Soils and Crops

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Types and Principles of Piggery Construction.

A consideration of types and principles of piggery construction brings up a classification of swine growers, roughly as follows:—

1. The farmer who keeps two or three sows, and from which class comes the great part of Canada's hogs; 2. the farmer who specializes a little more in swine growing, keeping five to six brood sows and a boar; 3. the out and out hog-man who goes in for hogs exclusively, keeping thirty, forty, fifty or more brood sows and working, as closely as possible, to the two-litter-a-year plan. There are few in this class.

Considering, briefly, the types of buildings required for the above classification the following basic principles must apply to all:—

1. **Economy.** No business can operate efficiently with too much overhead expense. Pork production operates on a close margin of profit. In the main, comparatively cheap buildings are advisable, not only on account of low cost, but because they are best otherwise.

2. **Dryness and good ventilation.** These must be obtained in some way. Possibly no farm building is more difficult to ventilate than a piggery, and no animal requires fresh dry air and quarters more than a hog.

The man who keeps two or three sows needs few, if any, special buildings. His sows are wintered in low, straw-covered sheds or shelters adjacent to the barnyard. They summer on pasture with a cheap lean-to or cabin for shelter. Two main requisites are automatically acquired: fresh air and dry quarters and exercise. At farrowing time a box stall is usually available. If the litter comes early, such quarters usually prove sufficiently warm for the little pigs. These, after weaning, may be fattened on pasture or in a paddock or dry lot with a cheap shelter, or, if indoor feeding is preferred, in a shed or empty building improvised for the purpose. This may sound like makeshift practice. The fact remains that not one cent more than is absolutely necessary should be expended in hog-equipment.

Consider the case of the next class—the man who keeps five or six sows. His breeding stock should be handled as in the foregoing. The essential building is for farrowing his sows. If his sows farrow all about the same time and if he plans for fall litters early enough for successful winter feeding, he must have heated quarters; in other words, a building all or part of which is warmly built and therefore a comparatively expensive structure. Generally speaking, the best arrangement makes possible the closing off of two or three pens next to the feed room, where a heater may be installed. This portion of the building must be double boarded and tightly ceiled and with a ventilation system. Cement is excellent in the main, but the farrowing pen floor must be of wood, or cement covered with plank. A drainage system must be provided to ensure dryness. For the balance of the building excellent results have been obtained by making use of single board walls, a slatted ceiling covered with straw, earth floors and a floored section over which is built a low, straw-covered sleeping berth. Such quarters are excellent for young weaned pigs or for fattening hogs at any time of the year. Ventilation is automatic. The expensive construction is limited to where it is really essential. The balance is of cheap construction. Plans of piggeries of this type may be obtained from the Animal Husbandry Division, Central Experimental Farm, Ottawa.

The extensive hog-man needs special buildings. Nevertheless, he must strictly follow economy in construction. Expensive or comparatively expensive construction is required only for farrowing quarters. Open sheds with straw-covered sleeping quarters have proven excellent for winter fattening of hogs. The straw-loft, earth-floor, enclosed-berth type of building makes an excellent and comparatively cheap structure which embodies all of the essentials and which is useful for every class of hog, with the possible exceptions of the early farrowing sow and the sow during the gestation period. The cheap, portable cabin is a building much in demand on the big hog farm, both in winter and summer. Plans of the larger types of piggeries may be secured from the source already mentioned.

Keep the Chicks Growing.

We have often noticed a serious setback in growing chicks if the proper ration is not provided at the time the chicks are able to range about and begin to hunt for themselves—too often at this time the feed necessary for their quick development is withheld.

This is when we bring our chick self-feeders into their greatest use and provide a good mash that will assist the fowls in growing a good frame, plenty of plumage, and keep them in active working order. When the chicks weigh about a pound apiece and just at the time they are passing through the broiler stage, they require a good deal of feed, yet nothing extraordinary in comparison to the amount that would be required to bring them to maturity, and the feed should be of such a nature that will keep them growing rapidly.

Meatscrap in the ration is one of the essential feeds that will keep the chicks in good order and since this feed is generally high in price, just enough should be fed to provide the chicks with the necessary amount. As near as we can tell, we believe that a ration of two parts corn, three parts bran, one part meatscrap by weight, supplies this requirement. The chicks ought to have cracked corn in addition as scratch feed, as the use of the scratch feed will require less of the mash, which is really the expensive part of the ration.

By the time the cockerels are two pounds they should be marketed for broilers and attention given to the development of the pullets. The same ration should continue throughout the growing season, we believe, but, of course, should be changed some near the time the pullets begin to lay.

A good deal of labor and trouble may be saved by providing a large self-feeder with the mash, where the growing fowls may get it whenever they wish. We use a feeder that will hold about ten bushels and have the ration mixed by the feed dealers. In this way we can handle several thousand chicks easily in the growing season.

To supply water, one of the easiest means is to secure a pan about three feet in diameter and install one of the old-fashioned floats that were so common in our barnyard watering troughs. This may be attached to a pressure system or gravity system and will, of course, allow water to come in as fast as removed. In this manner if the pan is in a protected place, the water will not become hot, and fresh water is supplied at all times without any necessary attention. A device like this works well on an electric pump, such as is being installed with the farm lighting system.

A good building is as essential during the summer time as during the fall, as the pullets need protection from the cold rains and a clean, well-ventilated place to roost. Young pullets that are accustomed to a good house will not stand around under bushes on rainy days and lower their vitality, which really impairs them as winter layers.

Heavy or Light Cream?

Comparatively few owners of cream separators understand the proper adjustment of the cream screw, to say nothing of the adjustment of the rest of the machine.

The cream screw is intended to control the consistency of the cream that the separator delivers. However, this screw does not, as is generally supposed, regulate the efficiency of skimming. The machine will, as a rule, skim just as clean when delivering a heavy, high-testing cream as it will when skimming a thin low-testing cream. The cream screw should be so adjusted that it will deliver a heavy thick cream unless the owner is selling the cream by the quart. If the owner is selling by the volume, he should have his separator adjusted so that it will deliver cream as near the requirement as possible because at this point it will net him the most profit. Once the cream screw is adjusted to the proper place, the owner naturally concludes that all the cream skimmed will test the same or nearly the same. Consequently when the cheque arrives for his shipment of cream and he finds that it did not test nearly as high as the previous shipment, he wonders why. Usually he blames the consignee and says the cream was not properly tested.

Such misunderstandings resulting in the cream producer accusing the dealer of improper testing can often be avoided if the owner of a separator knows that a number of factors other than the adjustment of the cream screw will cause a variation in the test of the cream delivered.

A few of the factors that cause thin cream to be delivered from the separator, other than the adjusting of the cream screw, are:

1. Skimming the milk when it is excessively warm.
2. Running the speed of the separator bowl too low.
3. Forcing the milk through the separator too rapidly.
4. Flushing the separator bowl out with large amounts of skim-milk or warm water, and permitting the cream delivered from these flushings to mix with the other cream.
5: Skimming a low-testing milk.

On the other hand, some of the factors causing a heavy cream to be delivered, when the cream screw is not tampered with, are:

1. Skimming cold milk.
2. Increasing the speed of the separator bowl.
3. Reducing the flow of milk into the separator bowl.
4. Not putting the bowl flushings in the cream can.
5. Skimming a richer milk.

These factors are the most important ones that cause the variation in the test of the cream delivered from the separator.

It is easy to conclude that both the heavy and the light cream have their market. Which is best for the average farmer? Any person that is selling cream on the Babcock test, especially where he ships his cream, can make more money by skimming to produce a heavy, high-testing cream.

In the first place the farmer that skims to produce a high-testing cream will keep more skim-milk on the farm, thus saving the transportation charges and the skim-milk at the same time. For example, if a farmer sells a hundred pounds of butterfat in cream and receives thirty dollars for it and it came from cream testing twenty per cent. he would have to ship six ten-gallon cans to hold the five hundred pounds of cream. He would have to pay the transportation charges on four hundred pounds of skim-milk besides losing the skim-milk worth fifty cents per hundred pounds. However, if this farmer would skim so as to produce a heavy cream testing forty per cent. he would receive the same amount (thirty dollars) for the one hundred pounds of butterfat contained, but would have to ship only three ten-gallon cans to hold the two hundred and fifty pounds of cream. He would thus save two hundred and fifty pounds of skim-milk worth $1.25, besides the transportation charges on the same two hundred and fifty pounds.

Aside from the saving of skim-milk and transportation charges, the producer of heavy or thick cream saves in two other ways: First, he has less cream to cool and handle, thus saving time and labor; secondly, his thick cream can be kept in better condition and he will receive a better price for it at the creamery.

If a thick cream will net the producer more he had better adjust the cream screw properly in the first place and then pay attention to these other factors that cause the separator to deliver a thick, high-testing cream or a thin, low-testing cream.

The Dairy

Teach the young stock to lead at an early age and it will save many stubborn contests later in life when the animals are strong. If each heifer has a halter she will be easier to handle in the pasture lot and soon learn that a tug on the halter means to follow.

If a farmer needs his skim-milk and lives in a section where farmers are selling milk, he can often build up a good butter trade in his own neighborhood. There are a lot of farmers that buy all their butter and it is true that many farmers owning herds of cows really eat butter instead of oleo. This gives the butter producer a lot of skim-milk for poulry and stock feeding and a nearby outlet for the butter.

Cows that freshen in the fall show a great increase in milk flow in the spring when placed on pasture. This helps to keep up production until time for the cows to dry up. Cows that freshen in the spring are more difficult to handle profitably in the fall when pastures are often dry and conditions are less favorable for keeping up the milk flow.

When veal is cheap and feeds are cheap it ought to pay to keep the best heifer calves on the chance that cows will be good property a couple of years from now. It is easy to say that cows are cheap and there are lots for sale, but when you start out looking for those cows you find that the farmers are keeping the best ones and some of the cows for sale cheap are not much good.

The Children's Hour.

How such a roly-poly little girl could run about all the time was a wonder. But Laura simply could not sit still for long. That was why she loved her bean bag better than her dolls. She had to be careful not to break the dolls, and they always sat about very quietly, anyway. But the bean bag! She could toss that up into the air and run to catch it; and if she did miss it, it did not matter. It was almost more fun to do that, and see it fall down in a little heap.

Besides that, it really was a very nice bean bag. It had a blue-and-white-checked gingham cover, just like one of Laura's rompers. And it was full of smooth, round, white beans; Laura knew, because she had seen mother put them in, and then sew up the corner of the bag. And even though the beans were out of sight now, she could feel them through the gingham, and, of course, they must still be just as white.

One day Laura's mother was helping her to play with the bean bag. Suddenly she cried:

"O Laura, this bean bag is getting worn out! We'll have to make another."

"No, no!" cried Laura, shaking her head. "I don't want another bag, mother; I want to keep this one!"

That very day the bean bag caught on a sharp twig that stuck out of the little pear tree in the yard, and Laura had to stand on tiptoe and pull and pull to get it down. At last the twig gave way, and the bag tumbled into her hands.

Just then a beautiful yellow butterfly came floating past, so near to Laura's face that she was sure she could catch him.

But she could not quite reach him; so as he flew along she ran after him, holding her bean bag tight; she did not mean to lose that. But she did not see a little three-cornered tear in the gingham cover of the bag—a tear just large enough to let a bean slip through nicely.

The butterfly kept out of Laura's reach. He flew this way and that, in and out and round about, fluttering over the soft earth in the garden that Laura's father had been digging up to plant it with little brown seeds.

At last the butterfly rose higher, and flew away altogether. Laura stood still for a moment; she wanted very much to cry.

But then she had her bean bag!

Why, what—what was the matter? The bag was not round or fat or heavy any more. It was just an old gingham bag, quite empty. Where had all the pretty white beans gone to?

Laura ran to mother as fast as she could, for now she really was crying; and while she ran the sky, too, began to cry, shedding great swift drops. Mother saw Laura coming; she ran out, picked her up in her arms and hurried back to the porch with her. As soon as they were under the porch roof Laura cried:

"Mother! Mother! Just see the bean bag! What's the matter with it?"

Then mother looked at the poor thin bean bag that used to be so fat.

"Your bean bag is torn, dear," she said, "and all the beans have fallen out of it."

"Fallen out!"

Laua had never thought of that.

"Then please come and help find them, mother."

"Oh, no, dear, we can't go out in this rain. Besides, the beans will all be covered with dirt. We'll just make another bag."

"I don't want another bag," said Laura; "I'd rather have my own old bean bag!"

But mother only said, "Come indoors now, Laura."

It rained all that night and all the next day, and the whole day after that. After that came a day when the rain stopped, but when heavy gray clouds hung over everything. One more day, and then the bright, warm sunshine returned; Laura's father said that he would like to work in the garden, but that the earth was too wet for it. The next day was Sunday, so Laura and her mother and father went to church in the morning, and to grandmamma's in the afternoon. The day after that father was very tired when he came home; and besides, it was too warm to work in the garden.

So just a week had gone by when father said, after supper:

"Coming to help me in the garden, Laura?"

Laura quickly found her rake and the paper of brown seeds that father had bought on purpose for her. Mother came, too, and they all went into the garden.

What do you suppose they saw there?

"Why, what's this?" cried father.

"Oh, oh, what's this?" cried Laura.

"I can guess," laughed mother.

There was something in the garden that had never been there before—a funny, crooked row of little strange plants, growing not a bit as plants are expected to grow, one after another in a straight line. This line ran in and out and round about, just as a little girl runs when she is playing—or when she is chasing a butterfly.

"They look like beans," said father, puzzled.

"Mother!" Laura cried. "Do bean-bag beans look so after they're lost?"

"They do when you lose them in a garden," father answered, smiling.

"They're prettier green than white," cried Laura. "I'm glad I lost them!"

THE SUNDAY SCHOOL

JUNE 23.

The Social Task of the Church (Review). Golden Text—Rev. 21: 3.

The great central truth which has been before us in all the lessons of the quarter is that the Christian law of love is the law of our common human life. It is the law of living together. God loves, and we must love. "God is love, and he that dwelleth in love dwelleth in God and God in him." The life and ministry of Jesus Christ was at the same time a revelation of God and a revelation of love. He loved us and gave Himself for us. The Christian who believes in Christ, who seeks to follow Christ, who takes Christ as his example and ideal, will therefore desire to be governed by the same law of love. Love will be his world, his inspiration, his life.

"I say to thee, do thou repeat
To the first man whom thou dost meet,
In lane, highway, or open street,
That he, and we and all men, move
Under a canopy of love,
As broad as the blue sky above."

The Christian whose life is thus governed by love will seek worthiness as well as usefulness. For love, if it it be true and strong, ennobles the one who loves. He will desire to be true that so he may speak truth, to be strong that he may help the weak, to be good that he may do good. And so the Christian man will seek for himself, as well as for others, good health, and knowledge, and friendship, and recreation, and work in which he may exercise his powers—everything, indeed, which makes for a full, and rich, and happy life. He will avoid the habits and indulgences which are hurtful, the recreations that debase, and the work which is destructive of character and honor. He will not seek wealth at the expense of a good conscience, nor success by dishonest means. Always, while seeking what is best for himself, he will be regardful, in the largest way, of the interests of others, and will be content to sacrifice gain, or property, or even life itself, if by so doing he can help others to greater good.

The Christian will be a worker. Christ Himself, both in the carpenter's craft and His later ministry, was a strenuous and untiring worker. His follower cannot and will not be idle. The possession of wealth can be to him no excuse for idleness. He will find happiness, health, and true nobility in labor. Moreover he will gladly learn to work with others, recognizing their tasks important and honorable as his own. He will find firm and true comradeship and brotherhood in labor. Even in competition with others he will never lose the sense of comradeship. He will regard healthy and honorable rivalry as a form of co-operation, in business as on the sporting field. He will play the game and play it fairly and justly.

We have learned also that the follower of Jesus Christ will be interested and active in all efforts to make the home, the neighborhood, the business community and the whole world better. Not superficially or carelessly, but as a diligent and earnest student he will look upon the social and economic movements of his time. He will not be a mere partison, or blind follower of some social creed. He will be willing to learn, even if learning sometimes compels a change of view. What is true, and just, and right he will always be seeking; what is false only will he hate.

Application.

There is no limitation in the plan of redemption which God has for the world. What has been the experience of multitudes of men, "old things are passed away; behold all things are become new" is to be the final result even with the wolrd. All that has to do with the sin and misery of men will disappear and in its place there will appear a new world beautiful with the likeness of Paradise. This vision granted to St. John so many centuries ago is still the animating purpose of the Church. Daily millions of men pray, "Thy kingdom come; Thy will be done on earth as it is in Heaven," and day by day the marshalled hosts of the Christian army seek to secure that for which they pray.

Lest by reason of the slow maturing of God's plans, we grow sceptical of the success of the program and settle down to be content with things as they are, let us notice that first named amongst those who shall have no part in the New Jerusalem are two classes, whose only fault has been that they have been "fearful and unbelieving." They doubted God's ability to bring His great designs to pass. Because they doubted they were not prepared to give themselves heartily to serving those high plans. They have their part "in the lake which burneth." Donald Hankey said, "Religion is just betting your life that there is a God." That means not only believing it with one's mind, but "flinging ourselves and our energies after our belief." Difficult as the task may be, let us remember that "all power" has been committed to the Saviour of the world, and that with His Father, who is our Father and our Helper, "all things are possible."

MY WIFE AND I WORKED OUT OUR FINANCES TOGETHER

By Ralph Eastman

I suspect that too many of us farmers do not give our wives credit for knowing anything about handling money—except to spend it. Oftentimes a man will call on the phone and want to talk to me. Yet what he wanted to know could have been told by my wife just as well. In fact, I doubt if there is any business on earth about which a man's wife knows as much as farming. The farm wife lives right on the job; she has a chance to hear what is going on, and to talk it over three times a day. I have learned to ask the woman who answers the phone before having her call her man in from the field. And I usually get the information I want.

When my wife and I started out on our farm-life honeymoon, after a few days of the usual kind, I decided it was time to get somewhere financially. Money—or the lack of it—was seemingly the biggest problem of the older folks I knew. The women hated to ask for money every time they needed it. The men usually gave grudgingly, or else forgot it altogether.

In our case we had just bought a farm and were in the hole quite a bit on it. Neither of us had any lifts from home, nor did we expect any. Both were able to earn a little on the side, which helped a lot the first few months. Anyone who has ever bought a "start-up"—furniture, farming tools, stock, and so on—knows what it means to start out in debt.

We have arranged our finances like this: We each have a cheque book, but we only have one account. When there is money to spend, my wife spends it as she needs or wants to. I do the same. I don't ask her how much her new waist or shoes cost. I don't care, and, anyway, I wouldn't know whether the price was right or wrong. I know what to pay for my stuff, and she does too. That's all there is to the money division.

But I wasn't satisfied with just this arrangement. Supposing I died? I carry enough life insurance to cover our indebtedness, but insurance money won't do much good if you don't know how to use it. My wife now writes farm cheques when necessary. In fact, if I have a few cheques to deposit I sometimes purposely forget them and let her take care of them. It took quite a while for her to get accustomed to this sort of work. But it was worth the effort. Now she can borrow money at our bank if we need it. I don't need to make the trip to town to sign a note. The bank knows she does business as well as I do.

This training is not hard for some farm wives, but for many it is. It can't be done in a single month. I remember how my wife dreaded to cash her first cheque at the bank. She wanted some change, and I wouldn't get it for her. Instead, I went along and introduced her to the cashier. Now, after three years, she writes and cashes a cheque as easily as she buys a loaf of bread. She goes to the elevator and settles for what she brings home, and pays for whatever is delivered to the farm. Once in a while she forgets something; but so do I, and I've been doing business with banks for fifteen years.

Now, I am not advancing a theory, but, instead, advocating a practical working system. It's easy to say that a husband and wife should be equal partners, but it's pretty hard to practice it when the woman has to ask for $10 whenever she needs it. She shouldn't have to ask for it, no matter how freely it is given.

Tent Caterpillars.

About the time the leaves are unfolding in the spring the tiny eggs of the tent caterpillar begin to hatch and the young larvae escape and go in search of some nice tender foliage. The previous fall the mother moth was considerate enough to place these eggs close to the food supply. She selected a small twig on a wild cherry, apple, or some other convenient tree and around this she laid her several eggs, cementing them over with a waxy preparation in order to protect them against the weather. The larvae, after hatching, select a convenient fork in the branches, or on the trunk, in which to build their web, or tent, and from this they go out in the search for food. If these caterpillars are not controlled early in the season they will soon strip the foliage from the nearby limbs. If they are on a young tree it will be entirely defoliated by midsummer.

As soon as the small nests are detected early in the season they should be destroyed to prevent further defoliation of the tree. If they are within convenient reach they can be torn out and the larvae crushed on the ground, or burned. Then an examination should be made to see if there are any larvae left on the tree near the old nests. These should be destroyed if possible. The use of a torch will be found to be a convenient instrument in destroying those nests beyond reach, but care must be exercised so as not to burn the bark, thus killing it and perhaps causing a permanent injury to the tree itself. Its use is safe on the smaller branches or twigs, but on the larger limbs it will be safer to destroy them by hand. A spray with arsenate of lead will keep them from extending their work. The regular sprays recommended for apples will also keep them controlled.

WOOL

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