

# Soils and Crops

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

## Shearing the Farm Flock.

Too many farmers neglect the shearing of their sheep until late in the summer. The result is that the wool begins to fall out and becomes matted and tangled and full of dirt, and its market value is lowered. As to the sheep themselves, the ewes are carrying their heavy winter coats which make them uncomfortable. They become thin in flesh, and consequently the milk flow is lessened, resulting in a stunting in the growth of the lambs. Thus we encounter a twofold loss by shearing late in the summer.

Either the old-fashioned hand shears or the power shears may be used. The power machine which requires an extra man or boy to turn the handle is fast coming into wide use. The advantage of this machine over hand shears is a smoother job with a more attractive sheep after it is shorn. This machine also clips the wool closer to the body, giving more length of staple, which adds to its value. There is also less danger of making "second cuts" with this machine. "Second cuts" are greatly discounted on the market, as these small short fibres are practically worthless.

Select a clean, dry place to do the shearing. Be sure there is no chaff or hay overhead which will fall into the fleece. The sheep should not be allowed to get wet before shearing, as wet wool will mold when packed. In discussing the method of shearing I shall refer to a smooth-bodied mutton sheep free from wrinkles. The work requires a boy to turn the crank of the machine and one man to hold the sheep and do the shearing, unless the machine is hitched up to the gasoline engine.

The first thing is to set the sheep on its rump in front of the machine. Start shearing at the "brisket and breast; shear down over the breast and over the belly, from the right side to the left side, opening the fleece to the right hind flank as you proceed downwards. (Be careful that you do not cut the small testis, especially if it is a yearling ewe.) You are then ready to trim out the inside of the hind legs and around the vulva.

The next step is for the operator to place his right foot between the two hind legs of the sheep as it is still on its rump. The left knee of the operator is held against the shoulders of the sheep, holding it in position. Grasp the muzzle of the sheep with the left hand and hold the ewe's head back over the knee. Shear the fleece from the neck down to the tail. The fleece is divided up the middle of the neck.

The seed bed should not, however, be compact and firm at the surface, for then surface evaporation would be excessively high and the danger from cracking and backing too great. The surface two inches should be mulched and loose. It will then dry out, and will decrease the surface evaporation, for water from the lower area will not rise beyond the mulch, and hence will not be so rapidly lost. The ideal mulch is granular in structure, and is not a dust mulch. It should also be ridged and rough, so as to absorb rainfall readily without puddling or without an excessive run-off, and also to hinder soil blowing. You can prepare this ideal seed bed if you only use the right implements at the right time.

Now that we know the essentials of a good seed bed we can consider how to go about to get it. It means not only the right distribution of organic matter and fertilizers; good plowing, the right kind of harrowing and disk-ing, but also the right kind of pulverizing and packing. The farmer who follows the one-crop system of farming, and thus depletes the amount of organic matter in his soil, making it a hard one to handle, the man who will insist in plowing his ground when it is too wet, the man who does not have power enough, and so is afraid to set the disks of his harrow at a sharp angle, and the man who says that a combination pulverizer and packer is not essential are all making mistakes.

The perfect seed bed will come only from doing the right thing at the right time, all the time. In other words, follow a good system of farming, rotate your crops, make economical use of farm manure, make use of the right type of moldboard plow, the right harrow, and then the pulverizer or corrugated roller. No one implement will do the job. The writer has prepared many a seed bed, and has used a large variety of implements in this work, ranging from an old brush or stone drag to the tractor plows and pulverizers. He has seen a great development in the art of making seed beds, and has become firmly convinced that the right combination is at first the plow, second the disk harrow, and third the pulverizer.

If you are a power farmer you can make this perfect seed bed in two operations, pulling first the plow and second the disk harrow, followed by the pulverizer.

If you are a horse farmer you can do just as good a job, but you will have to go over your ground three times to get a perfect seed bed.

The person who said that the upbringing of children demands more study than the raising of poultry probably didn't like poultry any less, but children more.

If you are interested in getting better yields from your crops, I believe it will pay you to give some thought to this matter.

It was not so very many years ago that the popular seed bed was one that was extremely loose. This seed bed was mellow and full of air spaces, and dried out rapidly, but because it looked good, and even felt good, many a farmer worked mightily hard to secure it.

Of course, not all of us made this mistake, as is evidenced by the development of the home-made log roller and the plank drag, as well as the smooth steel-drum roller.

To-day farmers and agricultural experts are almost one in recommending a fine, firm seed bed. An experienced alfalfa grower recently stated, "I have prepared many different kinds of seed beds for alfalfa, and I am convinced that more failures of alfalfa can be traced to a loose seed bed than to any other condition. Sometimes the farmer fails to get his soil fine enough, but very often, even when he does get it fine enough he has it too loose. Alfalfa demands a fine, firm seed bed."

The loose seed bed is wrong for several reasons. Probably the most important reason is the fact that it loses moisture rapidly and requires an abnormally heavy rainfall to start and mature a crop. The reason that a loose seed bed is such a poor holder of moisture is because of the fact that it has so many air spaces. This can very readily be understood by a comparison of a sandy soil and a clay soil.

The sandy soil is naturally looser and contains more air, while the clay soil is heavier and more compact. A sandy soil in good till will retain in the surface three inches of soil only 7.5 inches of water, while in the surface three inches of clay soil, in good till, there will be retained 15 inches of water.

A loose soil, because of its inability to hold moisture, will not furnish as much plant food as will a firm seed bed. Plants must have their food in liquid form.

The seed bed must be the medium for the starting of the crop. Here again a firm seed bed is superior to loose soil because it supplies the moisture so essential to germination several days quicker than in a loose seed bed. The firmer soil will also tide the young plant over until its root system becomes big enough and well enough established so it can seek its own food and water.

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## POULTRY

Get rid of mites by rubbing on the roosts and in the nest-boxes the residue found in the kettle after making home-made soap.

A layer requires about three or four ounces of feed a day, including mash. However, the quantity of grain fed should depend on the condition of the birds and their activity.

Marketing is the big secret of success. The more I know of the poultry business the more sure I am of that fact. I believe we ought to spend more time and work more faithfully to find good, reliable buyers.

The best thing I ever did in the poultry line was to drive six miles for a setting of eggs from well-bred hens. They were the first we ever had, and it created an appetite for still better things that laid the foundation of success.

Concrete floors in hen houses have proved to be very satisfactory. They not only keep out rats, but they are more readily cleaned of filth. About two inches of dirt thrown upon the concrete floor, and then scratching litter over that makes it all the better.

Males from hens which have laid more than 200 eggs in one year are of special value in transmitting the high-producing character to the pullets. Since the male furnishes half of the blood for the flock, much care should be used in choosing him. Farm poultry

## A Study in Farm Efficiency

"Well, Jack, I see you bringing home a two-horse cultivator yesterday. Have you changed your mind about their being more useful than the old style?"

"I'm not going to spite my face any longer by pulling my nose. That Brown kid took care of nearly twice as much corn as I did last summer just because he had a two-horse cultivator. You cannot convince me but what I have been a fool for not buying one sooner."

And it is by comparison that we learn the best methods of doing things and the best way to live. A recent study of the practices of six hundred farms brings out many very practical lessons, and telling them here will at least suggest some of the places where we might look for leads in the cost of producing farm products.

Just read these facts: These farmers find that the use of a corn binder increases the efficiency of man labor fifty per cent. over that achieved when cutting and shocking by hand.

Eighty bushels was an average day's work on these farms for one man when husking corn from the standing stock by hand. The use of a hay-loader reduces by about twenty-five per cent. the time required to put on a load of hay. The amount of labor required for unloading into the mow is only a little more than half as great when a hay-fork is used as when the work is done by hand.

The men in this territory who use manure spreaders haul and spread a given amount of manure in less than half the time required by men who haul in wagons and spread by hand.

A large majority of the men reporting, broadcast their small grain, using endgate seeders attached to the box of an ordinary wagon. Only about twenty-five per cent. of the farmers reporting own grain drills.

The bulletin analyzes each field operation from the standpoint of man-labor requirements, horse-labor requirements, size of machine, etc. The manner in which the data on plowing have been summarized is typical of the way in which several subjects are treated. About eighty per cent. of the farmers reported the use of sulky plows, about eighty per cent. stated that they use horse-drawn gang plows, and fourteen per cent. reported the use of tractors for plowing.

Sixteen-Inch Sulky Plows Popular. A large majority of the farmers use sixteen-inch sulky plows, nearly all of them with three horses in the spring. Three acres is an average day's work for this outfit.

For the comparatively few farmers using fourteen-inch sulky plows with three horses in spring, plowing about three acres is an average day's work. While theoretically the sixteen-inch plow should cover

keepers can afford to pay a good price for a vigorous male from a heavy-laying strain.

Flat-bing chicks without hen or incubator may be doubted. But last spring, after I was through setting hens and had cleaned my incubator and put it away for the summer, my last hen that was sitting was just ready to hatch when she died. Having no other hen to put the eggs under, I brought them into the house and fixed a box with a cloth on the bottom. I then filled a half-gallon jar with hot water and placed the eggs around it, and covered the box with an old piece of blanket. I had eleven eggs and hatched every one of them. I used the same box for a brooder, always being careful that the water in the jar was hot.

## HOSES

A cement feeding floor is worth its weight in gold for feeding hogs. In muddy times there is no throwing of feed into the mire—a practice that is accompanied by much waste, to say nothing of the likelihood of hogs acquiring disease from eating so much filth. Besides, a cement floor is easy to clean. It is but a few moments' task to scoop up the cobs and droppings. If water is handy, the floor may be washed off from time to time. This gives the hogs a refreshingly clean place to eat.

The cement floors should be on the south side of the hog-house. The surface should be perfectly smooth; otherwise water and dirt collect in the pockets and are hard to remove. The floor should slant a trifle away from the hog-house in order that rains may not flow towards the house. In this way the rains assist in keeping the floor clean.

Every hog feeder not provided with a good cement feeding floor should provide one without delay. The saving in feed and the gain in weight will pay the cost many times over.

## Grow Your Own Cows.

The system which prevails of killing nearly all the calves and filling up the herd with cows picked up here and there is an expensive one. By raising the heifer calves from the best cows and using bulls from milking strains of pure-bred cattle, the quality of our herds can be greatly improved and profit may be found where now there is none in the dairy business. The idea that it does not pay to raise your own cows meets with the most favor among those farmers who permit a half-dozen scrub cows to absorb all the profits from their other half-dozen good ones.

## Ten Reasons for Soybeans.

1. Many farmers are having success with them.

2. Soybeans are just a common crop for common people. It is not necessary to have a soil free from acid for good yields.

3. The best annual legume for medium to light soil is the soybean. It yields on light soils where other legumes fail to catch.

4. It is an annual plant—sureness of crop is a certainty.

5. The soybean is used as a green manure, silage, hay, seed and pasture crop.

6. In feeding trials soybean hay is equal to alfalfa.

7. Soybeans take no more moisture

when planted with corn than do weeds, and the leaves make rich silage.

8. Properly cured, the crop is relished by all stock.

9. Soybeans are easy to grow, as they are not attacked by any serious diseases.

10. Being a legume, the soybean builds up soil by adding nitrogen.

When in the mire my wagon's stuck, I do not idly stand about, An' start to rave and curse my luck; I go to work to dig it out.

An' when I've wanted weather fair, But skies are grey instead o' blue, I change my plans right then and there And find some other work to do.

## THE DWARF AND THE GIANT BOY

Once upon a time there was a family of Giants who lived in the land of Let's Pretend, and they had a young son who was not afraid of anything.

He was so strong that he could play marbles with boulders, and he was so plucky that he did not mind the least when the other people laughed at him because he had a dwarf for his very best friend.

No one could understand why the giant-boy loved the dwarf who lived in the woods, for he was rather a grapping, disagreeable little fellow. But the giant-boy used to look for the dwarf almost every day, creeping carefully through the woods on his hands and knees, hunting for him.

When he found the dwarf, the giant-boy would set him on the tip of his little finger and run with him over the hills and back again. It was like the steeple-chase for the dwarf. Or the giant-boy would put him on a leaf and blow him way up in the air, catching him safely when he drifted down. It was like a ride in an air-ship for the dwarf.

When the giant-boy was ten years old, it was the time, according to the custom of the country, for him to go out and test his courage, and if he came home as brave as he started, his giant-father would give him a beautiful wooded mountain to be his inheritance. His giant-mother gave him several bushels of apples and five hundred sandwiches and a barrel of milk to carry with him, and she told him that when these were gone, the giants along the way would be glad to give him food and shelter.

So the giant-boy started out with his heart full of courage, but he had gone only a little way when he met a storm. It was a terrific black storm that came rumbling down from the sky and crashing over the hills. It brought fire and thunderbolts with it and it seemed to shake the whole earth. Going into such a storm was like marching alone into an advancing army, but the giant-boy did it and he was soon safely through the storm, just by facing it.

He met bravely all kinds of things, the dark, strangers and larger giants and unknown places and new kinds of hard work. He grew older and nearer to being a giant-man before he turned toward home again. When he was almost there, he entered the forest and whom should he see but his old friend, the dwarf, digging beside a stream.

"Here I am! Are you not glad to see me?" the young giant cried, as he stepped across the stream with one stride.

"Let me alone, I am busy," the dwarf replied. Then, without looking up, he threw a pebble at the giant. It hit his heart and he heard a loud crack.

"Now I have lost my inheritance," he said to himself. "My heart is cracked."

"How did that happen?" his giant-father asked when the boy reached home.

"I met and conquered storms and all kinds of dangers," the giant-boy answered, "but my friend, the dwarf, threw a pebble at me and it cracked my heart."

"Oh, I should have told you about that before you started out," his giant-father said, taking down a big book of rules that could be used by any land as well as the land of Let's Pretend. He read from it: "The misdeeds of others can do us no permanent harm." "So the dwarf's meanness doesn't count against you," he said, "it only counts against the dwarf."

So the giant-boy was given a beautiful wooded mountain for his inheritance, and the crack in his heart soon grew together. As for the dwarf, he was always a little lonely dwarf and never grew up to be anything else.

## Cultivate Corn Early.

In the average corn-field, corn, weeds and grass come up together. There is not room for all three, neither for any two of the combination. If a good crop is the end in view the weeds and grass must be kept under. To do this best cultivation must start almost as soon as the corn appears above the ground.

To delay means that the weeds and grass establish themselves in and close around the corn hills where it is almost impossible to root them out without injuring the tender roots of the corn. Very early cultivation enables the farmer to get ahead and keep ahead of these robbers. It is usually merely a matter of planning the work ahead.

An examination of the underground growth of corn enables one to see why cultivation should begin very early. The roots of corn grow very fast. Close cultivation after the plants are ten days or two weeks old, provided there has been good growing weather, disturbs the growing roots. Also, the roots of the corn and those of weeds and grass become so intertwined that the removal of the latter is certain to injure the roots of the corn, thus interfering with rapid growth. The only safe way, is to get the weeds and grass out before the corn roots have made much of a start. Early cultivation does this.

He who increases the fertility of his acres enriches not himself alone but those who come after him.

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