

Soils and Crops

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

Home Grown Poultry Feeds.

The profit from the farm flock depends in a large measure upon the skill of the owner in producing home-grown grains and green feeds.

On any reasonable fertile soil grain feeds can be produced cheaper than they can be purchased, and a second saving can be made by conveying these crops into efficient rations. The fact that feed crops are being grown for the fowls enables the owner to practice a more sensible system of flock-handling than is possible when this phase of the business is neglected.

With plenty of land available there can be no excuse for the man who claims that he can buy grain, forage and vegetable feeds cheaper than he can grow them. It is quite true that some of the crop yields will be low, but there is absolutely no reason for not harvesting good crops from fertile soils if one applies modern methods. Corn, oats, wheat, buckwheat, clover, alfalfa, beets and cabbage are easy to raise and all have a place in making economical rations for the farm flock.

On most farms skim-milk and insect life make up the bulk of animal protein available for poultry rations. It is, however, one of the most essential elements of the ration, and if satisfactory results from other feeds are obtained it must be supplied in reasonable amounts. As a rule beef scraps and ground bone furnish the cheapest animal protein. Grit, shell and some of the ground grains must be purchased, unless one has the facilities for grinding the home-grown grains. But even when it is necessary to buy some of these special protein feeds the bulk of the ration may well consist of home-grown feeds. The saving in the cost of feeding will more than offset any lack of efficiency in the ration, and the birds will be more healthy and vigorous than is the case when fed only mixed and prepared feeds. If birds have free range surprising results are often obtained from very ordinary rations. During the season when insect life is unusually plentiful, there is scarcely a method of feeding, unless it is extremely abnormal, that will produce as good egg production or maintain as good growth of the young stock.

After experimenting for several years with different crops the writer found corn and alfalfa the two most valuable home-grown poultry feeds. With these two feeds as a foundation the ration may easily be varied to meet the requirements of the flock and the market prices of other feeds. Good alfalfa serves as an excellent substitute for expensive grain feeds, and it can be cut and cured for less than one-half what the cost of the grain needed to take its place in the ration would amount to. Where alfalfa does not make a good stand, red or alsike clover may be used to good advantage. Alfalfa cut before it is in the woody stage and properly cured will come out of the mow as green as any grass ever saw. It contains very little indigestible fibre and its greatly relished by the hens. It is the second and third cutting that furnish the fine-stemmed, fine leaves that give such delicious nashes for the hens.

New Treatment for Sterility in Cattle.
Specially trained, careful, scientific veterinarians are now having good success in treating sterility in cattle. They know now that the cause in a majority of instances is infection of

the womb with the germs of the contagious abortion disease.

The germ to blame is known as the bacillus abortus, and it also causes, "shy breeding," constant heat, failure to come in heat and retention of the afterbirth. Following retention of the afterbirth and its removal by hand, other germs may help infect the womb in a worse way.

The abortion bacillus causes chronic infection and inflammation of the womb, and that is termed endometritis. That condition may lead to expulsion of a live or dead fetus. The live ones used to be called "living abortions," for they came into the world weak, puny, and soon succumbed, or they hawled, blatted, scoured and died. Or endometritis may cause retention of the afterbirth, and then further infection causes formation of pus and the condition is termed pyometra. That and endometritis commonly cause sterility. The ovaries also become involved and are in a diseased state, so that periods of heat fail to appear, or are irregular or constant.

Modern scientific treatment deals with the germ enemies at their source. Special instruments (forceps) have been devised by which the veterinarian brings the mouth of the womb into sight where the condition of its mouth and neck may be observed. Treatment then is given according to the condition seen to be present. It may be necessary to swab the mouth with full strength Lugol's solution; then open the neck, dilate it and treat in the same way as the mouth—and then treat the womb. This is done by means of special return flow catheters of metal, through which a mild, lukewarm antiseptic solution is introduced as a douche to flush out the womb, and then is removed by siphoning. If pus is found present that is flushed out by means of an antiseptic solution and rubber catheter or tube. If care is not taken the wall of the womb is readily ruptured, and that will be likely to result in fatal peritonitis, or septic inflammation of the membrane lining the abdominal cavity. In some instances a mummified fetus is found in the womb and has to be removed. In all cases successive treatments have to be given until the womb is restored to a healthy condition. The cow may then conceive when bred. That will depend, however, upon how serious has been the infection and inflammation of the membranes lining the womb.

The ovaries are treated at the same time. This is done by way of the rectum. Cysts or sacs containing fluid are ruptured, and it may be necessary to remove a persistent "yellow body," known as a corpus luteum. That body forms from the clot of blood in the wound caused by rupture of a ripe Graafian follicle when an egg or ovum escapes when the animal is in heat. In a healthy state of the ovary the yellow body disappears in about twenty days after the period of heat, provided the cow has not been bred and conceived. When conception takes place the yellow body persists throughout pregnancy. Sometimes it persists when conception has not taken place and sterility results. Simple removal of the yellow body may then bring about a period of heat.

Only a specially trained veterinarian is qualified to do such work.—A bungler may do far more harm than good.—A. S. Alexander, Veterinary Surgeon.

Poultry

In raising chicks it is very discouraging to start out with a flock containing many puny specimens. They do not thrive under the best of care and a high mortality rate is apt to result. Thrifty chickens have bright beady eyes. They are alert and stand in a sturdy manner. The shanks and toes are not webbed but spindly, well built and suggest vigor. The back of the vigorous chick appears short and stout.

Good quality chicks have medium long and broad backs and the fluff is clean and rounded. They are the kind of birds that scratch and sing and immediately show the results of good food by growing rapidly. The wings stay close to the body as if the bird had the strength to keep them

neatly folded. Weak chicks are apt to lag about the brood coop and try to stay under the hen at all times. If artificially brooded they are the type that hugs the source of heat.

When once obtaining a flock of strong chicks a very high per cent. of them can be raised if proper methods are followed. In buying day-old chicks it pays to try and obtain stock that correspond to the vigorous type. Some men who run incubators seem more skillful than others in obtaining plump vigorous chicks. Much of their success is due to the quality of the breeding stock. We find that eggs from year-old and two-year-old hens produce plumper and stronger chicks than eggs from pullets. Hens that have been heavily fed for winter eggs do not produce as thrifty chicks as the hens which have had their vigor saved for the production of hatching eggs.



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A Farm Workshop

By Harley M. Ward

A good workshop is, without any doubt whatever, a valuable asset to any farm, and in consideration of the slight cost of putting up such a building and equipping it with a few tools, no farmer can profitably do without one. In a great many instances we can convert an old building, otherwise of very little value, into a modern workshop which will hold all necessary tools and equipment and the cost will be comparatively small.

The proper size of such a building, of course, will vary, this depending greatly on the amount of work to be done and the equipment. Our workshop is 16x24 feet and contains overhead storage room where we keep lumber and other necessary supplies. By this arrangement much valuable space is saved and gives us plenty of room to do our work on the lower floor, where we have a work-bench, forge, and other necessary equipment.

The walls are constructed of hollow tile, which we have found to be ideal for the purpose. It possesses distinct advantages, such as permanent, fire-resisting, non-conducting cellular walls, and immunity from the deteriorating influences of decay.

It is not necessary to have a full equipment of tools in a farm workshop, but we must have the following at least: A good hatchet, hand saw, rip saw, steel square, a good plane or two, set of chisels, a good brace and set of bits, set of taps and dies, a good ax, some tongs, and a good blacksmith's hammer. The above will do to start with and other tools can be bought from time to time as the need arises.

A great many farmers have special

talent along this line. Some have been mechanics at some time or another, while others are quite handy with tools and in this way a great many dollars can be saved in the course of a year which otherwise would be paid out of the farm profits for the different repairs arising from the constant use of the farming equipment. A farm workshop is a good investment because, on the average farm, it will pay back to the owner the price of its construction and equipment in the course of a year.

We keep on hand a stock of bolts of different sizes and lengths, as they are sure to come in handy at some time of the year. In our shop we are able to mend harness, sharpen harrow teeth, mattocks, replace mower knives and broken parts, make single-tree, fix horseshoes, and many other small jobs that often run up in many dollars in the course of a year. This work is usually done on rainy days, or during the winter when our work is not rushing. However, it is in the busy season that the workshop is appreciated, especially when something breaks. In a few hours' time we generally have the broken part mended and oftentimes are at work before we could make a trip to the village blacksmith shop. Aside from this we perhaps save a day's wages, which is just that much more earned, to say nothing of saving a lot of hay or some other valuable farm crop which otherwise would suffer if not attended to when conditions were favorable.

Our workshop, while not large, is a great saving in time and labor and is a good investment as it has already saved many times its cost during the past few years.

Dry Wood Makes a Hot Fire.

Nothing is more exasperating to a woman than to have to burn wet, soggy wood. On a cold morning, to have the house filled with smoke instead of heat sets all things wrong. If the wood is green the cook can not control the heat of the oven; there will be too slow a fire or too hot a fire.

Green wood is fifty per cent. heavier than dry wood because of the excess of moisture. This, of course, increases the expense of hauling, if green rather than dry wood is used, for only half as much of the green wood can be hauled on a load.

Then, aside from increased expense in hauling, fifty per cent. of the heat is consumed in evaporating the water in the green wood before it will burn. It takes push and gumption to cut wood and cord it up this winter to dry out for next season's use. This is another evidence that energy and knowledge are as large factors in success on the farm as in other lines of business.

In the old days it was a big task to get up the winter's wood. Many of us have bitter-sweet memories of the long hours spent in dragging a stubborn cross-cut through a tough log; but, thank goodness, all that is changed.

To-day a little gasoline engine, with sawing attachments, will cut more wood in an hour than two strong men can cut in a full day, and do it more easily.

Wood-sawing machines are comparatively inexpensive, and when well cared for will last a long time. On farms which already have gasoline engines or any other source of power, very little extra outlay is necessary. Most of the outfits may be operated by a small number of men. Repairs and upkeep are usually moderate.

The cost of cutting a cord of wood with a buzz-saw is approximately twenty cents. All small trees and cord-wood can readily be cut with a buzz-saw and a circular saw, but logs above ten or twelve inches in diameter can best be cut with a drag-saw, although the latter will not cut so rapidly. A sawing outfit may be owned co-operatively, or may be used for custom work.

It is a mistake to saw up choice logs of white oak, ash, cherry and yellow poplar for rough uses at home. Many valuable logs go into cross-ties when they would bring the owner much more if sold as saw logs. Likewise, large numbers of rapid-growing trees, cut which produce only one small tie, whereas, if they were left to grow for from three to five years, they would yield more than double the profit. Owners of woodland should familiarize themselves with the uses best suited for each kind of timber.

What a Country Dinner Costs in Town.

I wonder how many of you farmers realize how lucky you are when it comes to this very important and enjoyable business of eating. I wonder if you experience a feeling of satisfaction when you dig potatoes from your garden, coax a pair of fresh milk

from Bossy, or capture a broiler out in your back yard for to-morrow's dinner.

City life is mine. When I want potatoes I buy them by the peck, and pretty poor specimens they are at that. Milk I buy by the quart or pint—at least, what I get is labeled milk. A broiler is a luxury, served only when I get reckless with my money.

That's why I completely enjoyed myself when one day I was fortunate enough to partake of a real farm dinner.

My host was an average farmer with a family of four. Another visitor and myself completed the company. It seemed to me as if I had never sat at such a bountiful table as the one spread before us.

In the centre of the board was piled, in tempting array, a heap of fricasseed chicken—three of them—the edges of the platter banked with great feathery dumplings. Near-by stood a small mountain of savory mashed potatoes, flavored with honest-to-goodness country cream and butter. This was flanked by a pile of more than a dozen steaming roasted ears, fresh picked.

At each plate were side dishes of beans, sliced in vinegar, sliced cucumbers, stewed apples, and generous rolls of butter to spread on expansive slices of home-baked bread. In addition there was coffee and a big pitcher of thick cream.

When we had eaten until we were near the bursting point, generous V's of well-filled blackberry pie were passed around. That we were too full even for speech made no difference. My host declared there was always room for pie, and we proved it.

As I leaned back in my chair at the end of the repast I couldn't help but wonder how much it would cost to duplicate it in the city. The thought stayed with me, and as my host and I wandered in his garden later I tactfully inquired as to the valuation he would place on what we had just eaten.

"Really, I've no idea," he said, surprised at my question. "The vegetables didn't cost much. We plowed and planted this garden, for instance, at odd times, and cultivated it when there was nothing much else to do." But the chickens, I said, "the three must have weighed ten pounds. Even if you could get such nice ones

The Welfare of the Home

Habit Formation.

Mothers are often heard to say, "My children have such untidy habits, and I don't seem to be able to break them. I talk all day long, but it doesn't do any good."

No mother needs to endure her children's untidy habits, or any other undesirable habits, if she goes about training in the right way, and is willing to take a little trouble to carry it out. Four simple rules based on psychology, may serve to give such mothers an insight into the means of forming right habits. If carried out faithfully, these rules cannot fail to produce results.

First, decide for yourself what habit you wish to form. Then start enthusiastically and determinedly to break the old and launch the new one. Say to your children, "Beginning to-day, we are all going to hang up our wraps, and put our books and rubbers in the proper places when we come home from school. Let's see who remembers every time, and doesn't have to have Mother tell her once about it." Arouse as much enthusiasm as you can about the matter. Be careful that you do not start to break and form anew too many habits at one time. Select one or two habits to work on, and keep at them until you are reasonably sure that they are well fixed. Then start on another.

Second, permit no exceptions to occur after you have once started. No matter how good the intentions of the children are, they will lapse into the old ways after a few days. That is when you will have to work. You will

find that eternal vigilance on your part will be the price of your children's good habits. When Mary comes home in a hurry to go out to play, she will throw her books on the nearest chair. Don't say, "Oh, well, she is little, and it is hard to remember all the time. I'll let it go this time." That is where you will fail. Even though Mary has already gone away to play, she should be called back immediately and told in a kind manner, "You forgot your books to-day. Put them away, and then you may go to play." One or two experiences of that kind will soon make Mary more careful.

Third, repeat the desirable action as often as possible. We all know that the habit is most firmly fixed which we have been practicing longest. Seize every occasion to perform the act which you wish to become a habit, and its acquisition will come all the sooner.


Last of all, act, don't talk. As Professor James says, in his Talks to Teachers, "Don't preach too much or abound in good talk in the abstract." When Mary throws her coat on the floor and her rubbers in the middle of the hall, don't tell her that nice little girls don't do those things, or that she is a careless girl and should know better, and a great deal more to that effect. Simply call her as soon as you discover what she has done, and tell her quietly and good-naturedly to put her things away immediately, and then see that she does it. Such treatment as this is far more effective than mere talking.

"It was a cracking good dinner," he finally asserted, "and worth all it cost; but I'm mighty glad I'm not a city man who has to pay such prices for what he eats. I'm afraid I wouldn't eat so much or enjoy it so well, and I'll bet a big red apple that a lot of farmers would be better satisfied if they realized how much their home-grown stuff costs the city man." And that's the way it struck me too.

Dirt and filth taken into the stomach along with food, impair digestion and reduce the gain, also affecting the appetite and general health of the pig.

The well-finished steer at two years of age will bring more money than the same animal would at four years of age in the same condition.

The supply of winter roughage for sheep has a marked influence upon the health of the animals and the economic consumption of the food furnished them.



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WHAT'S ITS NAME?

"The good a man does lives after him." Nowhere is this truer than on the farm. But man's memory is short and for that reason it is very important that your farm have a suitable name.

Sometimes very original combinations of the owner's name are used; for example, the farm of Dean L. H. Bailey of Cornell, which he called Bailiwick. One man was so overjoyed at the prospect of farming his own land that he called his place Iona Farm. Names such as Barron Run should be avoided, as they may give the stranger an unfavorable impression. It is also well to avoid names like Woodlawn and Shady Grove, which are already in common use in many parts of the country. Facetious names such as Dew Drop Inn do very well for summer bungalows, but do not possess the dignity which your farm name should carry.

Supposing you are a breeder of a famous strain of cattle: Your own renown and personality may be sufficient to bring buyers from all parts of the world. More often, however, the successful breeder has a distinctive title for his farm which he invariably links up with his farm paper and catalogue advertising. When you sell out, your farm name may be worth a great deal. In business it is called good-will. The president of the world's largest mail-order house declared that his firm's good-will was worth more than all the other assets of the hundred-million-dollar business.

But just as important is the satisfaction which you and your family will get out of an appropriate name for your farm. Morale is a favorite word in military circles. An army with morale is usually a victorious army. Having a farm name to work for, and to live up to, will give you morale to win your farm battles. It gives a certain distinctive tone to a place that otherwise is "just a farm." It implies a home, efficient production, better livestock, permanency, prosperity, success, and contentment. Look around your community at the farms that have names and see if this is not true. I think you will find most of the farmers who are achieving the unusual are justly proud of their farms. They show that pride by naming them appropriately.

It is very important that the farm name be distinctive, and that it fit the farm. There are many ways of christening a farm. Perhaps the most common is to select some outstanding feature as "Hillcrest," "Valley View," "Meadow Brook," etc. Others are named for the kind of trees which surround the farmstead, such as "Oak Grove," "Maple Dell," "Pine Ridge," and so on. Another favorite form of name is derived from a combination of the old English words "hurst" and "croft," which mean homestead. This is the way such names as Applecroft and Ellenhurst are formed.

If you and your family can't decide on a name, ask your neighbors or your county representative to help. A successful apple grower held a contest and paid a goodly sum for the best name submitted, which he has since made widely known through his apple advertising. You owe it to yourself, your family, and the man who buys your place to give your farm a suitable name.

Renovating the Old Orchard.

To put an old orchard into shape the following processes are necessary:

Pruning: Old trees usually have considerable dead wood, weak and broken branches, and old stubs. These should be cut out. In many old orchards, this pruning alone would clear out sufficient branches. But in trees not having so much dead wood, it is better to thin out branches that fill in too closely and those that rub against each other. Also, if tall leaders would make spraying difficult they should be cut out or cut back. In short, prune so that a careful man with a good outfit can do a good job of spraying.

Spraying of old trees differs little from the treatment of young trees of the same kind. Spray schedules vary in different sections, so if the grower is in doubt, he should consult his county representative or provincial agricultural college. Also, if a man has as much as five acres of fruit, he needs a first-class power sprayer.

Fertilization: Nitrogen is usually the limiting factor in old orchards, and nitrogenous fertilizers should be applied in accordance with the requirements of the trees as indicated by the amount of annual growth made in previous years. Along with this, enough acid phosphate should be used to make a balanced mixture. An ordinary application consists of 300 pounds of nitrate of soda and 400 or 500 pounds of acid phosphate to the acre. The amount is often calculated at four pounds of nitrate and twelve pounds of the phosphate for each tree. On mature trees the amount would vary with the condition of the tree. Stable manure also is good. As a rule, it is not worth while to use potash.

Cultivation differs little from that of normal trees. There are some exceptions; for instance, stony hillsides might better be left unplowed. A sod much here would help. Cutting the grass two or three times a year, allowing it to lie on the ground, would help conserve the moisture. Otherwise, clean culture with cover crops is recommended as in young orchards.