meet them; they simply stood and beamed as Sir Ernest, standing before a big chart, outlined to them the route which the Quest would follow.

Both of the Quest's cabin boys are from the north of Scotland. They are: Patrol Leader N. E. Mooney, aged seventeen, Kirkwall, Orkney.

Patrol Leader J. W. F. Marr, aged eighteen, Aberdeen.

Young Mooney, before he knew he had been chosen, gave the following reasons for wishing to go with the expedition:

The pleasure of serving a British

hero, whether in difficult or ordinary tasks, and willingness to undertake and try to perform well whatever he commands.

A Scout's training makes me generally useful.

I have some knowledge of photography, microscopy, electricity and trigonometry.

I was born and bred in a cold and stormy climate, and have never lived out of sight of the sea.

The Orkneys are associated with Arctic explorations and Viking traditions.

Mooney is the lighter and also the more reserved of the two boys. Until he left his native Orkneys for the first time, to come to London, he had never seen a train or a large city.

Marr, of a more conventional Scotch type, with blue eyes and lean jaws, is a student at Aberdeen University. He has played Rugby football and tennis for many years. Two years ago he saved a young girl at Banff from drowning, and immediately afterward made a gallant but ineffectual effort to save another boy and girl who were also in danger. He has won several Scout decorations.

"I was going to be a farmer, like my father, but I don't think I shall now," he said after his choice as one of the Quest's crew had been communicated to him. "I shall go on expeditions with Sir Ernest Shackleton, if he will let me, the next time as well. I have always waited for this."

"I have had to go to the Far North to get boys for the Far South," was Sir Ernest Shackleton's only comment, but it was obvious that he was highly pleased with the result of his appeal.

Wintering Bees.

There are three important points to be observed in keeping bees safely in the winter. One of these is a strong populous colony consisting mainly of young bees; another is an abundant supply of wholesome stores in the combs, and the third is adequate protection from the cold.

The late Dominion Apiarist, Mr. E. W. L. Shaden, who recently met his death by drowning, in a bulletin published recently, says that, as the winters are more consistent in Canada, if these points are observed, bees winter better in this country than in England or in the Southern States. When cold weather sets in the bees gather in a cluster, from which warmth emanates to all. Colonies that are not strong in the fall should be put together so that each hive contains enough bees to crowd over at least eight combs of Langstroth size before the weather is cold enough for clustering closely.

Seed Cleaning

Importance. In view of the decreasing prices of farm products generally, it is of increasing importance to the grower that his farm returns be maintained by increased yields per acre.

The value per bushel may decrease, but if more bushels are grown to the acre, the total returns from the crop do not decrease in the same proportion, and this points to the necessity, during a period of deflation of prices, of paying particular attention to the quality of the seed sown. In spite of the fact that the use of better seed in increasing yields per acre is self-evident, for a large proportion of the acreage sown to grain crops in the province, seed cleaned with the hand flanning mill only is used. This is largely due to the fact that seed cleaned with suitable seed cleaning machinery is not easily available.

Added to this is the cost of purchasing or renting a small building, and, of course, engaging a competent operator. If a more ambitious plan is decided upon the Department is prepared to furnish outlines of plans of building suitable for elevating and binning, and for cleaning and handling grain and grass seeds. The costs of such plants, of course, vary with the size of the plant and the local conditions.

Two Circumstances. First—Assistance is given by the Ontario Department of Agriculture toward the establishment of seed cleaning centres. This assistance takes the form of loans to co-operative associations which undertake to install and operate suitable seed cleaning machinery and if necessary market the cleaned seed.

To any co-operative association, or co-operative company, the Government loans up to fifty per cent. of the value of the property upon which the loan is based, but no loan to any one association to exceed \$3,000. The loan is without interest for two years and at six per cent. thereafter. It is repayable one-half in five years, and one-half in a further period of five years with the privilege of repaying at any time. This loan is also available toward the establishment of potato grading and marketing associations.

Second—Some fifty or more agricultural societies in the province are, for the first time this year, holding a combined Field Crop and Threshed Grain Competition. In each of these competitions, fifteen contestants are growing a total of 75 acres of grain crops, and all contestants with but one kind of grain of Registered Seed. Fifty societies with 75 acres each, total 3,750 acres for the province. If the yields from this acreage pass the field and bin inspection for Registered Seed, there will be available for the first time, Registered Seed in commercial quantities.

But—it is important that this Registered Seed should be properly cleaned before sale; only large plump seed, as well as pure seed, should be included in registered stock. The hand flanning mill is not suitable for the purpose. The agricultural societies conducting these competitions should, therefore, inquire as to the necessary steps to be taken to pro-

perly care for and market the seed produced in these competitions, so that the benefits of such competitions be not curtailed.

Organization. The agricultural society, instead of handling the proposition itself, might properly encourage the competitors to organize an association of their own for cleaning and marketing their Registered Seed. Where the local elevator is owned by a farmers' co-operative association, or where there is a co-operative association in existence, the seed cleaning and marketing might advantageously be added to such business. The Department will assist in forming such organizations.

Costs. If seed cleaning machinery only is needed the cost is nominal. A power cleaner can be purchased for about \$500 and upwards. A small gasoline engine will run the machine. Added to this is the cost of purchasing or renting a small building, and, of course, engaging a competent operator. If a more ambitious plan is decided upon the Department is prepared to furnish outlines of plans of building suitable for elevating and binning, and for cleaning and handling grain and grass seeds. The costs of such plants, of course, vary with the size of the plant and the local conditions.

Demonstrated. The beneficial results from the installation of a power cleaner have already been demonstrated. At Cottam, in Essex County, such a plant is in operation in connection with a farmer-owned elevator, and the members state that the purchase of the cleaning machine has proven to be the best and wisest act in connection with their business.

Lynden, a private individual purchased a cleaner, and this spring cleaned the grain for seeding 75 farms in the district. At other points in the province power cleaners have been installed or are being installed and in all instances the increased yield per acre alone, from the use of better seed, has justified the small expenditure of money.

Need. Five and a quarter million acres in Ontario are sown to grain every year. Registered Seed on these five and a quarter-million acres would materially increase the wealth of the individual farmers and of the province. The opportunity afforded to the agricultural societies and to seed producing districts should not be neglected until the seed is ready to harvest, but preparations should be made now to handle and market to the best advantage.

The Co-operation and Markets Branch of the Department of Agriculture, Parliament Buildings, Toronto, will be glad to give assistance to any society or district in establishing seed cleaning plants.

FIND OUT ABOUT THIS. IT IS IMPORTANT.

The Kind of Farmer Who is Always Successful

BY L. E. COLLINS

Within the past year we have heard many times this statement: "Marketing, and not production, is the big knot to untie in the agricultural puzzle today." I do not underemphasize the importance of marketing, but I am firmly convinced that as much study should be given to the matter of economical production during this period of readjustment as to better systems of marketing.

Certainly, marketing systems can be improved, and much can be done in this country to provide better markets for many products.

The individual farmer's greatest opportunity, however, lies in more efficient production on his own farm. Farming, like every other business, is competitive. The price obtained for farm products in the long run is determined by the average cost of producing them. If you produce your crops at less cost than the average, you make money, while those that produce at greater expense than the average lose money. When margins of profit are small, it requires hard work and intelligent direction on your part to keep the balance of the right side of the ledger. It is then that efficient production counts; that any unnecessary work that increases expenses without increasing production must be eliminated; it is then that you need to study production methods you never studied before.

Crop Production Costs

Within the last five years some very careful studies have been made of the production costs on the farms of this country. These studies have shown two things:

First, that efficient production is usually associated with high yields, and,

Second, that efficient production is associated with diversity of farm business.

We have heard so much of late to the effect that big crops produce low prices, that many of us have lost sight of the fact that profitable crops are very seldom produced with low acre yields.

The most successful farmers that I know are men who produce large acre yields of crops on their farms. They always have a little better crop than the average for their communities. This is not because they use expensive tools in handling their crops, or buy the latest make of implement that is on the market, or necessarily do more work upon their land than the "cheer fellow," but it is because they have good land. They have long ago learned that it pays to keep soil in a high state of fertility, and it is that way because they do the right job on the farm at the right time.

Fortunately, many of the things most worth while in the production of good crops do not come at great expense. They are the result of care and intelligent direction in farming. Good seed, carefully planned rotations, and timely work are three of the most important factors necessary for high acre crop yields, and none of them is very expensive from the standpoint of money invested. This is a good time to remember these facts.

It is not necessary that a man be a jack of all trades to be a diversified farmer. It is advisable for most everybody to have some specialty on the farm to which to devote the major portion of his attention. It may be the production of alfalfa or corn or wheat. It may be the growing of cattle, hogs, sheep, or chickens. Whatever it be, it is a good policy to have some line of business for a specialty that can be studied, and in which line one can become an efficient producer. If it is cattle, stick to them; if hogs,

stick with them; or if chickens, keep in the range.

Stick to Your Special Line

Very few farmers have ever been successful who changed their specialty with each change of the wind. Take up a line and stick. Stay with it through the ups and downs. If you don't, you will usually go in on the ups and out on the downs. Changing frequently from one type of farming to another has prevented many a man from making a success of his business. If you are in dairying, sheep-raising, poultry-growing, or what not, stay with it. Study the business. Try to become the most efficient producer in your line. If conditions are bad, remember that there will be better days ahead.

When you take up a specialty, don't forget that safe farming comes in having your eggs in more than one basket. If you are a dairyman, don't forget that a few pigs can often be used to advantage, and that a few chickens help to buy the groceries and provide food for the table, and that a good garden not only furnishes the cheapest kind of food, but that green vegetables are needed by your family, especially if you have growing children, to supply the proper nourishment to keep them strong and healthy.

A few hogs and a flock of chickens can be grown on your farms without much expense; there is always waste food from the table that hogs will consume, pasture can be provided at little cost during a large portion of the year, and poultry, if kept in not too large numbers, will pick up a large share of their living from insects and waste grain on the farm. The crops will be better because of the poultry.

Many a wheat grower in the Wheat Belt has found a flock of turkeys the best type of grasshopper exterminator. They more than paid their way as destroyers of insects, besides providing a neat little sum at Thanksgiving time with which to pay the fall taxes. There are many crops that have been called mortgage lifters, but I doubt if there are any surer taxpayers on the farm than the flocks of chickens and turkeys.

Safe Type of Farmer

This is the proper type of diversified farming, and it is during times of adversity like the present that safe systems of farming such as this show up to advantage. It is types of farming of this kind that we should all follow, because they are the types of farming that eventually win.

There is no family on earth so independent and so nearly self-supporting as the family on a diversified farm, provided they take advantage of their opportunity to live off their own products. A much larger share of the living can easily be secured from such farms than is now generally done. The automobile, which furnishes quick transportation to town, and the parcel posts, which delivers packages to our doors, have made it easy to depend upon the other fellow for many things that we could well prepare at home.

Now is a good time to revive some of the good old customs on the farm. We have been becoming too dependent for our living on the other fellow. The art of curing meat and canning on the farm should come back. The pressure cooker and the girls' and boys' canning clubs are helping with this problem, but not enough has yet been done. We should not be satisfied until the back yard of every farm home is cleared of tin cans, and until every farm family has its own supply of canned or cured meat for both winter and summer use. It is practices of this kind, when adopted by all families, will do the most to pull us safely through this readjustment period.

Clover honey is an excellent winter food and buckwheat honey has been found satisfactory where buckwheat flourishes. Dandelion honey is wholesome and the honey of the hard maple is not favored. A pure syrup made by stirring two parts of granulated sugar into one of boiling water and allowed to cool if given to the bees about the middle of September or a little later, will afford them time to cap over most of the syrup while the weather is yet warm and to consume sufficient to form an area of empty cells in the lower part of the middle combs for the winter cluster. The syrup should be given in feeders placed in the hives. A ten-pound honey pail with small holes punched in the lid and placed upside down over the combs makes a convenient feeder. Bees can be protected from cold out of doors in cases filled with packing material, or indoors in the cellar, where the temperature should be about 42 degrees and not exceed 50 degrees F. The bulletin contains illustrations of bees wintered at the Ottawa Experimental Farm in four-coupled cases besides a deal of essential information that cannot be gathered into a brief space.

A Handy Root Cellar You Can Easily Build.

Often times in regions where cellars are impossible to locate under the house, the upground cellar is resorted to for the storage of fruit and vegetables. These cellars or storage houses may be built in the form of a refrigerator, using wood construction or combinations of materials. The cheapest material, as well as

the most satisfactory, seems to be the type constructed of some class of masonry, either stone, concrete, or tile, or combinations of these materials. The structure is then banked up on the ends and sides, or even with earth, with earth, since a layer of earth is a cheap means of maintaining an even temperature.

The essentials of a good storage cellar are drainage, ventilation, insulation, and a proper amount of moisture. A cellar I saw the other day was constructed of native field stone built up in arch form and covered with earth. The entrance doorway is toward the north, and forms a vestibule or air lock. Ventilating flues are of brick construction. As the cellar is carried down a few steps below the surrounding grade, a drain is provided to carry off seepage water that might find its way in during wet seasons. The earth floor holds moisture, and insures the vegetables against shriveling.

The bin floors are raised a few inches off the dirt floor, and the bin walls are also independent of the side walls. This secures better ventilation for the stored products, and is an additional precaution against frost.

Hollow tile and concrete storage cellars have been built with success. These materials may be handled easier than stone, and may be used in a greater variety of construction work than stone, owing to their adaptability of steel reinforcement.

The Essential Halves of the Livestock Industry: 1.—Production and marketing of farm animals. 2.—Manufacture and marketing of meat.

Three Points to Remember When You Advertise

1. Be thorough. If you are going to advertise at all, do it thoroughly. A farm can never get too much desirable publicity. First, make your farm and farm instruments look clean. One can't advertise cattle for sale, and when buyers come show the cattle standing in a dirty barn with filth up to their knees, and expect to sell them. Have your place kept up well, and choose a nice name for it. Paint this name and what it stands for on your farm wagons. At the entrance to your farm, or along the high road, set up a good-looking sign advertising your farm and telling what you have to sell. These things can be done in spare moments. Then get a neat-looking letterhead and a type-writer. These will mean an expense, but they are worth while.

Having gone thus far, a firm foundation is laid for building up sales.

2. Expand methodically. When you have something to dispose of, calculate what the sale should amount to, and spend three cents for every dollar of it in advertising. In your advertisements emphasize the selling points and get the right appeal. Place your ads correctly. For instance, if you have cattle to sell, place your ad in your breed paper or in a farm paper having a large circulation among cattle breeders. If you wish to sell apples, put your ad in the paper that reaches the nearest consumers. Keep records of results so that you can concentrate on the product that sells easiest and most profitably.

3. Grasp Opportunities. If anything of news interest happens on your farm, send it to your local paper. Pictures are great interest getters. Exhibition of products at fairs is a fine advertisement. Neat containers for butter, eggs, apples, etc., mean a great deal in building up goodwill. An energetic interest in agricultural activities marks you as a man worth listening to while you advertise your farm and your products.

Don't wait for buyers to come. Go and get them before the other fellow does.

Poultry Record of Performance.

The third series of egg laying contests conducted by the Central Experimental Farm, Ottawa, and carried on at the Dominion Experimental farms and stations at Charlottetown, P.E.I., Nappan, N.S., Fredericton, N.B., Cap Rouge, Que., Ottawa, Ont., Brandon, Man., Ingleton, Sask., Lethbridge, Alta., and Agassiz, B.C., that is, one point in each province, will commence on November 1 and continue for 52 weeks, or until October 31, 1922. A Canadian contest open to every poultry breeder in the country is conducted at the Central Experimental Farm, but the provincial competitions are open only to entries from breeders within the province in which the contest is held. There are two classes for which certificates embodying the records of the birds are given. One, known as Class A, is confined to birds that lay 150 eggs averaging 24 ounces to the dozen, within the year, and the other, styled Class AA, to the birds that lay 225 eggs in the 52 weeks and comply with the same conditions. For the latter an advanced record of performance certificate is given. During the contest the birds will be under the close supervision of officers at the different farms and stations.

How I Save My New Trees.

Some of us farmers are apt to blame the nurseryman if we set out an apple tree and it dies. Sometimes it is the fault of the nursery, but usually the trouble lies with the man who handles the tree.

One of the best plans to prevent tree loss is puddling the roots in a clay mud. I have used this frequently, and it often makes a tree live which otherwise would die.

Some years ago I took the contract of supplying 50 evergreen trees for a local park. This park was located on a very stony sand ridge. It was a job to get any trees to live. But by making a clay puddle, and sticking the roots of the evergreens in it before planting, I was able to get almost every tree to grow.

I can't explain just why this method proves effective in so many cases, but the fact remains that it does. If gives protection to the roots, which seems to give them more time to adapt themselves to the new soil. Dip the whole root system in the clay mud, and also the trunk a little past where the tree set in the nursery. It is wise to prune the roots off as wanted, before dipping.

A bee can carry three times its own weight of honey when flying.

Have the furrows open and the drains in working order in the fall wheat field.

Shoes and clothes have been put in order, but are the children themselves ready for school days again? Are their teeth in good shape? Are their eyes ready for the strain? Has a good physician examined their throats, lungs and hearts? A minimum of correction now may save a real breakdown later.