Soils and Crops

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

Treatment of Torn Teats.

When a cow tears a teat upon barbed wire or a sharp object of any kind, the attendant should not smear the wound with axle grease or any sort of salve; neither should he attempt to sew up the wound with a sack needle and string, or any sort of needle and thread. Sewing up, if done at all, should be correctly done by the trained surgeon. Stitches tend to tear out and cause additional wounds and they enhance the danger of infection. For these reasons they are rarely inserted. Other better methods of treatment have been devised.

The attendant should take fresh-boiled water at blood-warm temperature and, after cleansing his hands, dissolve in the water all the boric acid it will take up, or add hypochlorite of soda, or coal tar disinfectant to make a one per cent. solution; that is, one part of the disinfectant to ninety-nine parts of water, and in cases that have been unattended for some hours and have become foul, a two per cent. solution should be used. In this the teat must be soaked and cleansed. At the same time all shreds of skin or flesh are cut away and every particle of foreign material, such as sand, dirt, manure or chaff, is removed.

When the teat and wound have been cleansed and bleeding has been stopped by swabbing and bathing with very hot water, the wound should be lightly painted with tincture of iodin and dusted with iodoform. The next procedure is to coat the teat with pine tar from tip to udder and at once put on a two-inch-wide strip of antiseptic gauze as a bandage. When one layer of gauze has been applied spirally from below upward to the udder it is to be coated with tar and each layer, in turn, is to be thus coated until seven or eight layers have been applied. The last one is stitched to the one below and a final coat of tar is put on. The gauze is drawn snug, but not so tight that it will interfere with circulation of blood. If the cow is giving milk it will have to be drawn from the wounded teat with a sterilized milking tube until the gauze is removed in from ten to fourteen days. In some instances it is possible to milk by hand with the gauze in place, but this should not be attempted if the wound has opened into the milk duct. Saturating the gauze with alcohol facilitates removal.

A chronic fistula or false opening through the teat wall is also treated in the above way, with the exception that the wound must be made fresh right down to the sterilized milking tube, by cutting its edges with a clean, sharp scalpel or curette. In old-standing cases the bandage may have to be kept in place for three weeks, or even more, at the discretion of the veterinarian. Such work should always be left to the hands of the trained surgeon, if one is available.

Shallow wounds, which do not open into the milk duct, should be cleansed and treated as we have suggested, but need not be bandaged with tar and gauze. After cleansing, the disinfected wound may be covered with a thin layer of absorbent cotton which is kept in place with a strip of surgeons' tape or plaster, or a strip of porous plaster, or pine tar. In many instances the wounded teat or the one surgically treated for fistula has successfully been bandaged with tap or plaster, instead of gauze and tar. In all cases the wound must be made germ-free.

Pasture for the Breeding Herd.

On many farms there are areas used as permanent pasture. This type of pasture can be made fairly productive if well handled. The trouble usually is that it contains a comparatively few kinds of grasses and consequently does not carry over the whole season. Another fault is that, being uncultivated land it receives little consideration, the stock being allowed to overrun it early and late in the season, with the result that it never gets enough growth to keep it from drying out in the dry season, and it does not get sufficiently advanced to reseed itself. This year plans should be laid to touch up any poor spots in the permanent pastures by sowing by hand a light seeding of a mixture of such grasses and clovers as timothy, orchard grass, meadow fescue, red clover, alsike clover and white or Dutch clover. The best time to do this is early in the morning when the ground is heaved up by the action of a spring frost. When the frost goes out the seeds will be covered up and will start to germinate as soon as the ground warms up. A mixture of the above grasses and clovers in equal parts by weight, seeded down with a light seeding of barley or oats at the rate of 18 pounds per acre, will make a fairly productive permanent pasture where it is desired to establish one.

In most cases, however, the pasture is obtained from the tillable area; that is, from that part of the farm which comes under a definite rotation. If no definite rotation is followed, one should be outlined and followed this season if best results are to be obtained. The quality of the pasture resulting from rotation of crops depends largely on the length of the rotation. God pasture cannot be expected after two or three years of hay, for by that time the clovers are all killed out and even the hardy grasses are becoming thin, hence a light growth of grass is all that can be looked for. The best pasture is obtained from a four-year rotation in which, instead of taking two successive crops of hay, the second year is devoted to pasture. In such a pasture one may expect to find a certain amount of clover and a good thick bottom of the grasses. This makes a pasture which will not dry out so readily. Only under special circumstances, such as the failure of a seeding, should the same area in the rotation be used for pasture two years in succession.

Whether permanent or tillable pasture land is used, considerable judgment must be exercised in the use of the same. One cause of the ruination of many good pastures is making use of them too early in the season. This is not good for either the cattle or the pasture. In the first place, the grass is soft and watery early in the season, consequently there is not much nutriment in it, and if the cattle are allowed their fill, scouring may result. In the second place, the land is usually soft and the cattle, in their exuberance of spirits, will do a lot of running and thus destroy more than they will eat. The cattle should be kept off the pastures until the grass has made a good start and the land becomes firm; then they should only be allowed in for an hour or two each day—after having a feed of roughage in the stable. The length of time they are allowed in the pasture can be increased each day, thus making the change gradually. Subsequently, the pasture should not be grazed too closely if drying out is to be avoided.

The objection may be raised that there is not always the necessary supply of feeds, particularly roughages, to enable the farmer to carry over his stock and give the pasture a chance. The answer to this is "proper rotations." Where a four-year rotation is followed, the necessary roughage in the form of silage and clover hay is usually at hand. However, where there has been a shortage in the roughage crop one season, plans can be laid to offset this shortage the following spring. For instance, a crop which will make pasture before the regular pasture is ready, and thus save the latter, is fall rye or a mixture of rye and wheat, sown at the rate of two and a half bushels per acre. A few acres of this crop sown between August 15 and September 15 will provide pasture or soiling crop for fifteen to twenty cows for a couple of weeks the following spring before the regular pasture is fit to use. The area thus used can then be ploughed up and sown to any of the regular spring crops or be used for growing a summer soiling crop. The one requisite is that the land be fairly near the buildings.

There is always a period varying from the latter part of June to the middle of July when even the best of pastures will begin to dry up more or less. This, combined with an occasional shortage in area, makes provision for some form of supplementary feeding during this period advisable, if not absolutely necessary. If the cows are allowed to decline in milk flow at this time for want of a little extra feeding, it will take three or four times the amount of feed later on to get them back to anywhere near their former production.

There are three ways in which supplementary feed of a palatable and nutritious nature may be supplied. First, by carrying over a quantity of ensilage in the bottom of the silo; second, by growing soiling crops; and third, by sowing an annual pasture crop. The first method is the most satisfactory, but where it cannot be practiced possibly the annual pasture crop is its closest competitor. This type of pasture is produced by sowing a mixture of equal parts, by weight, of wheat, oats, barley and spring rye. If other grains than oats are not easily obtainable, the proportion of oats can be increased without spoiling the mixture, as oats are the most desirable of the grains mentioned. This mixture should be sown at the rate of three bushels per acre, not too early, or it will be ready before needed, and not too late, or it will not get well started before the drought sets in. This crop can be used for pasture as soon as it reaches a height of six inches. It should not be pastured too closely, and thus stop all growth, nor yet be allowed to head out, or it will then cease sending out new growth at the bottom. If the area to be used for this purpose is near the regular pasture, so much the better, for then it will be convenient to let the cows in for a few hours daily, and they will then cut and haul their own soiling crop. If a light seeding of clover, 7 pounds per acre, is sown along with the grain, it will make additional feeding in the fall. It has been found that one acre of annual pasture such as this is more than sufficient in itself to carry an animal over the season; therefore, if used in conjuntion with the regular pasture, one acre for every four cows should be sufficient.

Poultry

Meat scraps, tankage, or skim-milk must be available in sufficient quantities to insure summer production. Too many hens have ceased laying and are ready to be culled because their owners won't help them to lay, and thus molting is put off until fall.

The mopish fowl is not, necessarily, sick, but it is out of condition. Taken from the flock and placed on a good grass plot for a few days will often do better work than dosing with medicine.

Green feed should be fed in liberal quantities. Kale, grass, cabbage leaves are some of the commonly used green foods. Green feed has a medicinal effect on fowls. When no green feed is available, sprouted oats are equally as good.

Doors swung on hinges are always slamming one way or the other. When hung on rollers, the same as used on barn doors, they stay shut or open as one wants them to be. The cost is little more and the convenience very much greater.

Turning eggs frequently to prevent the yolk from sinking and adhering to the shell, is the advice often given. Try it. Lay an egg on one side for three or four days, mark the side that was up, put it in water and boil it hard, peel off the shell and see where the yolk is.

Electricity for lighting is popular among poultry men. In sections where electric lights are not available it is still possible to illuminate the poultry houses, for some of the gasoline lanterns offered for sale are large enough to light a small house satisfactorily. With a larger house it is only necessary to increase the number of lanterns.

Grit may be of some use to a hen, but it is by no means a prime necessity. Some writers say a hen would starve to death with her crop full of corn, if she did not have plenty of grit to grind her food. Try this experiment: Put the hen on a board floor where she can not get grit, feed her any grain, and keep her there for a week with no grit. Compare her droppings with that of a cow, horse or hog with the normal number of teeth, and see which has done the best job of digesting the grain. Parlor scientists are responsible for many errors taught to the people for facts.

That old roof which seems almost gone might be saved by laying prepared roofing on it.

When painting is being done in a house special attention should be paid to ventilation. Fresh air from the outside will deodorize paint more quickly than anything else. Pails of water placed in rooms which have been newly painted will clear the air quickly of the offensive smell. If hay can be obtained this is a splendid thing for removing the paint odor. A handful put into a basin of warm water will clear away the smell with astonishing rapidity.

Hogs

The rations for the little pig for a few weeks subsequent and prior to weaning may be responsible in a large measure for the later development of the animal. Improper feeding at this time frequently causes irreparable harm, and the feeding ability of the caretaker may be most accurately judged by his success in bringing the weaner through this critical time.

A successful ration might be described as follows:

1. Easily Digested.—Containing in large part a food as little changed as possible from the mother's milk, and therefore of animal origin. Milk is unsurpassed and generally speaking may be considered as an essential in feeding the small pig during the weaning period at least.

2. Of Low Fibre Content.—Experiments have repeatedly proven that, other things being equal, success in feeding weaning pigs is in direct proportion to the fibre content of the ration.

3. Calculated to Grown Bone, Muscle and Sinew.—The little pig must not be made fat and pudgy, but rather be made to lengthen out and build a frame upon which finish and fat may later be further built up. Thus, oats and middlings are much preferable to corn or barley. Exercise, too, must not be forgotten in this connection.

4. Contain a Small Proportion of Easily Digestible Fatty or Oily Food.—While a nitrogenous ration is largely desired, small quantities of ground flax or linseed oil meal may be used advantageously to replace the fat removed from the whole milk.

1. Start the little pig to eat in a creep or separate pen as soon as he shows any interest in food from other sources than the mother.

2. Provided the pig has skim-milk, the addition of small quantities of other animal foods do not seem to benefit the ration at this stage. Generally speaking, ground flax or linseed meal, starting with 5 per cent., is an improvement to the middlings and oats ration.

3. Oats is one of the best of foods for the weaning pig. Excess hulls should be sifted out for the first month. At the present time feeding oat meal, practically a flour, is procurable, and contains the minimum of fibre. It is to be highly recommended at this stage.

Skim-milk, a finely ground meal of low fibre content, unlimited exercise for the pigs and for the mother as well, while they are nursing; these are the fundamentals of correct "little pig" feeding.

4. Commercial weaning mixtures are to be recommended where it is impossible to grow or buy the component parts of a home-mixed ration.

Always stand brooms on their handles, or hang them on a nail when not in use. Dip them in boiling soapsuds once a week, and they will last twice as long.

The Typewriter on the Farm

The Greatest Adjunct to Farm Correspondence is the Typewriter—By Ralph Jameson.

In these days when farming is regarded as a business, and a big business at that, it stands every farmer in hand to be businesslike in the method of handling his affairs. Numerous matters of ordinary routine, but important nevertheless, must be taken care of by mail, and the greatest adjunct to orderly and properly conducted correspondence is the typewriter.

Not long ago, a farmer with large interests in stock and real estate, came to me to inquire about a typewriter. "I have begun to realize," he explained, "that a typewriter is necessary to the business end of farming. An incident just occurred which made me determine to get a typewriter without delay.

"About a year ago I rented a twenty-acre piece of land, which I own in another section of the province, to a man who lives near where my land is situated. The arrangement was concluded by correspondence, and I am positive that I told him in the letter which I wrote him that the rent would be $150; but I foolishly kept no copy of the letter. Now, when the last payment is to be made on the rent, he insists that the rent which we agreed on was $125. It was a small matter and I did not think it worth while to bother with a lease; but I see now that if I had used a typewriter, and kept a carbon copy of the letter which I wrote him, the net savings to me would have made a good big first payment on a machine."

Always Make a Carbon Copy.

This man now has a typewriter and he saves a carbon copy of every business letter he writes. The copies are filed away with the letters they answer, and thus a complete record of every transaction is on hand for easy reference.

At first thought, it may appear that the typewriter involves a rather large investment; but this need not be so unless a high-priced new machine is desired. There are many excellent rebuilt machines on the market at prices ranging all the way from one-fourth to one-half of the original cost. The writer has had experience with several such typewriters of different makes, and though they have been subjected, for the most part, to hard service, they have generally proved substantial and serviceable machines.

Most rebuilt typewriters are sold under a service guarantee, under which the company agrees to make adjustments and replace broken or misplaced parts for a period varying from one to five years, according to the company, though the average guarantee is for one or two years.

A post card bearing your name and address and sent to any company whose advertisement appears in a reliable paper or magazine, will bring you typewriter literature which usually lists all makes of machines, since these companies act as clearing-houses for typewriters which have been traded in on new machines. For this reason it is not always possible to secure promptly the make of typewriter you order, since the machine must be procured by the company before it can be rebuilt.

Select the Right Type.

Now a word may be in order as to the type of machine it is best to select. To begin with, it should be a visible writer; for the average farmer is not an expert on the keys, and he likes to see what he is doing. The late improvements such as back-spacer, margin releases, two-color ribbon, etc., are not absolutely necessary, though they certainly are convenient, and they add considerably to the price of a machine. Furthermore, a typewriter may be very reasonable in price and yet give very good service.

When you are ordering a typewriter insist on an instruction book giving instruction on the operation and care of that particular machine. Study this book when it arrives with the machine, and study the machine as you would a new binder, mower or manure-spreader. Get the working principle fixed in your mind; then if any thing goes wrong with it—that is, any minor thing—such as the breaking of a tension cord or easily accessible spring, you can fix it yourself.

Ordinarily, a typewriter requires very little care. An occasional oiling (the instruction book will show you where and how to oil) and thorough cleaning and dusting, are all that are needed. The ribbon must be changed occasionally.

THE SUNDAY SCHOOL

JULY 10.

Saul the Pharisee, Acts 7: 54; 8: 3; 22: 3, 4; 26: 4, 5, 9, 10. Golden Text—1 Tim. 1: 15.

Connecting Links—The Jewish sect of the Pharisees to which Paul belonged had its origin in the second century before Christ, in the opposition on the part of many, who were strongly attached to the ancient Jewish faith and law, to the introduction of Greek ideas, Greek religion, and Greek customs. This opposition grew, in a time of persecution, into a bitter conflict, in which Jewish patriots fought for independence against the armies of the Greek kings of Syria, and were victorious. But mere independence of foreign powers was not enough for the zealous defenders of Jewish law and religion, and they soon found themselves in conflict with the new kings of their own choosing. Two parties arose among the patriots, the one standing for the king and constituted authority, the other more zealous for religion. The latter received the name of Pharisees, or separatists, because they chose to hold themselves apart from the common people, giving more strict observance to all the details and requirements of the law. The scribes were their lawyers and teachers, and obtained great influence among them. Their total numbers, however, were never very great, but their reputation for strict piety gave them authority and dignity in the eyes of the people.

Acts 7: 54—8: 3. **Whose name was Saul.**

Saul, who adopted the name of Paul after he became a Christian, was at this time apparently acting as an officer of the Jewish council, the Sanhedrin. He must have heard the speech of Stephen, in which that first Christian martyr had declared that temple and law were not, and never had been, essential to the true worship of God, and had showed by the clear evidence of history that the people of Israel had again and again resisted the teachers and the leaders sent them by God, even as now they had rejected Jesus Christ. To a strict and zealous Pharisee, like Saul, all this must have seemed little less than blasphemous, and yet one may imagine that he never forgot, and could never forget, Stephen's argument, and that in God's good time it wrought conviction in his mind, or at least prepared him for the startling and revolutionizing experience which came to him on the way to Damascus.

But here Paul shared the fury of the mob and the guilt of the murder of Stephen. In the persecution which now began he took an active and leading part. He made havoc of the Church, searching houses, dragging men and women to prison. In later years, remembering what he had done, he said, "I punished them oft in every synagogue, and compelled them to (or rather, strove to make them) blaspheme; and being exceedingly mad against them, I persecuted them even to strange cities" (Acts 26: 11). And, in his epistles, he more than once refers, with deep sorrow and regret, to these acts of persecution, which, he says, he did ignorantly and in unbelief.

But the persecution, which began with Stephen's death, only served to hasten the spread of the gospel, for they that were scattered abroad went everywhere preaching the word. Fleeing from their persecutors, they carried with them the word of life, the story of Jesus' ministry of love and of His death and resurrection. The fire was not extinguished, but stirred and spread into a great and widening flame.

22: 3, 4. **Zealous toward God.** It was from the steps of the castle of Antonia in Jerusalem, after he had been rescued from the mob which would have taken his life, that Paul spoke these words. He gives his persecutors credit for being "zealous toward God," zealous for the Jewish faith, as he himself had been before he believed in Christ. He recalls his student days, and his mistaken zeal, and then tells the story, the amazing story, of his conversion.

26: 4, 5. **After the straitest sect.** The Pharisees were undoubtedly very strict and very narrow in their interpretation of religicus duty. They put emphasis upon every smallest detail of law and ritual, upon every feature of worship, and sacrifice, and sabbath keeping, and tithe paying, and reciting the law and formal purifications, and use of words and phrases. In all these strict observances Paul had been instructed. Now he had come to see that salvation and right-living did not depend upon them, but upon faith and following the example of Jesus Christ. He had been in bondage to the law; but now he was free. So, he wrote in one of his epistles, "With freedom did Christ set us free; stand fast, therefore, and be not entangled again in a yoke of bondage" (Gal. 6: 1).

The Pharisees mistook strict observance of rules and laws for true religion. There is the same danger today. There are many good people among us who would build a hedge of laws and rules about the Church. Their teaching is largely made up of commands and prohibitions. While our rules and laws, our commands and prohibitions may be good in their place, they must never take the first place. The first place is for Jesus Christ, and for Him alone. Let us beware of Pharisaism.

26: 9, 10. **I verily thought.** Paul declares that he was sincere, and there is no doubt that he was. He thought he ought to persecute and destroy the followers of Jesus. He thought their teaching was wrong, and believed he was serving God in fighting against it. His experience proves that sincerity is not a guarantee of truth and right. The sincere and zealous person may be very much in the wrong.

Application.

Conscience is not by any means an infallible guide. Saul acted according to the dictates of his conscience, for undoubtedly he regarded the suppression of Christianity as a religious duty. A conscience uninstructed may be as dangerous as a conscience disobeyed. No ship sails without a compass, yet even a compass needs regulation. There is no magnetic needle which points with exactness towards the north. It may be diverted from its proper direction by the magnetism of the atmosphere, of the ship's cargo, or even by the sails in the masts. So from time to time the compass needs attention and adjustment. So the conscience is not an infallible guide; it needs to be adjusted and enlightened.

The Children's Hour.

Old Man was hungry and when he came to the lake and noticed the big flock of birds he made up his mind to have roast duck.

He built a fire and made himself a little funny drum, which he began to beat. When he sang the ducks heard him and they swam close in to watch and to listen.

"Swim closer, little brothers," he shouted. "Come ashore and have a dance!"

"Say! It's Old Man," cried a Wise Duck. "Keep away from him!"

The Young Little Ducks couldn't take that advice. Such a queer, sing-songy, funny Old Man!

Old Man sang louder than ever. The Little Young Ducks squeezed up against the bank to listen. Some bold ones waddled out on the land. A few Geese and a big Loon came slanting down and landed in the water with great splashes. "Say, fellows, what's it all about?"

The Ducks couldn't talk. They all looked very pretty, nodding their heads in time to the music.

The Loon stood a little way off, sneering. He said, "I'll bet there is a trick in it!"

Suddenly Old Man stopped beating his drum. "Brothers, I welcome you. Now, I am willing to teach the fine dances that I have learned during my travels. Whoever wants to dance come forward and I will paint you."

"Really! He will paint us! How wonderful!" tittered the Ducks. They were Wild Ducks, but in those days they were all dull gray or white.

A very brave young Duck waddled up. "I wish to be painted, sir," he said. "I am the Wood Duck."

Old Man painted him most beautifully. "Now send up your wife," said he.

"You needn't paint her at all, sir," said the Wood Duck softly.

"Ah! How wonderful the colors are," sighed the Loon, pensively.

"Paint me now, Old Man!"

All the Young Ducks crowded up and Old Man painted them. Only he did not paint the women ducks.

"Fine!" exclaimed Old Man. "From now on all you men ducks will be gorgeous forever!"

He took up his drumsticks and began to beat time. "Who will learn the Blind Dance?" he shouted.

A brave young Duck came up shyly. "Ah! cried Old Man. "Here's a good brave Duck. Close your eyes when you dance. Every one of you there close your eyes. If you peek I'll give you sore eyes forever!"

In fear every bird closed his eyes. Old Man drummed and the brave young Duck waddled around the fire. "Keep it up. Great!" shouted the Old Man. "I am dancing!" cried the Duck with joy.

When the Duck passed in front of him Old Man struck him on the head and he died. Old Man put him behind. "Now the next!" he cried. He did the same to a second and a third and a fourth Duck.

While the fifth Duck was dancing Loon peeked and saw. "Old Man is killing you. Run!" he shouted, and fled down the lake himself, closely pursued to the enraged Old Man, who, as he dived under the surface, gave him a kick that he felt many a day, besides knocking his tail off. That was how the Loon lost his big tail.

"Anyhow," said Old Man to himself, as he saw the Ducks scatter, "I have five Ducks to roast!"

From that time on the Ducks were very scared of Old Man. But they kept their colors, which are very gorgeous, as you will notice if you ever see the Wood Duck and the Mallard Duck and other Wild Ducks.—An Indian Legend.

Notes By the Way.

A man is known by the company he keeps out of.

It's all the same to the hen whether we say "sit" or "set."

The best time to catch soft water is when it is raining hard.

It is easy for a man in health to preach patience to the sick.

We're never too old to wish we could go wading in the creek again.

Leave growling to the dogs; they do it better, no matter how hard you try.

Who ever heard of a picnic without somebody sitting in the pie?

Beware of excesses of any kind. Learn, like the horse, to say "neigh."

A barking dog may never bite, but death by fright lasts just as long.