

Soils and Crops

By Agronomist.

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

Get the Binder in Shape.

The grain binder is one of the implements which is used only a few days a year and then put away until another harvest has rolled around, and because of this is very likely not to be in first-class condition unless given a thorough overhauling before being taken out into the field. All repairs should, of course, have been ordered last fall and put on before the rush season began; but in this article we wish to point out some of the things which are often overlooked entirely, but which help greatly to make the binder work satisfactorily.

The first thing for you to do is to secure from your dealer or from the firm making the binder, a copy of their booklet on binder operation and troubles. Practically every firm puts out such a book and you can get it if you go after it hard enough. We can help you considerably through these suggestions, but we are limited as to space and must cover the points generally so as to apply to all types of binders, rather than showing a special binder by means of diagrams. Write for your booklet to-day and study it, both at home and in the field, and it will show you how to prevent many a binder trouble.

Go over the binder carefully to see that no bolts or nuts are missing or loose, as there are usually a few places where nuts are likely to work off. This is more likely to happen where two metal parts bolted together are subjected to considerable vibration. The most satisfactory way to prevent this from working loose is by "spring lock" washers. If these are not available, a second or lock-nut may be used if bolt is long enough.

Another method is by putting a sheet of brass or heavy tin under the nut and then bending it up so as to prevent the nut from turning. Still another effective way is to take a prick-punch or nail and make a slight nick in one of the bolt threads just above the nut. This will make a little trouble if the nut has to be removed, but will not be serious. Usually, however, if the nut is turned down firmly and then the tip of the bolt painted with heavy lead paint, little or no trouble from nuts coming off will be experienced.

Where a nut is too loose on a bolt, due to the threads being somewhat worn, the threads can often be made to hold by laying a strip of thin tin or brass or even cloth along the bolt and screwing the nut on over this. Sometimes fine wire or cord wrapped into the threads will make them hold. Another way is to set the nut on edge and strike with a hammer until it will grip the thread and still not jump off. If a chain rides up on a sprocket and produces a jerking action, it is because the wear has allowed the chain to stretch, so that the pitch is not correct. This can often be remedied by setting each link on end and striking it lightly with a hammer so as to shorten it enough to make up for the wear. Closing down the hooks will do practically no good. These chains should be put on so that each link has its hook end pointing in the direction of motion and with the open side of the hook out. Running in the other way will increase the trouble from wear very much.

Probably no ordinary farm implement suffers more from poor oiling than the binder. Part of this fault is due to the construction and location of oil holes. They have no provision for holding oil or keeping out dust, and many of them are put in such accessible places that the farmer is more likely to be pelted than censured for not crawling in to get at them as often as they need attention. The greater part of the fault is due to the fact that many operators have not grasped the fundamental principles of machinery lubrication, that the ideal method is to keep a film of oil in the bearings at all times. The nearest approach to this is to put on a small amount of oil at frequent intervals, rather than a spoonful twice a day. The oil which goes on the outside of the bearing does no good and only helps in catching the dirt. There are many places on the binder, fast-moving places with little provision for holding oil, which should be oiled every half-mile round.

All oil holes should be carefully cleaned of dirt so that the oil has free access to the bearing.

Everyone who handles dairy cattle is benefited by studying the art of judging cattle. While actual performance is of course the most convincing evidence of the worth of an animal, the external indications of quality which are apparent to the judge of even moderate experience will go a long way toward preventing mistakes. Such indications are frequently the only means of estimating the worth of calves, bulls, dry cows, and all stock in which accurate milk records and pedigrees are lacking.

To take grease out of leather, apply white of an egg, dry in sun; repeat if necessary.

Successful dairymen are nearly always good judges of dairy stock. Training in judging cattle enables one, first, to make few mistakes in buying stock; second, to get better prices for animals he has to sell; and, third, to breed more skillfully, thus building up a profitable herd in the shortest possible time.

Judging receives such prominence at shows and fairs that the casual observer sometimes carries away the idea that it is a field-for experts rather than for the practical farmer. This is an incorrect conclusion. Practically

Poultry

Shade and protection from the glare and heat of the sun mean better and more cheaply matured pullets, more summer eggs from the laying fowl.

Plenty of shade should be provided, especially for growing chicks, in order that they may thrive and prosper during warm weather. Shelter furnished by plants or trees is much cooler than that afforded by buildings or other artificial means. Chicks allowed to range in orchards will not only find ample shade and green food, but will benefit the trees as well as themselves by destroying insects and worms. Corn or sunflowers will help to provide the necessary shade, or artificial protection may be obtained by supporting frames covered with larder or branches of trees a few feet above the ground.

Beware of feeding too much scratch feed! The chicks get in the habit of eating too much of this and not enough mash, so that when winter comes and they need a larger proportion of mash to help in their egg production they are not very willing to eat it.

No more scratch feed than the chicks will clean up in about ten minutes. A tenth of a pound of a meal a day is enough. Cheap feed, served out just enough to clean up in twenty minutes. Provide large outdoor feed hoppers in the ranges where they will be handy for the birds. They will need plenty of these to prevent crowding.

Hoos

Pigs fed on good forage crops will make many times as much profit as those fed in dry lots.

The accredited grain in pork to an acre of forage varies, depending upon the crop, the age of the hog, and amount of grain fed. An acre of sweet clover, with corn at \$1.50 and hogs at \$15 a hundred, netted \$42.07; rape, \$37.50; alfalfa, \$65.90; and a combination of oats, peas, and rape, \$64.60.

Of all forage crops, alfalfa is the great permanent crop, while rape is the emergency crop, and green rye the fall and early spring crop. The ideal forage crop should show adaptability to soil and climate, permanency, palatability, reasonable cost of planting, and good pasture at any time during the growing season. Alfalfa, clover, and rape have most of these qualities.

As soon as ramblers roses are through flowering cut out all the old wood, the branches that bore flowers, and throw the whole support of the plant into the new wood of this year's growth that will flower next year.

PARCEL-POST MARKETING

By CHAS. E. RICHARDSON.

I have two businesslike, persevering friends who have made a success of parcel-post marketing. One of them keeps a herd of purchased cattle in a district far from cities. Creamery prices did not satisfy him, and he had no way of selling his whole milk. So he conceived the idea of a farm milk business in certified butter. He learned how to make certified butter of a high quality. From numerous manufacturers of paper and wooden shipping boxes he obtained samples and quotations, finally choosing a wooden box of two-pounds capacity, manufactured in his vicinity. One dollar for two pounds appeared to him a not unreasonable charge, and that was the price he mentioned in his advertisements.

These advertisements were placed in the classified ad pages of high-class newspapers. They were short, six-line notices, but they were businesslike and to the point. When the advertisements had been running a month he had a half, my friend wrote: "Results thus far are only partially satisfactory, but I believe a successful business can be developed if I give sufficient time and business effort to it. I mean to stick to it."

He made nothing on his parcel-post business in butter during the first six months, but all the time he was making headway. At the end of that time he had several permanent customers. Their number steadily increased. He took pains to sell extra good butter. Every week it was of uniform quality. Eventually he discontinued advertising altogether, because he was getting more orders than he could fill. He is a successful parcel-post farmer to-day, and he would not think of marketing in any other way.

The other man, city-born, as a young man managed butter and egg stores. Consequently, he knows a good deal about retail market conditions and prices. On the farm he produces butter, eggs, and dressed poultry for parcel-post selling. A spring specialty which he makes much of is maple sugar and syrup.

The syrup from the home orchard of this spring, besides much he bought of neighbors, he sold for \$1.75 a gallon delivered; for sugar in 10-lb. pails he got \$2. To local stores at this time other farmers were selling their syrup for \$1 to \$1.25 a gallon. Within the first two zones this mail-order farmer shipped by parcel post, in other zones by express. His syrup sales last year exceeded 200 gallons.

Yesterday I had a letter from him. "The parcel post can be made to do great wonders," he wrote, "Can be

IN TEN YEARS 500 Dollars

If deposited at 3% amounts to \$597.75
But if invested in our 8 1/2% Debentures will amount to...\$990.20
Write for Booklet.

The Great West Permanent Loan Company.
Toronto Office 20 King St. West

Sheep Notes

Lambs make cheaper gains when fed corn or hair with silage and alfalfa than on corn and alfalfa alone. Three rations are desirable for feeding lambs: First, corn, alfalfa, silage, and cottonseed meal; second, kafir, alfalfa, silage, and cottonseed meal; and third, corn or kafir, alfalfa, and cottonseed meal.

Lambs fed corn, alfalfa and cottonseed meal will make slightly greater but not quite so cheap gains as those fed kafir, silage, alfalfa, and cottonseed meal.

Whole grain should be fed to lambs because it will not gum as readily as ground grain. A tenth of a pound a day is plenty to feed at first, but this should be increased gradually. Within two or three weeks, when the lambs are on full feed, two or three pounds of grain should be fed.

It isn't wise to crowd or push the lambs, because if they once get off feed they lose rapidly in flesh. Always feed plenty of alfalfa or some other kind of hay along with silage. A quarter of a pound of cottonseed meal a day is enough. Cheap feed, such as damaged hay, can be fed to lambs with good results. From sixty to eighty days is the common length of the feeding period.

The most desirable weight for finished lambs is between 80 and 85 pounds. A quarter of a pound gain a day is a creditable showing for lambs on full feed. Feeder lambs should weigh between 50 and 55 pounds. They should have a strong frame, be rugged, show lots of constitution, and be uniform in size and conformation. They should have size and substance enough to carry plenty of flesh and fat. Lambs of this kind can be bought through any trustworthy commission firm.

Most sheep feeders drain their feeding pens so they will remain dry. Nothing is more detrimental to the health and thrift of lambs than wet quarters.

Health Talks

By John B. Huber AMMD

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

Sunstroke and Heatstroke.

It is very important to make the distinction. The heat stroke, the heat exhaustion sufferer is prostrated, in collapse; his skin is cool or cold and clammy; his muscles are relaxed; his pulse is slow and thready. His temperature is below the normal; and a couple of degrees below the normal (98.6) are much more serious than a couple of degrees above. Heat stroke is the result of prolonged labor at high temperatures, as among stokers; not necessarily in the sun or in the summer time. The condition may come on at night in closely confined, hot rooms. Such a patient has got to be stimulated with half-teaspoonful doses of aromatic spirits of ammonia in water, until the doctor comes. A warm bath with hot water bottles to his feet. But no ice.

Sunstroke or thermic fever, on the other hand, comes about generally through exposure directly to the sun's rays during hot spells. Alcoholics—beer drinkers and the like—are here easy marks. In severe cases the victim falls unconscious and may die at once or after a few hours of coma, with snoring, deep labored breathing. Or, if conscious, the sufferer may speak of colored or indistinct vision and headache; there will be sudden arrest of perspiration, the skin dry and hot. The patient will all of a sudden become dizzy and nauseated and he will vomit; then he will be absolutely unconscious and his face will flush, his pupils dilating, and he will manifest muscular spasms. He is now like to have convulsions, a quick and

bounding pulse and a fever like to burst the thermometer (110 or more degrees).

Put such a patient in as cool a place as you can find until the doctor comes. Sprinkle him with ice water or rub him with ice or sponge his hot skin with ice water, especially his head and neck. If the doctor wants, to bloodlet don't interfere with him; he knows his business. People who have had one stroke do very badly indeed should they have another; especially must they cut out alcohol.

Questions and Answers.

I would like to know what a spinal douche is, as my little girl is a mental case and it may help her.

Answer—The cold spinal douche is of the greatest tonic effect in nervous fatigue and in cases of neurasthenia generally. It is a powerful physical as well as mental stimulus. In sanatoria it is ejected by means of various nozzles in the form of a strong stream up and down the back of the patient for a few seconds only and at a distance of 10 feet. Patients with a good reaction do not need any special preparation; but a weak sufferer had better for a preliminary take a warm bath. At first the water should not be very cold; later it may gradually be lowered to 50 degrees, F. It should be taken if possible every day.

In one's home where one cannot have elaborate contrivances the water may be sprinkled from a hose onto the patient standing in a bathtub or from the sprinkling attachment to the ordinary bathtub.

Save the Best Seed.

When saving garden seed it pays to select the seed from the best plants. Frequently the best vegetables are used and a few cul specimens are allowed to go to seed because they are so poor that they are unfit for use. Then the seeds from these inferior specimens are saved and tried the next year. The grower often finds that the results are poor and then believes that nothing is gained by trying to use home-grown seed.

The plant that produces the seed for next year's crop should be the best. Save the plants in the garden that appear vigorous and free from fungous diseases or insect injury. Allow them to go to seed and the results next year will be apt to be very good, often better than from the seed purchased on the market.

Seed that has been left over this year should be stored in labeled envelopes for use next year. Many farmers think that commercial seedmen replenish all of their seed supply every year and never send out seeds that are more than one year old. They are absolutely fresh seed if they buy of the seedsmen and think that their own seed is probably inferior if over a year old. Many seedsmen raise a large amount of seed during a year when it is particularly favorable for the growth of a certain plant and then have enough to last over if crop failures occur. Certain seeds retain their vitality for several years and the period of germination will be very good if they are properly stored. A stool cabinet makes a nice case to store envelopes and packages of seeds. It should then be placed in a dry room where there will be little danger of inroads from mice. We save old coffee cans and frequently use them for storing garden seeds. A one-pound tin coffee can will hold quite a lot of garden seed and it will be safe from rats and mice. The seed will also be protected from dampness and it will not become mixed with other varieties, as sometimes happens when easily broken paper bags or envelopes are crammed full of seed.

The farmer who studies varieties and saves seed from the best will find an added interest in vegetable gardening which will make the work more profitable. Raising good garden truck is much like raising good live stock. Only the best should be allowed to increase. Undoubtedly there are many points concerning seed growing and plant breeding which the average farmer must leave to the seedsmen, but under present conditions every farmer can reduce his expenses by trying to save seed from some of his best plants.

How to Take the "Hop" Out of Grasshoppers.

Into a bushel of screened sawdust thoroughly mix, by sifting, a pound of poison, Paris green, white arsenic, or crude arsenious oxide. In a gallon of water dissolve three-fourths of a pound of salt and add one-half of a cup of molasses. Slowly pour this into the poisoned sawdust while the mixture is being stirred. Then add enough water to make a good stiff "mash."

This poisoned bait can safely be taken in the hands and spread broadcast. It should not be left in piles around the field, but should be well scattered. A bushel of this poison ought to cover about three acres of ground.

THE CHEERFUL CHERUB

I just must wear my summer furs
Though not to follow
Fashion's rule—
It's 'cause I look so
wintry then
I make myself
believe
I'm cool.
R.T. CAN



MAKING ELECTRICITY ON THE FARM

Why not more electricity for our farmers?

Easy to get, and mighty cheap, if there be on the farm even a tiny stream.

The Department of Agriculture says that there are scattered throughout the country "innumerable brooks and streamlets capable of supplying enough electric power for all farm and domestic needs."

A brook ten feet wide, with an average depth of two feet and flowing two feet per second under a "head" of five feet, can supply ten horsepower continuously—enough to light the average farmstead and leave enough over to operate motors for many of the needs of power on the farm.

Electricity on the farm is as helpful to the farmer's wife as to the farmer. It may be so utilized as to relieve her of much drudgery.

The first thing for a farmer with a brook at hand to consider is how much power he requires—the unit of electrical power being the "watt." One horsepower is the equivalent of 746 watts.

To run a twelve-inch electric fan requires forty watts; a three-pound flatiron, 250 watts; a toaster, 400 watts; a four-inch disk heater, 450 watts; a coffee percolator, 500 watts; a small hot-water heater, 1,500 watts. Lights consume ordinarily twenty-five or forty watts.

To run a churn takes half a horsepower, a cream separator the same, a milking machine the same, an ice cream freezer the same, a washing machine the same, a grindstone half that much, a wood-saw three horsepower, a hay press the same, a feed grinder five horsepower.

Having figured out the amount of power he needs, the next thing for the farmer to do is to find out how much power can be obtained from the stream that runs through his land. To do this, and to get other requisite instruction, he should write to the Department at Ottawa.

Even an insignificant streamlet may supply all the current needed on a farm, for lighting if for no other purpose, when properly harnessed. With storage batteries provided it can use all of its energy throughout the twenty-four hours in loading them—the power to be drawn off during only a few hours each day.

Hydroelectric outfits suitable for farm use are inexpensive, and their upkeep costs almost nothing.

Making Hay—Then and Now.

The modern method of making hay is far different from that of the old days, when grass was cut with scythes, turned with pitchforks if there was time, raked by hand into "cocks," loaded by hand with pitchforks, and unloaded by hand again into dark mows or stacked in most any kind of shape out of doors.

Artists complain that the modern way of hay-making has taken all the romance and poetry out of this old art. It sounds well to read Maud Muller's accomplishments as a hay-maker, and yet I think that most of the poetry sounds the most poetical to those who are the farthest away from the real thing. Certainly it is then I could see but little poetry in it when I was compelled as a boy to follow the scythes in the hot sun with a long-handled wooden rake, or to help load with a pitchfork the big wagons which had to be reached to what seemed to me a mountainous height. How I longed to rest my weary arms and back, and how I prayed that the supper bell would send its tidings over the field. I am afraid that I was even disloyal to my father, for I often wished it would rain in order to give me a rest, although I knew it would spoil the down hay.

So, although the poetry and romance has disappeared, the farm boys of to-day are thankful that the introduction of modern hay-making methods has taken the backache and the armache out of the job. And, besides making the work much easier, it has improved the quality of the hay and has enabled the farmer to increase his acreage many fold.

The problem of securing extra help during the hay-making season has undoubtedly helped to introduce labor-saving machinery, and has proved a blessing in disguise as it has made the work much easier for the farmer himself. Hay-making has so changed in the past few years that it is now hard to find a farmer who does not utilize the mower, side-delivery rake, tedder, hay-loader, and one form or another of unloading machinery.

Strawberry Crop.

There are several important insects which do severe damage to strawberry plants and greatly reduce the crop every year. In Bulletin No. 92 "The Strawberry and Its Cultivation in Canada," prepared by W. T. Macoun, Dominion Horticulturist of the Dominion Experimental Farm, and obtainable from the Publications Branch, Department of Agriculture, Ottawa, information on these insects is given, along with methods for their control. Common strawberry diseases and remedial measures as well as general instructions for the gardener who is interested in growing this fruit are also included in this bulletin. Occasionally the yield of fruit is severely reduced by the strawberry weevil. This is a small dark snout beetle which cuts off the blossom buds. Early varieties of strawberries appear most subject to serious injury.

What it Profits a Man To Fertilize His Crop

At Rothamsted, England, fertilizers increased the yield of wheat (61 year average) 18.4 bus. per acre, and at Orléans (42 year average) 13.5 bus. per acre.

The unfertilized wheat of A. L. Eldredge, Ettrick, Ont. (1913) yielded 12.5 bus. per acre as against the fertilized yield 24.7 bus. per acre. Fertilized wheat yielded more than four times the unfertilized.

Not total acreage but yield per acre is what counts.

Fertilizers on winter wheat provide readily available plant food which strengthens the wheat to withstand winter weather, starts it strong in the spring, and makes it so "over the top" with a substantially increased yield per acre over unfertilized wheat.

Wheat Fertilization is Good Crop Insurance.

Booklet on Wheat Production mailed on request.

The Soil and Crop Improvement Bureau

of the Canadian Fertilizer Association

1111 Temple Building Toronto