

Soils and Crops

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

Better Farming in 1921.

"How am I going to handle the work on my farm in 1921?" is a question every farmer is asking himself this winter.

The smartest farmers I know don't put off figuring out this problem until the spring work starts. They know they will then be too busy, and it may be too late to make just the adjustments they would like to make to save labor, purchase labor-saving machinery, and provide some of the things that may be needed to make their workmen more contented and efficient.

I can see three ways of helping the situation: First, reorganize the farm work to reduce and distribute the labor and to make each hour of labor more productive; second, use labor-saving machinery to the fullest possible extent; third, try to make your laborers more efficient by making working and living conditions more pleasant.

It is often possible to change the cropping system to reduce the acreage of crops that require a large quantity of labor and increase the acreage of those that require less. More land can be seeded down to grass. A young farmer said last spring: "I am seeding more and more of my cultivated land to grass. I will pasture dairy cows, use a milking machine, and cultivate just the area of land that we can work ourselves."

This is a sane view to take. The total production of the farm will be decreased much less and the profits will be much greater than if an attempt were made to cultivate more land than could properly be farmed.

In many cases where a four-year rotation of corn, oats, wheat, and clover or a five-year rotation of corn, oats, wheat, and clover and timothy are used, an additional year could be added to the rotation, perhaps some other grasses seeded with the timothy, the land left to grass a year or two longer, and used for pasture. Such a system would reduce the work during the busy season of the year, would add rather than detract from the productivity of the farm, and would make it possible to handle well the land that was cultivated.

There is nothing gained by trying to cultivate more land than can be worked timely and well. To produce a crop with the least labor, I must push my work, not let the work push me. A field plowed in good condition at the proper time can be fitted with much less labor and expense than if the ground is plowed when hard and dry. A man that is ahead of his work can do every farm operation at the right time. It is not necessarily the largest field that produces the most grain.

If you must reduce the area of land under cultivation, try and keep up production by doing the work at the right time, by using the best seed of proper varieties of grain, and, when necessary, by using the right amount of the proper kind of fertilizer.

In these times the most successful farmers try to make an acre of land produce as much as we used to grow on an acre and a half or two acres. I know this is easier said than done, especially if we are to secure this increased yield without much additional outlay of labor. But it can be done. There are farmers doing it in every section of Canada, and our farm-management investigations show that it is these men who have

a large acre production that are using their labor the most economically and making the most money.

Another thing: Are you making the greatest possible use of your labor-saving machinery? The farmers on many of the smaller farms in the eastern part of Canada could learn some valuable lessons in the use of labor-saving machinery from their cousins on the larger farms in the West.

Often two men may be seen at work in moderate-sized fields with a team, both working at a job that could have easily been done by one man with large equipment. The farmer of the West has learned long ago the value of larger equipment. Many Eastern farmers have thought this was simply because the fields were larger, thus making it practical to use gang plows and four to six-horse disks. This type of equipment can certainly be used to better advantage where fields are large, but scarcity of labor and the need of more economical production, rather than large level fields, have been responsible for the introduction of large labor-saving machinery in the West. Surely, it is time on many farms in the East to give each man at least four horses and provide riding implements.

Power machinery can also be used to good advantage to save man labor. Where a vast amount of work must be crowded into the shortest possible period, owing to unfavorable weather, as was the case last spring, the tractor will be a valuable supplement to the teams when conditions are such that its use is practical. The tractor can be operated a much longer day than horses; in fact, some farmers in the West make a practice of operating their tractors day and night during periods when work is rushing.

A greater substitution of the tractor for team labor will often reduce the cost of man labor. It should be remembered, however, that it is seldom profitable to operate a tractor when the teams on the farm are not used to the fullest extent. The tractor should be used in addition to the teams on the farm, and in only a few cases can it be expected to replace them entirely. Under certain conditions the number of teams on the farm can be reduced when a tractor is purchased, but more often the tractor is used to best advantage as a substitute for team labor for certain kinds of work, and to supplement the work of teams when labor is pressing.

The present labor shortage following the World War will probably stimulate the invention of new types of farm-labor-saving machinery, and may eventually react to the benefit of all of us. You can well afford to keep informed of new types of labor-saving machinery on the market. Study the operation and use of these machines. They may be able to save labor on your farm.

If we are going to hold the labor we now have on our farms, or attract additional labor, isn't it time that we asked ourselves and the young men that are leaving the farms why they prefer to work in the city?

I have talked with a good many men regarding this, and here are their answers: First, "We earn more money in town." Second, "We have shorter working hours." Third, "I think the work will be less monotonous." Fourth, "Living in the city is more pleasant."

It is true that these men will draw higher wages in the city than they can earn in the country—in dollars; but, at the end of the year, in which place will they have the most money? Nine times out of ten the farm workmen have more money in the bank at the end of the year than the city lad. Wages may not be as high, but living expenses are much less and saving is easier.

When a workman in the city is so fortunate as to be able to save a little money, there is small opportunity to invest it safely. The country boy's savings can be invested in dairy cows, brood sows, work stock, and machinery. After a small accumulation of this kind the workman soon becomes a proprietor on a rented farm, and no longer a "hired man." He becomes his own boss, with added opportunities for investment and saving.

How about the hours in town and country? It is true that the farm workman is on the job more hours than the city man, but if the time required to go to and from work in the city is counted, the day will usually average longer than in the country. In the country the workman's occupation is varied. In the course of a year he will not put in the number of hours of hard, intensive work that will be required of either skilled or common labor in the industries.

When it comes to living conditions, the city job is in some ways the more attractive. The farmer has not learned that the factory operator has known for some time that it is necessary, in order to secure good labor, to provide conditions that will be attractive. A little more attention to the comfort of the men on the farm will do much to hold farm labor. Mr. W. I. Drummond, in speaking of the farm labor problem, summarizes the situation well when he says:

"The solution of the farm labor problem will come when farmers

generally stop admitting that a working man can do better in the city, and begin 'selling' their own position. Many of them are knocking their own game, when they should be boosting it."

"To begin with, each farmer who wants hired help should be sure that the conditions under which such help is required to work and live are acceptable to a self-respecting man. If they are really attractive, so much the better. This is not hard on the ordinary farm, but it is far too often ignored. The hired man needs a bed as well as a lantern. There is such a thing as too long hours, even on a farm. Eight hours are out of the question, but sixteen are unnecessary, and unprofitable.

"A job on a good farm, with an employer who is reasonable and fair, is the best kind of a job for any worker. Such jobs ought to be at a premium, and they will be if the proper educational effort is substituted for the present 'viewing with alarm' and 'we're going to starve to death' propaganda."

GROCERS TAKING LESS PROFIT ON MANY LINES

Red Rose Tea People Make Further Statement.

Some of our friends among the grocers, in speaking of our letter to the press on grocers' profits have indicated that apparently it has been construed by some readers to mean that Red Rose Tea was the only article on which the grocer takes a smaller profit, in order to give his customers a higher quality. It was not our intention to convey such an impression, so we know that most grocers sell well known brands of other goods at less profit than they could make on some brands equally well known, and for the same reason that they recommend Red Rose Tea, simply to give their customers the best possible value.

In our letter we mentioned Red Rose Tea because it naturally came first to our mind and because we knew that grocers were selling it at a less profit than they make on other teas.—T. H. Estabrooks Co., Limited, Toronto, Ont.

Lime Did It For Us.

Four years ago we limed half of a 10-acre field on our farm with hydrated lime at the rate of about 600 pounds per acre, just to see what effect lime would have on our soil. This is little compared with what our sandstone soil needed, but was all we could get on easily at the time, during the rush of crop work. This was done before wheat was sown, and the entire field was seeded down to clover.

The half not limed didn't produce much hay, so the following fall it was plowed and put to wheat again, and after harvest the ground was plowed and stubbled out for wheat. It was fertilized with about 300 pounds of acid phosphate to the acre, and the wheat was top-dressed during the winter at the rate of from 4 to 5 tons an acre. The yield was about 25 bushels to the acre, and we could easily see that it was the limed half of the field which yielded heavier.

When in wheat the last time, the same field was again seeded with clover, to be cut for the past harvest. But last spring we discovered the limed section was the only one that had grown any clover, and that at the rate of about 2½ tons to the acre. We were able to cut a seed crop that brought about 100 bushels, or two additional bushels per acre.

As we threshed we turned the blowers of the machine into one of the mows of the barn, and kept the clover straw. This is valuable for feeding cattle, almost as good as second crop hay, and in finer condition. From these results we will base our plans to carry out a liming program for our entire farm.

The unlimed half of the field we plowed up and put to corn. We believe the extra amount of hay over our usual yields on the limed portion will pay about 400 per cent. on the investment for lime. In addition, we have a good crop of clover seed, which is worth as much as a second crop of hay, and we were able to get 80 per cent. feeding value out of the second-crop by threshing for seed and feeding the straw to the stock.

Simple Seed Corn Test.

In spite of the hundred of pages of advice and directions for testing seed corn, many farmers just will not go to the trouble of testing their seed corn. Now here is a simple little trick which is quite reliable and very easy. Just hold the ear in your hand, place your thumb nail on top of a kernel and press down quite hard. If the kernel is pressed down into the cob throw that ear to the hogs. Try two or more kernels. If the kernel does not press down into the cob, that is a good seed ear, providing it has the requisite qualities of shape and uniformity.

Trees on the Farm.

Farm forestry makes farming pay better by:

1. Marketing timber profitably.
2. Supplying timber for farm needs.
3. Furnishing employment for men and teams in winter.
4. Making waste lands yield a profit.
5. Increasing the sale value of the farm.

Maple sugar utensils in shape? Sap will soon be dripping.

Poultry

The question of where to locate the poultry house and yards is one that should be given careful consideration before one begins the expenditure of perfectly good money. One piece of advice which will apply to all cases alike is this: Never locate the houses and yards on a damp, poorly drained plot of ground, on which shade trees, grass and clover crops do not thrive, unless it presents good opportunities for drainage and improvement.

Other conditions being favorable, locate the houses and yards where they will be convenient to the house and other buildings, so that the care of the poultry may be made a part of the regular chores of the farm. If one is going to get the most out of the business the work must be systematized so that it will fit in with the regular routine of the farm and interfere as little as possible with other branches of the farming. And above all other things never undertake the development of profitable farm flocks before making provisions for housing the birds comfortably, growing a large portion of the food supply and simplifying the work of feeding and caring for the flock.

The chief essentials are warmth, dryness, light, cleanliness and durability. In order to assure proper lighting and a more even distribution of sunshine it is often necessary to deviate from the form that insures the greatest warmth at the least cost. In all laying houses in a cold climate some provision should be made so that the sunshine will reach every portion of the floor at some time during the day. In order to accomplish this to the best advantage, it is necessary to have considerable frontage toward the south or southeast. During the cold winter days it is most difficult, yet most essential, to have the direct sunlight.

Fertilizers Guaranteed.

How can we be sure exactly what we are getting? The Fertilizer Act of the Dominion of Canada provides for this assurance in that it requires fertilizer manufacturers to attach labels to the packages of fertilizers on which they guarantee the per cent. of nitrogen, the plant grower, phosphoric acid (the plant ripener), and potash (the plant strengthener) which the contents of the bags carry. These are not imaginary figures, but are actually the findings of competent chemists. The law requires that the inspectors of the Department in charge take samples of fertilizers at times and places chosen by these authorities. The consequence is that the products of the fertilizer industry are always open to a checking up by these agencies of inspection, hence the fertilizer manufacturer is bound for his own protection to live up to the guarantees.

But there are other things which assist in the maintenance of the quality of the material. Fertilizers of low grade will not give the financial results obtained from higher grade materials. The fertilizer man knows this. He knows that his only claim for a place in the business world rests upon the service which he renders the farmers of the country; hence he is primarily interested in putting out good grade material which will give results and consequently build up business for him. As a matter of fact, a farmer buying fertilizer has an infinitely better guarantee than a man buying a carload of manure.—Henry G. Bell, B.S.A.

Performance of Dairy Cattle.

A Holstein cow recently eclipsed all Canadian records for yield of milk and percentage of butter fat, according to Report No. 12 issued by the Dominion Department of Agriculture. This report gives the records of performance of all pure bred dairy cattle from April 1, 1919, to March 31, 1920. Also the standards of every breed, and a list of bulls qualified for registration. The names of the cows are given, and also those of the sire and dam, the owner, the breeder, age at test, date of calving, production required, total production, percentage of fat, the number of days milked, and, in the majority of cases the number of times milked per day. The last mentioned matter having lately been a subject of experiment at the Ontario Agricultural College, Guelph, and Macdonald College, Que., it is interesting to note that many of the Ayrshires were milked three times a day and some of the Holsteins four times. Of the Ayrshires the greatest yield for the year is credited to a mature cow owned by the Nova Scotia Agricultural College, Truro, and the best percentage of butter fat to a cow owned in Prince Edward Island. Of the Holsteins, the record yield for the year is credited to a mature cow owned by the Colony Farm, British Columbia, and the best percentage of butter fat to another British Columbian. Of the Jerseys, the first in point of yield is an animal owned at Edgemoor, Ontario, while the best percentage of fat is attributed to a three-year-old owned in British Columbia. A four-year-old Shorthorn owned at Buckingham, Que., claims the record for that breed in quantity of milk, and a two-year-old owned at Waterford, Ontario, the highest fat content.

"Like Jack and Jill, She climbed the hill With many a pail of water. Till father called in Plumber Bill As daughter said he oughter."

Handle Hatching Eggs Carefully

As poultrymen, you and I want as near 100 per cent. hatches as we can get. It is a big step toward bigger profits, therefore good business.

If you are like I am you get a lot of free advice on this point, which you ignore, because you don't know why it is good advice.

For instance, we are told that we must use fresh hatching eggs. But why? Also that we must gather them as soon as they are laid, that we must turn them often, and keep them cool and moist. But why?

From study and experience I have learned the answers to those questions. And here they are for you, if by any chance you do not already know them:

1. Why must we use fresh hatching eggs? Because the life germ in the egg grows weaker the longer it is kept without hatching, and a weak life germ means that you will get no chick. That means a poor hatch, lost time and lost money.

2. Why must we keep hatching eggs cool and gather them as soon as laid? Because warmth starts the life germ growing before we are ready for it, and exposes it to quick death from change in temperature—just as an unseasonable spring day will start tree buds, with the danger of later being killed by frost. We must gather eggs often to keep the sun and greatest warmth at the least cost. In all laying houses in a cold climate some provision should be made so that the sunshine will reach every portion of the floor at some time during the day. In order to accomplish this to the best advantage, it is necessary to have considerable frontage toward the south or southeast. During the cold winter days it is most difficult, yet most essential, to have the direct sunlight.

3. Why must we turn eggs often? Because if the egg is left too long in one position the yolk, containing the life germ, tends to float to the top. If it is allowed to remain there, the germ, because of the evaporation of air that is going on in the egg, will adhere to the shell and die.

4. Why must we keep hatching eggs moist? Because the porous egg shell absorbs the necessary moisture to keep the egg healthy; and if it cannot get that moisture from the air about it, it is weakened and ruined.

Every egg is fertilized before it is laid, while still in the yolk stage, before the white is formed, and while the yolk still clings to the yolk cluster. As soon as fertilized, the egg germ, after a little growth, becomes dormant, goes to sleep, so to speak, and in a normal fertile egg the germ is still dormant at the time of laying.

Germ Weakens With Age.

This fertilized germ remains dormant until warmth is applied to the egg. The amount of heat necessary to "wake it up" varies, depending on the length of time the warmth is applied, and the age of the egg. Even in an egg handled under the best of conditions, the germ continues to grow weaker until it is so weak that it will never develop, and sooner or later dies. The fresher the egg the better for hatching.

The dormant stage in the egg germ is much the same as the dormant stage of tree buds. In this stage both can stand abuse, but the minute they wake up, look out, conditions must then be about right.

Concerning Important Glands

By F. W. ST. JOHN, M.D.

Since the discovery that certain glands, the thyroid, ovary, suprarenal, and others furnish to the body a so-called "internal secretion," which has to do with very important functions of the human economy, it has become more or less of a fad among the medical profession to use the various gland extracts to supply deficiencies which occur.

In many instances preparations of thyroid, pituitary, and other glands seem and probably are very useful. This will be true only when used in selected cases. There have been on the market for several years preparations containing one or many of such substances.

Recently a few doctors in America and Europe have successfully transplanted parts of glands from recently deceased human beings or from living monkeys into the human subject, and a few cases so treated showed signs of rejuvenation. Whether this rejuvenation was actual or psychological remains to be seen.

As is usual, the patent medicine venders have seized upon this situation as an opportunity to make money, and are now offering medicines containing gland extracts which are supposed to renew youth and prolong life. While in carefully diagnosed cases there are no doubt benefits to be had from the administration of such remedies, unless every phase of such a case is thoroughly understood the remedy may be worse than useless. It is much better to leave such matters to those who know the most about them (the doctors) and they know little enough about the vital processes of life.

If wholesome living, wholesome exercise in the open air and a goodly amount of mental and physical labor, together with sufficient, properly cooked food to maintain a proper balance, do not enable one to prolong his youthfulness I believe that the fountain of life will not be found this side of the grave.

Self-made martyrs are less useful than self-made men.

If your farm is not already named, try for the best-fitting name and use this perfectly dignified and effective way of advertising it, thus increasing the value of your farm. Put the name on your envelopes, letterheads and in advertisements.

SHOOTING A WELL

Something very unusual was going on at the old oil well. Three or four men with a spring wagon were here; the pump had been removed, and two of the men were peering down into the pipe. Although not a gusher, it had at first been a good flowing well. But after a few months the flow had grown less and less until it stopped altogether. Then a pump had been installed and for a long time kept the oil flowing. At last, however, even the pump brought no oil. I had heard that the well was to be abandoned.

Having tied my horse to a tree, I walked over to the well. The men were evidently getting ready for serious work; there were several cans full of some liquid, which they were handling tenderly.

When all was ready the longest can was lowered into the well. Down, down it went while the men waited quietly.

I asked one of them what they were doing.

"We are shooting this well," he answered. "It has stopped paying, and we hope that by setting off a charge of nitroglycerine down below we may break things so that there will be a good flow of oil again."

I was too busy to stay longer; so I drove on down the road. But as I rode I found myself unconsciously straining my ears for the sound of the explosion. I was disappointed, however, for I heard no sound. But although no sound reached my ears, the explosion came at the proper time down in the heart of the earth. What a terrible ripping and rending there must have been!

When the vibrations had died away in the bowels of the earth, there was an oozing and trickling as if the life-blood had begun to run from the terrible wound within. And truly it was so, for when the pump was installed again and the power connected the precious oil rose and poured out, barrel after barrel.

Those things I learned when I again drove past the old well in the field; and as I drove on, considering the event, I thought that there are more wells than oil wells. There are the wells of the human heart; and those sometimes fail to flow just as the oil wells do. And when they fail the Master sometimes sees fit in His wisdom to "shoot the well" of the human heart. It seems cruel sometimes, those broken plans and crushed hopes. How many torn hearts there are in the world! And the Master has thought best to have it so in every case. But, oh, how rich is the oil of love and sympathy and kindness, and how full is the stream that flows from those broken hearts! If breaking the heart brings grief, surely the "oil of gladness" that flows at last will soothe and heal the wounded heart; and in the joy that follows we shall not remember the grief.

Why a Family Garden.

The labor situation in the country during recent years is largely responsible for the disappearance of the once familiar home garden, with its delicious fruits and appetizing vegetables. There have been presented no convincing arguments showing the wisdom of allowing this rural institution to pass out of the farmer's life, even from an economic standpoint, while we know that its decay has been a contributing influence in driving the younger people away.

The old garden certainly added to the attractiveness of the farm home, and judging from the interest of juvenile members of the various garden clubs in their work, the little yard near the house went far toward satisfying the desire for doing things. In fact, when one revisits one of the old homes where once it seemed that everything invited him to come in, he is astonished at the change wrought in eliminating the garden place and devoting it to the regular field crops.

The reason for claiming that the garden has a real place upon our farms is not merely sentiment. It goes farther, farther even than the dollars and cents value of the products grown. That dignified gentleman known as the country physician, has repeatedly told us that we can keep our bodies in much better health if we make a more extensive use of vegetables and fruit juices in our diet, and he is no vegetarian. Any casual observer has noted the comparatively small amounts of fruits and vegetables used on farms where no garden is provided. The better health now enjoyed by city folks as compared with that of a decade or more ago is more or less traceable to the increased amount of green food consumed. Deprived without these foods and substituting salt pork is not the economy it may seem. In the end the practice is quite certain to prove exceedingly expensive in shortening life and in mounting up doctors' bills.

Furthermore, the labor end of the question is generally not so bad as many have led themselves to believe. Once the garden soil has been made rich it does not take a large area to supply the farm home with an abundance of health-giving products. A labor demands must be cut these are other places where the reduction can be more safely made, especially if there are boys and girls in the family. Duty toward them in giving the most perfect bodies with which to start their courses in life, is sufficient reason to lead parents to continue or establish the good old family garden.

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