

EFFICIENT FARMING

Profit in Raising Turkeys.

In the first place, experience has taught me that it is useless to try to raise turkeys unless you are living on a farm, as they require more range than do other fowls; turkeys will not do well in limited quarters.

Nor does it pay to use mixed stock. I never use anything but purebred stock, and I never inbreed.

I used to have a great deal of trouble finding the nests, as they would wander away and hide their eggs in the most unexpected places. But now I have no trouble, as I have a poultry park containing about an acre of land, with good grass in it, also, usually, some oats or wheat.

I let the turkeys run where they please, until time to begin laying, when they are shut in the lot. Then I provide coops bedded with straw for them to lay in. I feed the birds well, always keeping fresh water, grit, and plenty of oyster shell before them. It is a good idea to feed milk, as on a farm there is usually plenty of it.

As soon as the hens lay their first setting of eggs I set these under chicken hens. If the turkeys get broody, I shut them up a few days or put them outside the park, and in a short time they will begin to lay again. The turkeys are set on the second setting of eggs. They will usually lay 20 or 22 eggs the first time, and 18 or 20 the second time. I had one turkey hen that laid more than 70 eggs one summer, and set four times; but it is not common for them to continue laying so long.

In preparing the nests I hollow out a little place in the ground just deep enough so that the eggs will not roll out, and fill it with plenty of straw. When the hen is setting, I close the door so others cannot disturb her. They like a dark, quiet place in which to set. I open the coops when feeding the setting hens, so they can come out for exercise. They will not eat very often while setting.

When the little ones hatch, I don't disturb them until the second day. Then I give them a little fine oyster shell and bread soaked in milk, or a little cottage cheese with black pepper in it, keeping fresh water always near them. When they are about three days old, I move the coop to a fresh place, and dig a little trench around it to keep the water out. This is very important.

Then I turn them out so they can

have the range of the park, shutting them up only at night. Before I had a park I had movable coops large enough to hold two or three hens. These were made of poultry wire, with the top covered. I kept the turkey hens in these, but allowed the little ones to run outside until they were two or three weeks old. This prevented the hens from straying away and losing so many of the young.

I feed only twice a day; overfeeding will cause bowel trouble. It is very important to give green food, such as onions, lettuce, tender grass, green wheat, or alfalfa cut very fine, until they are old enough to find green food for themselves. Do not feed cornmeal or corn chop to young turkeys, as these will cause bowel trouble. After a few days I feed kaffir corn or wheat, and also give plenty of sour milk. Do not let them sleep on wet ground, as it will always cause trouble.

The turkey hen is a splendid mother through the day, but at night she likes to slip away and hide her family, and if you don't watch out she will hide in some low place where, should it rain, the water will run under her and chill or drown the little ones. The male turkey sets an example that would be well for some human fathers to follow. The gobler will often take part of the family and care for them just like the mother does, even hovering them at night. When the young turkeys get large enough and well-feathered, I let them roost in trees. One of the most critical times for young turkeys is when they are feathering out; the growth of the feathers seems to exhaust their strength.

As a tonic for all my poultry I use the following: Put one gallon of water in a jug, add four ounces of copperas; when dissolved, add one-half ounce sulphuric acid. Two ounces of this solution used in each gallon of drinking water, three or four times a week, will give good results. Do not let water stand in the troughs more than one day.

In addition, I use permanganate of potash in all drinking water for young turks or chickens, as an antiseptic. Take 25 cents' worth of the crystals, dissolve in a quart fruit jar, adding enough to make the water red. If the young turkeys get lice, I anoint the heads and under wings with lard, mixed with a small amount of kerosene.

The Question of the Tile Drain

There are two kinds of water in a wet soil, namely, free or hydrostatic water, and film or capillary water. The presence of the former is injurious to the soil and to the plant; the latter is the water upon which the plant depends for its growth. An interesting experiment to show the difference between free and film water can be performed with little difficulty in any farm home. Take a flower pot, and after plugging the hole that has been provided in the bottom, fill it with dry soil, well compacted. Then pour water into the pot slowly until the water level reaches its top. Next, remove the plug and catch the water that drains through the hole, and compare the amount removed with the amount poured in. The water that is removed by gravity is the free or hydrostatic water; that which remains in the pot and forms a film around the numerous soil particles is the film water.

The drainage furnishes an outlet for the surplus water in the soil in exactly the same way that opening the hole furnishes an outlet for the surplus water in the flower pot.

Removal of the surplus water in the soil is the foundation for all of the practical benefits that tile-drainage brings.

Better Soil Aeration.

Air at the roots is just as essential to the life of the plant as air is to the lungs of a man. Plants do not like "wet feet," because the presence of surplus water at their roots excludes air. Both cannot occupy the same space at the same time. In a well-drained soil, air follows the water down into the soil, and occupies the pores vacated by it. Since the pores in a well-drained soil are larger than in a more compact, undrained soil, the air supply is comparatively greater. This explains why legumes, like alfalfa and clover, which are dependent for their healthy growth upon the nitrogen from the air, thrive on a well-drained soil, and starve on an undrained one, even in a dry season.

Much of the heat that goes to warm up a drained soil in the spring is utilized to evaporate the water from an undrained soil, with the result that the temperature of the latter is appreciably lower than that of the former. Evaporation has a cooling effect on the soil just as it has on a person who is sweating. This accounts for the fact that seed will germinate in a well-drained soil much sooner than in a wet soil.

Earlier and Longer Season.

Earlier germination of seed means

an earlier, and consequently, longer growing season than the plants on wet land will enjoy. While a neighbor is sowing oats or plowing on well-drained land in the spring, the wet-land farmer has to content himself with doing odd jobs around the house or about the farm, when he should be working his fields. Chances are that his impatience will get the better of his judgment, with the result that he tries to prepare a seed-bed on land that is too wet. It may take years to overcome the damage done to the soil by working it while in this condition. It is impossible to prepare a good seed-bed out of soil that has been thus maltreated, and almost as impossible to raise a crop on it that will do much more than cover the cost of producing and harvesting it, and it frequently fails to do even that. Farmers who follow this too common practice of working land while it is wet and soggy generally have to console themselves during the harvest with the thought: "Well, I didn't get as much of a crop as I expected, but then, I didn't expect I would."

The growing season is further lengthened by the fact that plants on a tile-drained soil are seldom stunted in their growth by heavy rains or drought, as they frequently are on undrained soils.

More Root Space.

Since the tile-drainage lowers the water table and makes soils more porous, plants develop a more extensive rooting system in drained than in undrained soils. It is commonly known that plants are more drought-resistant when the spring of the season has been dry than when it has been wet. During a dry spring the water table in the soil is comparatively low, and offers no obstruction to the development of a normal, healthy root-system. The increased porosity of a tile-drained soil, and the fact that its water table is always low, except for short periods during very heavy rains, make the development of a strong, deep root system possible in any season. This accounts for the fact that plants on tile-drained soils are less liable to lodge than those on undrained soils.

A porous soil will hold more water than a compact, undrained soil, just as

a sponge will hold more water than a stone. The film water thus stored up during thaws or rains, furnishes a supply of water upon which the plant can draw in a dry season. When the supply of water near the plant roots is exhausted capillary action brings up water from the lower levels, just as oil is drawn up into a lamp-wick from the supply below and coffee into a cube of sugar, when one side of the cube is dipped into it. The loose, mulchy condition of the surface soil prevents the evaporation of this water to a considerable extent. Since it is possible to cultivate or harrow a drained field soon after a rain, much of the water which is ordinarily lost through evaporation, is conserved, because of the mulch thus formed. The difference between crops on drained and undrained fields is often as pronounced in a dry as in a wet season.

Increase in Available Plantfood.

The increased supply of fresh air in a tile-drained soil, and its higher temperature, make it possible for bacteria which can not exist in wet, cold, compact soils, to act upon the supply of raw plantfood that has been stored up in the soil for years and prepare it so the plants can use it. This accounts for the fact that the increase in crops due to tile-drainage is much more pronounced in a soil that has been raised on it, than in one that produces a crop occasionally.

There are thousands of acres of swamp land and ponds on improved farms that can be reclaimed at a very small cost, through tile-drainage. Land of this nature will frequently produce a crop the first year that will be worth three or four times the cost of draining it. Dead furrows are unnecessary on a tile-drained field except in the case of heavy clay soils, and then only for a year or two.

Replacing medium-sized open ditches with tile-drains will add considerable land to the productive area of the farm. These ditches can gradually be filled as the farmer works across them. The opening of the sub-soil and the larger feeding ground plants get in this way, is in effect an increase in the area of the farm, because it forms a farm under a farm.

Decrease in Loss of Fertility.

The annual loss of manure and fertilizers on undrained farms, due to surface-washing, can hardly be over-estimated. Much of this fertility is deposited on low, flat areas, which their owners sometimes call charity fields, because they are kept well fertilized at their neighbors' expense. By absorption of the rainfall through a tile-drained soil the amount of surface washing is materially decreased, and manures and fertilizers are carried down into the soil where the growing crops can make use of them. Some fertility is, of course, lost through the tile-drains, but it is negligible when compared with the amount saved from surface washing.

Frost is frequently responsible for the loss of wheat, clover and alfalfa on undrained soils. A wet soil expands upon freezing, because its pores are filled with water. This expansion out of the ground so that their roots lose contact with the soil. The result is often the total loss of a crop. In a well-drained soil the pores are filled with air, because the surplus water has been removed. This permits expansion within the soil, and prevents heaving.

More Permanent Crop Rotations.

The loss of a crop in a rotation due to heaving by frost or drought is a serious one, not only because of the value of the crop, but because it breaks up the rotation. Since tile-drainage prevents the loss of crops due to these causes, it makes it possible to keep up a rotation more permanently than can be done on wet land.

A crop that is stunted at any time during the growing season by excessive moisture or drought is bound to be of inferior quality. Beets grown on tile-drained soil often have a sugar test of five or eight per cent. higher than those grown on wet soil.

The elimination of open ditches and dead furrows, and the more friable condition of the drained soil reduces wear and tear on farm implements considerably. This saving in wear and tear also applies to horses and men.

What the Northern Institutes Are Doing

BY GIBSON SCOTT

"The wonderful simplicity and directness of the machinery of organization these rural home-makers have worked out in co-operation with the Government," said a visiting lady recently with admiration in her voice, "the way the long friendly arm of the Institutes Branch of the Department of Agriculture reaches through its travelling lecture staff, short courses, and literature to the remotest group of girls and women is amazing. And the economy of it! To bring such lecture-demonstrations, books, and information would in the ordinary course of things cost hundreds of thousands a year. But of course it is the co-operation that does it," she concluded. "Any neighborhood which is enterprising enough to want the best, and friendly and large-souled enough to pull together and keep up their end of the job, can have just as good things as Toronto. Why the best Institutes I've seen, and the most talented people I've met in Ontario have lived miles from a railway! And anywhere in rural Ontario as few as ten or fifteen girls and women can start a Branch."

The lovely islands of Manitoulin and St. Joseph's have a flourishing group of Institutes, one of whose active community interests of the Travelling Library, which may be had free of everything but one way express for a period of six months, when it may be exchanged for another.

Little Current availed themselves of the visit of the Departmental lecturer this summer to make inquiries and propose getting one for this winter. This Branch was using its busy clever fingers and brains to make and sell quilts to raise money for recreation equipment for the school playgrounds, and a Memorial for the boys who went for freedom's cause to France and did not return.

Travelling Library in Demand.

Building a community hall for the benefit of the neighborhood and its social and educational doings is one of the lines of general work occupying the attention of the Howland Institute. They have asked for one of the Short Courses in Sewing available from the Department, as well as a Travelling Library for the coming year.

Bass Creek and Sandfield Branches are interesting themselves in cleaning up and beautifying their cemeteries. Some Branches extend a helping hand to the cities also, their hearts being especially tender for children and returned soldiers. Big Lake sent all the way to the Toronto Institute for the Blind for aprons made by the blind, which they bought by way of doing a bit to help. A number of Branches sent aid to the Northern children, who are at the Sault Ste. Marie Shelter.

Barrie Island put in a hot lunch equipment for the children in their own school, as did Silver Water. The latter is evidently living up to the Institute ideal of considering the needs and interests of all in the home, for they made a Neighborhood Bee in good old pioneer style and made a picnic of cleaning up the picnic grounds, leveling the open space and seeding the ground for a baseball diamond.

Musical Marksville are also literary and have begun to buy their own library, having already quite a collection to which they propose adding new books from time to time.

Progressive Kestvale has not only a good hall and fine library of their own but are keen about evening classes.

Up-to-Date Institutes of Algoma.

The regular programs of the northern Institutes are as a rule well planned and carried out by the members themselves to cover the many-sided interests of the home and family in addition to these lines of work for the neighborhood in other ways. The members pass along to each other their best ideas and the result of housekeeping experiments, successful and otherwise, give demonstrations, talks, exhibits, music, readings, know more about Parliamentary procedure than some township councils, and spend a pleasant social half hour together over a cup of tea at the conclusion of many meetings.

McLennan is one of the liveliest of the Algoma Institutes in this respect, where they are just business-like enough to put good programs through without being at all stiff or formal in methods, which is the Institute aim. An attractive "demonstration" at one meeting was an Apron Parade in which the girls of the branch gave two walking exhibits of afternoon aprons and working aprons during the proceedings, and the married members voted by ballot as to the three best in each class. Fun, interest, and education were combined in this unique feature. This branch interweaves community needs, making one need help another. Money was raised for the Medical Inspection of the schools and the Baby Clinic undertaken by the members by a series of events, socials and tea-meetings, which brightened the social life and intercourse of the entire neighborhood as well. The Echo Bay Institute is working along much the same lines.

Base Line added the excitement and fun of a membership contest to their regular methods this year with the result that their members now number over one hundred.

The "Travelling College," as the short courses in Home Nursing, Sewing, Domestic Science, Labor-saving, Program Planning and Methods in the Conduct of Meetings which the Institutes Branch of the Department of Agriculture send out on the request and with the co-operation of the Branches, is in much demand throughout the province, but nowhere more than in the north. Here the only complaint is that they do not come fast and frequently enough. The Institutes Branch is indeed rapidly becoming the centre of a quite unique Extension Department of what might be described as the Rural Home-makers' University whose eager students are the busiest of busy girls and women, some twenty-nine thousand in numbers. To meet the growing demands of such a nation-building worth while and indeed worthy of the best attention of a Government. The idea was born among Ontario men and women, who still work together to achieve increasing efficiency through the co-operation of home and state.

The Sunday School Lesson

OCTOBER 23.

Paul's Last Journey to Jerusalem. Acts 21: 1-17. Golden Text—Gal. 6: 9 (Rev. Ver.)

Time and Place—56 A.D.; from Miletus to Jerusalem.

Connecting Links—After Paul had labored at Ephesus for a period of three years, (see Lesson 2, Oct. 19; Acts 19: 8-20) he determined to revisit Macedonia and Achaia, ch. 19: 21. Having sent Timothy and Erastus into Macedonia (ch. 19: 22) to prepare for his coming, he planned to remain in Ephesus for some time longer. His stay, however, was brought to a sudden end by the riot instigated by Demetrius, of which an account is given in ch. 19: 23-40. Having escaped from the danger that threatened his life, he proceeded to carry out his plan of going to Macedonia and thence to Greece or Achaia, ch. 20: 1, 9. After a three-months' stay in Greece (ch. 20: 3), he was about to sail for Syria, when a plot of the Jews obliged him to change his plan and return to Macedonia. From Philippi, he went to Troas, there joining the company who were to sail with him to Jerusalem, ch. 20: 4-6. After the incident relating to Eutychus (ch. 20: 7-12) Paul's companions set sail for Assos, where he joined them, having gone from Troas to Assos on foot, ch. 20: 13-16. The farewell interview with the elders of the church at Ephesus, for whom Paul had sent to meet him at Miletus is recorded in ch. 20: 17-38.

I. The Voyage, 1-9.

Va. 1, 2. Gotten from them (see ch. 20: 36-38); "born from their embrace" says one interpreter; a painful and difficult separation. Luke "has set sail." A straight course. Launched; the true Greek feeling for the sea; and generally "records the incidents from harbor to harbor" (Ramsay). Coos; an island southwest of the district of Coria in Asia Minor. Rhodes; a great island due south of Coria. Patara; a seaport rather to the south-west of Lycia. A ship crossing over, which, instead of hugging the coast, as the voyagers had hitherto been doing, in their smaller vessel, was going to stand straight across the open sea, unto Phenicia; the strip of coast north of Palestine.

Va. 3. Discovers; sighted, a sailor's word, literally, "having made to rise up out of the sea." Luke is careful to give the exact details of the trip. Cyprus the island formerly visited by Paul and Barnabas, ch. 13: 4. Unto Syria (Rev. Ver.). So the Roman province was named which included Phenicia. At Tyre . . . to unlade. Tyre was one of the chief ports of Phenicia, and a very ancient city.

Va. 4. Having found the disciples (Rev. Ver.); looked them up; they would be a small company in a large city. Tarried . . . seven days. The ship must have been a large one to require this time for unloading and the taking in of fresh cargo. Said . . . through the Spirit. (See also ch. 20: 22, 23. Should not set foot in (Rev. Ver.). The spirit showed these disciples the sufferings that awaited Paul in Jerusalem. Their love moved them to hold him back; his sense of duty bade him go forward. (Compare ch. 20: 22, 23.)

Va. 5. Accomplished those days; the seven days of v. 4. We departed, etc. Paul refuses to yield to the persuasions of the Tyrian disciples, because he hears the call of duty. Brought us on our way; reluctant to part from the apostle, and grieved because he was going to face certain danger.

Va. 6. Kneeling . . . on the beach (Rev. Ver.). A level sandy beach (such as the Greek word describes) extends for a considerable distance on both sides of the site of ancient Tyre. Prayed; those who were to remain and those who were to go, commending one another to the loving care and protection of the God who would be with them all. The farewell is in many ways like the scene at Miletus, but without the same intimacy. The acquaintance here had been short.

Va. 7. The accents are familiar, and yet how different. Such touches of diversity and resemblance could be given only by an eye-witness. "We went on board the ship (Rev. Ver.). "The" shows that it was the same ship in which they had come from Tyre.

Va. 7-9. Ptolemais; thirty miles south of Tyre, a day's sail. It was

the Acho of Judg. 1: 31, and is not Acro. Saluted the brethren; greeted and held converse with the Christian society which, as Ptolemais was on the great highway by the coast, had been founded by the disciples dispersed from Jerusalem after the death of Stephen, ch. 11: 9. Unto Caesarea; thirty or forty miles further on. Paul's present visit was the third he had paid to this city (see chs. 9: 30; 18: 22). Philip the evangelist. "Evangelists were an order or body of men in the early church, after apostles, and before pastors and teachers" (see Ephes. 4: 11). They corresponded to our foreign missionaries." This was Philip the deacon (chs. 6: 5; 8: 5, 26); to be distinguished from Philip the apostle, John 1: 43, etc. He must have been a man of some wealth to be able to entertain so large a party. Four is the number . . . did prophesy; that is, they belonged to a sect in the early church who edified the church, "by preaching under the direct influence of inspiration, interpreting the mind of God, revealing the secrets of their hearer's inner life and converting unbelievers."

II. The Warning, 10-14.

Ramsay, in his reckoning of the time occupied in the journey from Miletus to Jerusalem, counts the period spent at Caesarea as ten days, just before Pentecost. From Judaea; that is, from Jerusalem, or its neighborhood. A prophet . . . Agabus. See ch. 11: 28. Took Paul's girdle; the band, sometimes of leather, but mostly of silk, cotton or wool, by which the loose, flowing Oriental robes were drawn together at the waist. It might be from three to ten inches broad and several yards long. Bound his own hands and feet. Such symbolic acts were often employed by prophets in the Old Testament, 1 Kings 22: 11; Isa. 20: 2; Jer. 13: 1. Thus saith the Holy Ghost; who gave to the prophets their revelations, 2 Pet. 1: 21.

Va. 12-14. We; those of Paul's company. They; the disciples belonging to Caesarea. What do ye? (Rev. Ver.) "Why do you unnerve an unman me?" I am ready, etc. "To him who is prepared," says Bengel, "the burden is light." Would not; because duty kept calling him, and he dared not disobey the inner voice. He was ready to die for the Lord's sake. The will of the Lord. In Paul's decision they saw the divine purpose, which they could not oppose.

III. The Arrival, 15-17.

Va. 15-17. We took up our carriages; Rev. Ver., "baggage." The distance between Caesarea and Jerusalem was about sixty miles, and Ramsay says that the journey was taken on horseback. The usual habit is, that the trip was made on foot. Mnaon of Cyprus, an early (Rev. Ver.) disciple; perhaps, one of the converts of the day of Pentecost. He had met Paul's company at Caesarea, and invited them to his home, now in Jerusalem. Brethren received us gladly; hastening to Mnaon's house with affectionate greetings.

Application.

Don't be a discourager. Friends as well as foes threatened to relax the resolution of St. Paul. Well-meaning pessimistic talk still does the cause of God a deal of harm. The folk of the churches may be divided into two classes—the hearteners and the heart-melters. The hearteners are always ready to believe that hard things can be done. The heart-melters always say that the task is too great and cannot be achieved. When the Forward Movement Fund was launched, many had misgivings and expressed them. But the stalwart said: "For the name of the Lord Jesus we are ready." During the South African war this telegram came from Lucy Smith, "A civilian has been sentenced by court-martial to a year's imprisonment for causing despondency." This man struck no blow for the enemy. He was not intentionally disloyal; but he was not ready. He was breaking down the morale of the men. He was doing harm and the court-martial did perfectly right. Happy is that church whose pessimists are dummies!



Legend of the Daisy.

A long time ago, so they tell the tale in fields and gardens, many flowers were not satisfied with the way they had been made. Some of them felt that they were too tall; others wished to change their colors. There was a good deal of discontent here and there.

One year the weather had been cloudy and dreary for a long time. That made the discontented flowers more unhappy than ever; some of them even began to droop. Then one day a good fairy named Harmony heard about the sad case of the flowers. He went to Mother Nature about the matter. "Go and ask them what they want," she replied, "and let them have it."

On and on he went among the flowers, until at last he came to the daisy. "And what is your wish, little daisy?" "All my whole life," it answered, "I have envied the sun. He is so bright and wonderful. But when the clouds cover his face the earth is dark. Oh, if only I could give a little brightness then!"

Harmony stooped and touched its petals. "You have chosen wisely, little daisy," he told it. "From now on you shall have a bright disk among your white petals, and when people look at you they will see the reflection of the sun. No matter whether the day is bright or cloudy, you'll not hide among your leaves, but will turn toward the sky."

And that is the way—so they tell it in the gardens and the fields—that the daisy got its yellow centre.

Tractor Farming.

There is some question as regards the economy of using a tractor on a small farm, but the advisability of buying a tractor for use on large, poorly drained farms is just as questionable. The tractor can be used to good advantage on a well-drained farm that is not too small nor too hilly, the year around, in any season, but there are seasons when the use of a tractor on a poorly drained farm is practically impossible at any time. Tile-draining such a farm will, however, make the use of a tractor more practical.