

# Soils and Crops

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### Mating the Breeding Flock.

On many farms the problem of improving the poultry has been complicated by the lack of one fenced enclosure to confine the best hens during the breeding season. Only one colony house and a fenced yard is needed. In this enclosure can be placed a number of the best hens mated to the best male bird that can be raised or purchased. Then the eggs from this small flock can be used to develop the breeders for the coming year.

On most farms there will be many hens that can be classed as useful birds although not quite good enough to use as breeders. These can be given free range during the breeding season and if hen hatching is used, the free range flock will furnish the setting hens to hatch and brood the chicks from the eggs laid by the best stock.

Frequently farm flocks do not improve rapidly because the best hens lay first and are broody first. When the best layers become broody they are set upon eggs laid by inferior layers that have just started. This removes some of the best layers from the chance of egg production for a long period. More improvement would be possible if the eggs from the best layers had been placed in an incubator and these hens allowed to continue laying to reproduce themselves as often as possible during the breeding season.

The number of roosters necessary to mate with a breeding flock is a debatable question and, of course, depends on the individuality of the male birds. The male is sometimes blamed for a lack of fertility that is due to the hens. The male is half the flock but it is the hens that produce the eggs. If the hens are overfat or lacking in vigor they will not produce good hatchable eggs even when mated with the best male birds.

A mating is not necessary for each fertile egg as experiments have proved that fertility will be present in eggs laid by a flock as long as two weeks after the males have been removed. This means that the breeder must wait about two or three weeks before the results of accidental matings will show no effect. It has been found that the first eggs after a mating will be infertile for about ten days. The practical value of this means that the breeders should be mated up about three weeks before eggs will be used or sold for hatching.

Investigations in tracing and pedigree hatching have proven that some hens lay eggs which are never fertile, while other hens lay eggs that nearly always produce vigorous chicks. A general rule in mating is to use eight females to a male in the Asiatic breeds, ten or twelve females to a male brings good results with the American breeds like Rocks and Wyandottes. Fifteen females to a male is all right with Leghorns. In many cases a larger number of females per male have brought very good results but, of course, they might not be depended upon. When the fowls are on free range the fertility seems to run better with a smaller number of males than when the breeding pens are closely yarded.

### How to Raise Goslings.

The growing popularity of geese in this country makes it advantageous for every farm woman to study the subject of goose raising if she wishes to make the most of her poultry and gain the greatest profit from the food which the farm produces. While hens are almost an essential because of the feed which they save, geese in connection with hens will bring in surprising returns for the time and money invested. We have found that they not only keep themselves during the summer and fall, on the grass and waste fruit from the orchard, but the other poultry, especially the ducks, will eat a much greater amount of herbage because of running with the geese.

Because of this fondness for green



stuff, the goslings are raised much more cheaply than other fowls and it is not difficult to succeed with them if a few simple rules are followed. Usually use hens for hatching the eggs as incubators do not give very satisfactory results. In fixing the nest, cut a sod or put some dirt in the bottom of a box, then cover with hay or straw. After the first week or two, sprinkle with warm water about every third day until the last week. Then they should be sprinkled every day. It will take about five weeks for the eggs to hatch when set under hens. A medium-sized hen can cover four eggs.

As soon as the little birds are dry, take from the nest until all are hatched. If it seems best to keep the hens for mothers, shut in a coop so that the goslings cannot wander away as they do not heed the call of the hen. If one prefers to raise without a mother, and I usually use that method, wrap warmly in a blanket, then fill a jug with warm water and set in the middle of the box where the goslings can crowd about it. Cover all warmly with blankets. Be sure they are kept warm, though not too warm if the weather is hot, for they are very tender the first few weeks.

When they are from twenty-four to thirty-six hours old, I give the first feed. Even then they will never eat much and sometimes will eat only grass. They never have the appetites for grain that young ducks develop. They should be fed alone as they cannot eat as fast as ducks or chicks and there is danger that they may starve to death. Bread and milk makes the best feed, although I sometimes make a johnnycake of cornmeal and moistened with milk or buttermilk, then baked quite hard. When ready to feed, moisten with milk or water but do not have it sloppy. If it is possible to feed the bread, however, it will give much better results and even a considerable expense for the first few weeks will pay in the end.

If they can be kept from indigestion and from getting wet or cold, there should be little difficulty in raising them. It is well to feed about five times a day for the first two weeks, gradually lessening the feeds until by the time they are about two months old the morning and evening feeds will be enough. They require a great amount of pasture, however, and if the weather is wet, they must be given plenty of chopped grass and weeds. They should have water deep enough so they can wash out their eyes and arranged so they will not get wet. It is better not to give it at meal time. If the weather is at all favorable, put on the grass every day, for the little feet will spread out if kept long on a board floor. One must be careful, however, that the little fellows do not become cold or damp.

If for any reason they are wet, wipe dry, then wrap warmly and let them dry by the heat of their own bodies. I have never had much success in raising them after they became real wet. If they can be kept well and strong until they begin to feather, there is little trouble to raise them. After they are feathered they can shift for themselves and may be turned on pasture with only a little grain.

If it is possible to spare an old goose to raise the little ones, it will be more satisfactory than any other method. They are not only on guard every moment of the day and night, but they also find just the food which the goslings need and will raise them on almost nothing in the way of grain. Strange to relate they will take them in the wet grass or on the water and feed them the coarsest feed while the little ones grow more rapidly than with the best of care.

The goose can cover twelve or fifteen eggs and will hatch in about four weeks so it is well to let them lay until the end of the season, probably the middle or last of June.

### Attacking the Gopher.

How to reduce the number of gophers is a problem that seems near solution in Saskatchewan. The Department of Agriculture of that province, in 1920, conducted a gopher contest in the schools, with the result that 1,798 schools entered, and 2,019,233 gophers were destroyed, at a cost to the department of \$3,159.75, or 15¢ cent each. What this reduction in the number of gophers means in the saving of foodstuffs is hard to estimate, but it would be very great, as an analysis of the potato crop of the gopher shows.

## Your Servant Electricity

For the woman who can lessen her work by the use of labor-saving machinery, the appliances which are attached to the electric light socket are a valuable field to investigate. By looking over the variety of equipment that is now being manufactured, the housewife will realize that electricity succeeds in solving a large part of the household problem. Electricity is efficient, clean, dependable. There is no elaborate machinery to rig up. No fires need be built, so the storage and carrying of fuel are eliminated with all the accompanying labor and dirt. Screw the plug into the socket and press the button. Besides being so easily put into use, electrical appliances are very attractive in appearance. They have beauty as well as utility.

The benefits of electricity are available for the farm as well as the city home. The farm lighting and power systems are simple in construction and operation, easy to install and easy to care for. The standard plants are stoutly enough made to stand every-day hard usage. The large power plants are also increasing their service and are becoming available to an ever-increasing number of farm homes.

The home that is to be equipped with electric labor-saving devices should be properly wired. When installing a plant, all the equipment which will probably be taken care of ultimately should be listed and the house properly wired in the beginning. A light breakfast may consist of fruit, cereal which has been placed in the fireless cooker in the evening, and coffee and toast prepared at the table by using the electric toaster and the electric percolator. There are small portable electric ovens and electric waffle irons. An electric grill will cook three or four heats and two pans will cook and keep hot two different dishes at once.

The electric fan is not only a fine thing on hot summer days and nights but in the winter time it is a great aid in circulating warm air over the room and refreshing it by stirring it. The use of the electric fan also makes it possible during the summer to serve the meals in the kitchen when there

are extra men to cook for and much canning to be done. Running a sewing machine may mean tired muscles even though popular opinion sometimes classes sewing as "light" work. An electric motor attached to the sewing machine removes all strain from the sewer, who can direct her entire attention to the garment she is making.

Electric lights make it possible for the family to enjoy the long winter evenings together. Kerosene lamps are hard to keep in good condition, and their light is, at the best, flickering and dim. Electricity affords a flood of light in every part of a room. The dooryard, the barn and barnyards and outbuildings can have bulbs ready for instant use at any hour of the day or night.

The electric vacuum-cleaner saves carrying heavy rugs to the yard to be cleaned, and there is no raising of dust as when a broom is used. Curtains, heavy coats, hats, robes, couch covers and upholstered chairs may also be easily and thoroughly cleaned by this electric friend.

If the water for the use of the household can be pumped into a supply tank by an electric motor, much labor is saved. The same motor can be used for turning the churn and the ice cream freezer.

Electricity even promises to do our dishwashing for us. The dishes are scraped and put into racks which are placed in a cylinder containing soap and water, the lid fastened and the current turned on. This current causes the water to become heated and to circulate freely. When the dishes are clean, the soapy water is run out of the washer and clear water poured over the dishes. The current is again turned on and the dishes rinsed in clear, hot water. They are then taken out of the cylinder and allowed to drain until dry.

Electricity furnishes heat and cold and power and light, and all of these can be obtained from the same innocent light or wall socket.

## The Dairy

Watch the new hired man milk and see if he does thorough work. Nothing is more costly than hired help that steadily dry up the cows by stopping the process of milking before the flow has ceased. A young boy with undeveloped hand muscles should not be trusted with heavy milking cows. He may soon have very sore hands and prefer to half milk the cows rather than own up that he can't do it right.

A well-trained dog may be a help in driving cattle, but many dogs bring up the cows on the run and worry them. Such methods are not good for milk production and irritate the disposition of animals which are naturally very nervous. A dog barking loudly around the barn at milking time is not a good business proposition. I believe it pays a farmer to drive in the cows himself when they are near the barn and not let the dog bother them.

If you have a sick cow, give the veterinarian half a chance to save the animal by calling him early. When a cow is devitalized from sickness and half dead, the veterinarian may be blamed for losses, though not responsible.

Cows take larger doses of medicine than men, and medicine costs money. The veterinarians do a lot of good in the live stock business and farmers can learn much from them. Their fees should be promptly and cheerfully paid. The writer does not know any vets that are profiteers or any that have become unduly wealthy through their practice.

The animal called the cattalo is a cross breed between the buffalo and the ordinary cow. The product is an animal between the two in weight, able to "hustle" for itself on the plains. It promises to be a good beef animal.

Ducklings need no feed until they are from twenty-four to thirty-six hours old. For the first week they should be fed five times a day; after that the number of times may be decreased to three times until they are two to three weeks old. A good ration to begin with consists of a mixture of equal parts, by measure, of rolled oats and bread crumbs, with three per cent. of sharp sand mixed in the feed, gradually changing from less of the bread to more of the oats, and adding bran, and later cornmeal. This feed should be made quite moist, either with milk or water, and it is also desirable to cut up green feed, such as lettuce, clover, alfalfa or lawn grass, adding to the above mash the amount of fifteen per cent. If milk is not available for use in fixing the mash, after the first week add a small amount of beef scrap.

### Our Supplies of Roughage.

Have you ever tried to winter cattle or sheep on cornstalks and straw, and if you have, haven't you found it a sort of uphill-business? I have seen the thing tried, in the belief that it is a cheap or economical plan of wintering the animals. On most of our farms there is a vast amount of both these roughages which we must plan to utilize as far as possible, but as for making either one or both of them sustaining feeds, especially during the winter months, it is not at all advisable.

It has been estimated that on a farm having a rotation of corn, small grains, and clover there is about two tons of roughages produced for every ton of grain. This would mean over one ton of roughage produced, and every one of us would consider that a very low figure when our grain yields are fairly substantial or well above the average.

Of course, we cannot use all these roughages as feed except where a very intensive system of farming is followed; we must husk a part of our corn from the standing stalk and a portion of our straw must be used for bedding of farm stock. But even with all of the roughage that is made available through silaging or shredding the corn fodder and threshing of the small grain there is too little of it used as feed for our live stock.

The silo has been the means of making much of our commonest roughages useable as feed. While silage has been classed as a roughage itself, it is superior to the other roughages because it is more succulent and contains a fair proportion of grain when made of corn. Live stock fed on silage is far thrifter than that fed on stalks and straw. But when feeding silage our stock creates an appetite for some dry roughages, such as straw, shredded fodder, or hay, and in this way we are able to utilize such dry feeds to good advantage and secure a value for them that it would not be possible to obtain otherwise and get the roughage converted into manure to help conserve our soil fertility. In following such a system of feeding our efforts are directed largely toward keeping the soil in a state of high productivity, which is one of the foremost problems of to-day.

I have a friend who each winter goes into the stock yards and takes home a bunch of very thin steers. His chief object is to feed the steers all the roughages he has put away during the summer and fall, and by the time these are all gone, which is along after corn planting sometime he takes them back to the stock yards where he expects to sell them for about two cents more per pound than he paid. They are not fat cattle but have grown into good flesh and are suitable for butchers or feeders for some farmer who wants to finish them. All he plans on is getting a good price for his silage and roughages and the privilege of putting many loads of manure back on his sandy soil.

Don't compel the women-folk to open and close two or three big gates through the cattle yards every time they go out to look up eggs.

When we consider ourselves as farmers for life, and make farming a practical study, then we will take pride in our farms and live stock.

Heavy curtains, thick carpets, wallpaper and other draperies all tend to spoil the breathable air of a room.

## THE SUNDAY SCHOOL

### ARRIL 10

Bible Teachings About Health.—1 Cor. 6: 19, 20; 9: 24-27; Gal. 6: 7, 8. Golden Text.—1 Cor. 9: 25.

**Connecting Links.**—The first epistle of Paul to the Corinthians, from which part of our lesson is taken, was written from Ephesus in 55 or 56 A.D. It is addressed to the practical needs and problems of the Christian people of Corinth, living as they were in the midst of a heathen city, and is full of wise counsel regarding unity and purity in the church, wrong, but which includes quarrels, marriage, divorce, idol feasts, the place of women in the church, and other matters. Some of Paul's precepts are for his own time, and for the conditions of that time, and for ours, but there are principles involved which have a universal application. The epistle of the Galatians was written, it is supposed, somewhat earlier, from Antioch, before Paul began his third missionary journey. It is chiefly an exposition and defense of Paul's great teaching of salvation by faith, but contains in the last chapters instructions and counsels for the life of faith, which have a practical bearing.

**The Temple of the Body.**  
1 Cor. 6: 19-20. Paul is speaking in this chapter of Christian freedom (see especially vv. 12-20). The man who is saved by faith in Jesus Christ, is not under the bondage of form, or custom, or ceremony, or ritual obligation. He is not saved by doing certain things and refraining from doing others. His all-sufficient salvation is in Christ and in Christ alone, and he is saved by faith in Jesus Christ. "All things are lawful for me," that is, of course, all things which are not in themselves wrong, all things not immoral. But here he qualifies that statement by saying, "Not all things are expedient." There are things which he might do, in which there is no sin, but which would be unprofitable to himself or hurtful to others. For his own sake, for the sake of his own highest and best life, and because of the influence which his life has over others, he will not do them. He will be governed by the supreme law of love, and that shall rule all his conduct.

In the verses just preceding he makes special reference to unchastity, a besetting sin of the entire community of Corinth. The name of the city had become a byword for vice, and in Roman circles the phrase, "to live like a Corinthian" meant to live a very bad life indeed. But Paul will allow no freedom of that sort. The Christian's body belongs to the Lord. It is consecrated; it is holy. "Your bodies," he says, "are members of Christ." You cannot deprive or make unclean what belongs to the Lord Christ. The follower of Jesus there is no stronger argument for purity and clean living than this.

Here then Paul asks, Know ye not that your body is the temple of the Holy Ghost, which is in you? The Christian who has risen in the freedom of faith from the bondage of form, and custom, and tradition, finds himself a slave to the Highest, the property and the bond-slave of God. That is his enfranchisement, his true freedom. He must not forget that price paid for him on Calvary. Ye are not your own, the apostle declares, ye are bought with a price. See also 1 Peter 1: 18-19.

Temperate in All Things.  
In chap. 9 Paul returns to this

particular reference to his own experience and his own example. He does not appeal to the Corinthians to do anything which he is not willing to do, and does make a practice of doing, himself. He has rights as a man and as an apostle of Jesus Christ, which he does not choose to exercise. "We bear all things," he says, "that we may cause no hindrance to the gospel of Christ." And again, "I am become all things to all men, that I may by all means save some." And all this "for the gospel's sake."

Here, in vv. 24-27, he argues from the self-discipline of the athlete to which he is becoming to the Christian. They who run in the races are not compelled by law to be temperate, but they impose this discipline of temperance upon themselves. Their purpose is to gain an earthly crown, but the Christian seeks one that is incorruptible. He is not, therefore, much more bound to temperance in all things—in food as well as in drink, and in all matters of pleasure and of desire?

### He That Soweth.

Gal. 6: 7-8. Paul warns against the folly of those who presume upon the mercy of God, who continue in evil-doing with the hope that they will be forgiven. The seed of evil-doing will bear a harvest, just as surely as that which is sown in righteousness will bear a harvest. What crimes that man commits have consequences which even God's forgiveness will not nullify. God is not mocked.

This truth applies to physical as well as to spiritual health. Bad habits of life poison and corrupt the body. Intemperance breeds disease. The habits of excessive drinking and smoking are harmful to many who indulge in them. The small boy who imitates the cigarette habit of his big brother is laying up trouble for himself in later years. There are other habits of uncleanness, and overeating, and unsuitable dressing, and excessive indulgence in certain fascinating kinds of amusement, which are equally bad. Let us take to heart Paul's lessons, and remember that we who are sowers to-day will be reapers to-morrow.

Application.

The truth of this familiar passage from Galatians is illustrated on every hand. The slightest acquaintance with what the doctors are regularly discussing emphasizes the relentless way in which physical decay and death follow "sowing to the flesh." Nature is iron-like in her laws and repentance though with tears cannot buy off the punishment she inflicts if her laws are broken. Everyone of us has the making of his future in his own hands. It will be a harvest of a kind depending on the quality of our present sowing. The future, and finally eternity, will be the multiplied and consummated outcome of the good or evil of our present life. "Let us just sin ripe-rotten." Heaven is the fruitage of righteousness. "If wild cats are sown there will be wild oats to reap. If mud is filled with trash and refuse, nothing better will come out of it. On the other hand the sustained effort after good will in no wise fail of its reward both here and hereafter."

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