

Soils and Crops

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With the Ewes and Lambs.

The thought of the prudent shepherd is always toward his ewes; if pregnant, he plans to bring them to a safe and happy lambing. Day by day he cautiously conditions them for the coming of the lambs. For him that period means a supreme success or a miserable failure. The responsibilities rest upon his shoulders; and if he loses a large percentage of the lambs at lambing time it is some fault of his management.

A wise shepherd can feed his ewes liberally without overloading them with too much fat. He can plan to give them opportunity to walk about and exercise every day when the weather is pleasant. He can feed once a day in some distant part of the pasture, or adopt some scheme to overcome the tendency to sluggishness on the part of the ewes.

Feed liberally, but do not overload them with too much fat, means that the young lamb, developing in the body of its mother, should have an abundance of protein, the ingredient of lean flesh, blood, nerve and brain. It should also have lime and phosphorus to make bones. If the ewes have alfalfa or clover hay and roots or ensilage it balances things up nicely. These feeds are rich, both in flesh and bone-making materials. If the alfalfa and clover are cut and put up at the right time and the roots and silage are properly stored and preserved they may be adequate. Even then it is usually wise to feed a little grain feed. A little oats, corn and bran make a safe and economical grain ration. It makes more vigorous lambs and fills the ewes' udder with milk. The ewe that brings forth her lamb without having enough force stored up in her body to fill her udder with milk is not likely to own her offspring. There is something about an udder full of milk that is almost akin to mother love. Animal mother love lies more in the udder than in the heart.

Success lies in never withholding protein and bone-making feeds from feeding them too much. Feed to have the ewes in good condition at lambing time, but avoid getting them sluggish from over-feeding. To feed them along on the middle-ground requires skill and experience, but it is a proposition that must be mastered before one can succeed in bringing a flock of ewes through a safe and happy lambing period.

As lambing time draws near it is wise to separate from the flock the ewes that are near their time. If a number of small pens are available it will be well to give each ewe a separate pen so that she will have a quiet place to lamb. An early lambing, provided one has good conveniences, brings to grass a strong crop of lambs and to market a bunch of heavyweights. Early lambing is safe and gives the ewes and lambs painstaking care. With a comfortable shot, a straw bed and a little extra care, few lambs will be lost.

Rarely is it necessary to assist the ewe at lambing time, yet it is well to be on hand as there will be times when a little help will mean the saving of a valuable ewe or lamb. If twins come no time should be lost in getting them nursing, for the ewe frequently forgets to find her second lamb, and it becomes hungry and chilled perhaps too late to be revived. Ewes that refuse to take their lambs may often be conquered by tying them in their pens and compelling them to let the lambs nurse. She may vigorously resist at first, but restrained from injuring the lamb, she will in time accept it as her own.

After the lambing period is safely over, feed the ewes a good milk-producing ration. Make creeps so that the lambs can go to troughs in the alleys and eat wheat bran, cracked corn and a little oilmeal. A few oats will help out and be especially valuable if the lambs are to be developed for breeding purposes. Feed both ewes and lambs liberally and judiciously.

Comparative Cost of Stump Blasting in Sandy and Clay Soils.

To those unfamiliar with blasting, a stump is a stump. The ordinary farmer will point to a stump in a field and ask how much it ought to cost to get that stump out. If you ask him, "Is it standing in a dense clay soil or a loose sandy soil?" he will reply in surprise, "What difference does that make?"

It is because of the general ignorance of the beginner as to this feature of blasting that most of those trying stump blasting for the first time fail to obtain satisfactory results.

However, the kind of soil in which a stump is standing makes all the difference in the world. A stump in sandy soil must be loaded differently and loaded much more heavily than a stump in clay soil. I know for I have been blasting stumps for nearly forty years and have used tons of dynamite on such work.

To give your readers a little information on this subject, I will cite two or three blasting jobs that I did in 1917.

On Clarence Brown's farm, the soil is a light sandy type. He had twenty-eight pine stumps in one of his fields which he wanted to get rid of. It required 149 pounds of dynamite, 114 feet of fuse and twenty-eight caps to dispose of them. It cost him \$38.77. I used as high as eighteen pounds of dynamite under one stump, twelve under another and from one and a half to ten pounds under the rest.

Just compare the above with the cost of some stump blasting I did for Eugene Allen on whose farm a clay soil predominates. He had eighty-one stumps to be taken out. I did it with fifty-two pounds of dynamite, 150 feet of fuse and eighty-one caps. The work cost him \$14.11. The stumps were elm, oak, maple, ash and basswood. These stumps were about the same average size as the stumps on the Brown farm, yet I was able to get out eighty-one of them for a little more than a third what it cost to blast twenty-eight out of sandy soil.

It is a great mistake to put the large breeds of cattle upon poor, scant pasture as it is to put the small, diminutive breeds upon a rich, luxuriant pasture. The breed should be selected to meet the conditions.

Inventory Your Resources.

It will pay every farmer to make an inventory of the fertility resources of his land at the start of operations rather than waiting for a marked decline in crop yields or a succession of crop failures to force the use of purchased plant foods. When one has practiced a rational system of crop rotation and live stock feeding with a view of maintaining and increasing soil fertility, and finds the land becoming less and less productive, it is evident that something is needed to correct soil conditions or furnish actual plant food for the growing crops. If clover and other legume crops fail to make a satisfactory stand the use of lime may prove more profitable than the purchase of commercial fertilizers. On most stock farms, however, the judicious use of certain chemical plant foods along with the supply of farm manure will increase the yield and improve the quality of farm crops. Reports of field tests in different parts of the country indicate that phosphorus is the one elemental needed to increase crop yields on the majority of stock and dairy farms, as well as on farms where no system of animal husbandry has been practiced for years. Results from the use of acid phosphate have been more satisfactory than raw rock phosphate, due undoubtedly to the deficiency of organic matter in the soil.

The advisability of using fertilizers carrying nitrogen and potassium depends largely upon the fertility of the land and the kind of crops one is growing. If the soil is deficient in nitrogen and no manure or cover crops are plowed under the yield of crops is sure to be limited to the amount of that element that becomes available during the growing season of the crops. This holds true with regard to the supply of potassium, although most of our soils contain sufficient quantities of this element to maintain the yield of general farm crops for many years, provided, of course, the other conditions of the soil are favorable for its becoming available at proper periods during the growing season.

Many farmers who have changed over from crop growing to dairying or stock raising have discovered too late that such a system will not restore fertility and at the same time give a satisfactory profit without the use of commercial plant foods. As a result they have been forced to sacrifice good animals that could easily have been carried some years ago, before the soil had been robbed of its fertility. The use of commercial fertilizers in such quantities as are required to assure profitable crop yields, while the soil is yet in a fair state of productivity, will result in greater benefit to the farmer and those dependent on him for food than if the practice is postponed until the land fails to produce profitable crops of any kind. The fact that farmers were able to maintain and, even, increase the yield of certain crops during the period of the war created an impression in the minds of many economists that such a process could continue indefinitely. Those well posted in the problems of the soil, however, know that the cashing in of soil fertility to meet the demands of stimulated production has left many farms in such condition that profitable agriculture is possible only through the proper use of fertilizers.

The kind and quantity of fertilizers to use are problems that must be decided upon the individual according to his farm and conditions under which he is farming. As a general proposition it will pay to use a rather heavy application of manure and fertilizer on a smaller acreage and grow soil-improving crops on the balance of the tillable land and not attempt to grow large crops on more acres than one can handle to advantage. All kinds of commercial plant foods are expensive, and unless one is ready to meet the other essentials of crop production he is sure to find them unprofitable, both from the standpoint of the year's production of crops and the permanent fertility of the soil.

There are some amusements—either the smut balls proper or the smutted portions of ears so common in seed barley and oats. All of these may be removed by the fanning mill, and, if followed by seed treatment with formaldehyde, chances of success in controlling smut are increased, besides saving the trouble of "skimming off" smut balls when treating.

The use of heavy seeds is one of the principal factors in producing uniform stands of grain, owing to more uniform germination and rapid growth, and these are the factors of importance towards protecting crops from rust.

No mention has yet been made of the removal of many weeds by means of, and in separating, the grains of ergot the fanning mill, with its rocking and manifold sieves performs most valuable service. Farms are well advised to look upon their fanning mill as a most valuable implement for these and many other reasons.

Sprinkle a little salt into the frying pan before using and the fat will not splash all over the stove.

Many men who would make a profit by feeding out one carload of beef cattle make a failure when they plunge into the business too heavily.

To Reduce Your Fencing Bill.

The increased valuation of land, together with the unusual prices of all building material, have created a tough problem for the farmer.

Recently a certain farmer decided to build a new fence around his entire farm. When he considered the usual kinds and types of fence posts he made a startling discovery.

"I found," he says, "that fence posts had increased over 300 per cent. in price since the last time I fenced the farm."

"I knew that even under the best conditions a wooden post will last only so long, and I saw the prospect of having to re-fence every few years with an increased cost. One thing is sure, and that is that fence posts will never get much cheaper."

"I had no desire to be continually doing over the work at such a cost, as it materially cuts down the profits to have to figure in a new fence every so often. So I cast about for some kind of a permanent post."

"Concrete appealed to me because there was plenty of material available. I found that the cost of concrete posts would not exceed 50 per cent. more than oak posts, and their life is practically unlimited. That is, you might say that a concrete post is as permanent as the farm itself."

It is possible for every farmer to make the concrete posts right on his farm, if he so desires, or he may buy the posts outright from almost any cement factory. The cheapest plan, however, is to make them right on the farm. A loose board covered with a heavy stone, should be put on the meat to keep all of it under the brine.

It is not necessary to boil the brine except in warm weather. If the meat has been covered during the winter and must be kept into the summer season, watch the brine closely during the spring, as it is more likely to spoil at that time than at any other season. If the brine appears to be rosy, or does not drip freely from the finger when immersed and lifted, it should be turned off and new brine added after carefully washing the meat. The sugar or molasses in the brine has a tendency to ferment and, unless the brine is kept in a cool place, there is some trouble from this cause. The meat should be kept in the brine twenty-eight to forty days to secure thorough curing.

Such a fence is not only lasting and permanent, but it also adds materially to the appearance and value of a farm.

The Fanning Mill and Control of Plant Diseases.

Without the use of a fanning mill the production of clean first-class seed is most difficult. Its general use is to separate the chaff and other inert matter from grain, which essential feature requires no further discussion. Yet the fanning mill has served incidentally as a useful implement by which means farmers have been saved immense sums of money, owing to its aid in reducing plant disease. This feature is not so well known to the farmer as it should be, and is apparently not recognized in text-books on plant diseases and their control; but once fully realized the fanning mill will advance in esteem, for its essential purpose—the removal of chaff and dirt—stands in no comparison to its value as a means toward disease control. Naturally—when judiciously used—just at the correctly adjusted speed and proper amount of "wind," there will be removed a large number of light and broken seeds, besides chaff and dirt. In this feature lies the significance of this implement as a means of disease control. What are the light seeds due to? Invariably they are improperly filled grains due to immature or they were prevented from filling out properly through presence of disease or other adverse features (frost, drought, etc.). Quite a number of diseases, as wheat scab, glume spot, certain bacterial troubles, as well as flag wilt and many diseases affecting vegetables, produce light seed. Generally it is the imperfectly developed seed that bears the germ of disease, and it is these which the use of the fanning mill will remove, and incidentally increasing the bushel weight and making way for a first prize at the seed fair.

Then there are smut diseases—either the smut balls proper or the smutted portions of ears so common in seed barley and oats. All of these may be removed by the fanning mill, and, if followed by seed treatment with formaldehyde, chances of success in controlling smut are increased, besides saving the trouble of "skimming off" smut balls when treating.

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Corned Beef.

The pieces commonly used for corning are the plate, rump, cross-ribs and brisket, or in other words the cheaper cuts of meat. The pieces for corning should be cut into convenient-sized joints, say five or six inches square. It should be the aim to cut them all about the same thickness, so that they will make an even layer in the barrel. Meat from fat animals makes choicer corned beef than that from poor animals. When the meat is thoroughly cooled it should be corning as soon as possible, as any decay in the meat is likely to spoil the brine during the corning process. Under no circumstances should the meat be brined while it is frozen.

Weigh out the meat and allow eight pounds of salt to each 100 pounds; sprinkle a layer of salt one-fourth of an inch in depth over the bottom of the barrel; pack in as closely as possible the cuts of meat, making a layer five or six inches in thickness; then put on a layer of salt, following that with another layer of meat. Repeat until the meat and salt have all been packed in the barrel, care being used to reserve salt enough for a good layer over the top. After the pack has stood over night, add, for every 100 pounds of meat, four pounds of sugar, two ounces of baking soda and four ounces of saltpeter dissolved in a gallon of tepid water. Three gallons more of water should be sufficient to cover this quantity. In case more or less than 100 pounds of meat is to be corning, make the brine in the proportion given. A loose board covered with a heavy stone, should be put on the meat to keep all of it under the brine.

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The Growing Child—Article II.

Helping the School Teacher

Nothing is so discouraging to a school teacher as the indifference and apathy with which many parents regard school work. Many of the strong, enthusiastic young teachers strive term after term to overcome this inertia by regularly holding parents' meetings, and this method is sometimes very successful. But have you ever attended these meetings? If so, you will have noticed that usually only a few parents attend at all regularly; many do not come at all. Under these circumstances, are you still one of those who complain about what is done and not done in your school?

Get out of the rut and show that you are really interested in your school. Visit the teacher in her classroom at intervals. Find out what her difficulties are and then see if you cannot help her. In most instances you will be agreeably surprised to find that the teacher is far better posted on matters of health and sanitation relating to school children than you supposed. But she needs help and community support in order to put these modern ideas into practice.

Have you ever heard of the tooth-brush drill? In many of the schools throughout the country teachers now instruct their classes just how the teeth should be brushed. But how much good is such instruction if parents do not make sure that it is not regularly carried out in the home? Has your youngster a tooth brush and a supply of tooth powder or tooth paste? Do you make sure that he cleans his teeth thoroughly before going to bed and starting for school?

And what has your youngster learned about dirty hands? Does he try to sneak to the dinner table without washing his hands and face spick and span? Does he understand how readily dirty hands carry disease germs into the mouth?

You can tell that the health teaching is effective by observing to what extent it changed the boy's habits for the better. However, the health-teaching in school may be really very good, but, like many other careless youngsters, your child may promptly forget to apply the teachings outside of school. If that is the case, it probably indicates that you have failed to familiarize yourself with the work of the school. By all means do so at once, and make your child observe health requirements at home also.

Malnutrition Should Be Treated. Malnutrition is a condition of under-nourishment commonly measured by underweight. It is seen in boys and girls at any period after infancy or in childhood.

It is an important condition very often neglected, and when neglected may lead to serious consequences. It may lay in the foundation for poor physical development or ill health in adult life or may lead to some serious disease like tuberculosis.

How to Recognize Malnutrition. Children suffering from malnutrition are not only much below normal weight for height, but they gain much more slowly than they should. At the age of six to ten years, when a healthy child gains two to five pounds a year, they may gain only one or two pounds, or even none at all; from twelve to sixteen years, when healthy children should gain from six to fourteen pounds a year, they may gain only two or three pounds.

Why Malnutrition Develops. Children get into a condition of malnutrition because their growth is not watched. To grow in height and gain regularly in weight is just as much a sign of health in a boy or girl of eight or ten as in a baby. Mothers have learned to weigh their babies; they must also learn that it is just as important to weigh their older boys and girls. When children do not grow or gain regularly in weight something is wrong. If these boys and girls are weighed regularly every month this condition of malnutrition would be discovered early and not allowed to go on to serious consequences.

Unless the condition is recognized early and measures taken to correct it, the effects of malnutrition in childhood may last to adult life. It may show itself as prolonged ill health and feeble resistance to disease; the individual may grow up undersized and underweight instead of a strong, healthy well-developed man or woman.

What To Do. In order to recognize malnutrition before serious consequences have followed, bones that might be wasted. At slaughtering time there is often a large stock of bones which can be used to stimulate egg production.

The ram should not be confined with the pregnant ewes during the winter. The most successful feeders of beef cattle are the ones who have made the most correct interpretation of the laws of nature.

To a house without a water and sewage system, no improvement is so useful. Electric light and power may come next.

The most intricate problem among farmers to-day is not of production but of marketing.

Drain outlets should be inspected, and if necessary, repaired, before spring.

Lack of dry bedding will soon cripple a hog.

Money can be saved in feeding poultry through the owning of the useful feed grinders which are now sold. This year the corn crop is generally good and corn meal for a mash can be produced at home. A bone-grinder in the course of a year will turn out quite a few pounds of poultry feed from the

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THE MAGNETIZED NEEDLE

What a pleasant man our old pastor was! He could be dignified enough, and was always so in the pulpit, but we were never afraid of him, for we knew that he felt himself to be one of us in his heart.

One evening, after telling the story of how Eliza caused the iron to swim in the water, he looked round the circle of young faces and asked, "Do you know anyone besides Eliza who can make iron swim?"

After waiting for a little while without hearing an answer, he said, "I can."

We were ready to believe almost anything good and great of our friend, but that was almost too much for us. He must have seen this in our faces; so, turning to one of the older children, he asked for a glass of water, a wire hairpin and a sewing needle. He bent the hairpin into a double hook like the two fingers of your hand bent forward, and, placing the needle on those hooks, he lowered it gently into the water. As it touched the water along its whole length at the same time the water seemed to sag or bend under it; and as the wire-hooks went down into the water the needle was left floating on the surface. We thought it was wonderful to see the needle swimming on the water, turning back and forth and moving this way and that as we blew on it.

After a little while he dipped the hairpin under the needle again and lifted it out of the water. Then, going to the telephone on the wall, he rubbed the needle on the magnet and laid the needle again on the water. But now it seemed like a different needle altogether. No matter how it was laid on the water or how the ends were made to point, they always came to one position, north and south. It was as if some invisible hand were pulling it and bringing it constantly back to the same position. It pointed always toward the North Star.

As we watched with great interest our friend said, "You see what a difference it makes on the needle when I touch it to a magnet. Formerly the needle was just common steel; now it has been magnetized, and that gives direction to it. It gives it a fixed place and a definite relationship to all other things. As long as the needle remains magnetized it will keep this position on the water. And if the power that holds it true grows weaker, you need only touch it again to the magnet."

And as the needle lay on the water before us, holding its point firmly to the north, he told us that the Saviour is sometimes called "The Divine Magnet," and that lives that for years may drift hither and thither without a fixed direction may come in touch with this Divine Magnet. And what a wonderful change is made by that touch! No longer do they drift with the wind and the tide. No longer are they drawn aside by every cross current that they meet in life, but they receive a definite direction and a guiding star that brings them safely into the harbor at last. 'Tis the touch of Christ that changes lives. At his touch we are transformed and sent on our way with a definite course—and an unswerving aim.

Mr. Brown. We never knew a thing of Mr. Brown—He seemed to have no sign of kith or kin. But, wistful eyed and delicate and thin. He came one day and settled in our town. For weeks we met him with scorn and hatred from his shabby "Good morning"; then we took him in. Perhaps because he tried no friends to win. But just went, asking nothing, up and down. He did no end of little kindly deeds. For children, and folk poorer than himself. He seemed to fathom all their simple needs. And fill them, though he had slight worldly pelf; And when he died, he would have been aghast To know we hung the town hall flag half mast.

To labor with zest, and to give of your best, For the sweetness and joy of the giving; To help folks along, with a hand and a song. Why, there's the real sunshine of living.

A pure-bred bull will exert a stronger influence upon the progeny when mated with cows of mixed breeding than when he is mated with pure-breds or high-grades.

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