

EFFICIENT FARMING

High Yields of Good Quality Rye.
Mr. Rye-Grower, is your crop a successful one? Do you harvest a good yield of high-quality grain, or are you one of the fifteen-bushel-per-acre light grain growers? If the latter, then we are in doubt concerning your management of the rye crop. There are thousands of Ontario farmers who may be termed "good rye-men." A study of their practices brings to our attention the necessity of strictly adhering to a few fundamental rules if one is to win in the "rye-growing game."

Is rye a poor-land crop? We all know that rye may be grown on rather light and thin land, but this does not mean that it is necessarily a poor-land crop. In fact, the best and most profitable crops are not raised on poor land. The best rye growers endeavor to build up their light land by the judicious use of manure, clover and, very often, commercial fertilizer. They have discovered that rye returns excellent profits for such treatment for although it grows on poor land it will do far better if the fertility of the soil be brought up.

Agricultural College experts have proved the value of a commercial fertilizer carrying nitrogen and phosphorus for such lands. Wheat growers fertilize the wheat crop, but few rye growers fertilize their crop. It is time to feed the rye crop and give it the food with which to produce not only high yields, but also high-test grain. The best seed cannot be expected to do this unless it has the plant food to draw on.

Too many rye growers delay their planting, believing that rye may "go in most any time that it is convenient to get around to it." This is a fallacy in judgment as proved by the experiment farm and many times demonstrated by farmers. High-test grain usually cannot be produced by late planting. The late planting is costly to the farmer for both the yield and quality of the grain are decreased.

Occasionally we hear a farmer, a miller or an elevator manager say, "Registered Rosen is no good after two years." Recently a few elevator managers have advised their farmers against the use of Rosen in that the quality of the grain is inferior. We question this judgment and feel that such advice is not for the best interests of the farmers.

To be sure, Registered Rosen deteriorates if allowed to mix with inferior varieties, but even then it usually produces better yields than the old common rye.

Do not expect any seed to play up to form if you believe in planting at any old time and on any soil that is available. Registered Rosen has the ability to produce, but a fair chance should be given it. If you believe in manuring, turning under clover, and other facts concerning soil fertility, you will be successful with Registered Rosen; but if you are a non-believer then you can not expect to measure up! This is no argument for common rye, for the Registered Rosen mis-handled is a better producer than the common. Farmers so located that a high purity standard can not be maintained with Registered Rosen should obtain new seed stock about every two or three years instead of using the impure and deteriorated seed. An increase in yield of a bushel and a half to the acre will pay the extra cost of seed and the higher quality of grain brings two to four cents more on the market. Registered Rosen, on an average, yields five and six bushels per acre higher than the mixed Rosen or common, and at that rate is a very profitable investment.

If Rosen is falling down in your community don't blame the variety, but meet the facts squarely, and correct errors. Bring up the fertility of the soil, prepare a suitable seedbed, plant at the right time and use the best seed that is available.

Our Threshing Ring Made Two Mistakes.
Two years ago, when our threshing ring bought a small separator with which to do our own threshing, we made one mistake which is more or less common in communities that have tried this plan. Probably we made two mistakes—first, that of buying too small a machine, and second, we included too many men in the company.

Our experience has shown that the extremely small separator should be avoided, because it is very apt to be overworked, even where but few men are interested in it. The hurry to get a job done, a sudden rain cloud, or the attempt to take advantage of a bit of nice weather when the season is bad, all cause crowding. Besides, there are some men who always hurry when feeding a threshing, no matter how slow they are at other times.

The first year we operated our machine everything was in our favor: the season was dry, the straw reasonably short, and grain threshed out well. Seventeen men had been in our old threshing ring, and they all became stock holders in the new outfit. Our separator cost \$1,263 delivered, and we bought a second-hand steam engine for \$500, which was a real bargain. Counting our old water tank

drive belt, and a few little extras, the outfit represented about \$2,000 when it went into the field. We paid back more than half the principal the first year, after the labor and interest was paid. Our work was done when we needed it, and, except for a few minor breaks, we got along better than we had expected.

But the next season we began to see that we had made a mistake. Most of the men in our ring grew a small acreage of rye last season, and in addition a considerable acreage of oats and wheat. We had trouble with the rye from the first. We consulted a factory expert, and received much advice from old-time threshermen; but to no avail. The simple fact was that our separator was too small to handle this long, woolly crop, except in a very slow manner. This delay caused some complaint, especially from the men who had no rye. We could thresh rye, but had to go slowly, and, naturally, attempts to crowd things usually proved disastrous.

Then, when we got to oats or wheat that threshed well, the tendency was to crowd things too much. We had power, to spare, so the natural result was—just as it is when any grain separator is crowded beyond its capacity to separate—a wastage of grain. Some of the men who came last began to get worried about their crops, for it looked like we were in for some wet weather; but they stayed with the job rather than use an outside machine.

Last year we finished a long week behind every other ring in our neighborhood. Even with a smaller number of stockholders, we are sure that a cylinder at least four inches longer—ours is 20 inches—would have been a good investment. The small size is excellent when grain threshes well, when the straw is short, and conditions are generally favorable. In fact, it will thresh under any circumstances if it is handled right, but the trouble is that even where only a few men are interested there is a tendency to crowd it, in spite of the fact that it is their own grain they are harvesting. Furthermore, crowding is so hard on the separator that overhead expense for repairs, labor, and depreciation becomes a considerable item.

After visiting several other co-operative threshing rings that own their own outfits, I have decided that the extremely small separator is most useful where three or four farmers want to utilize the tractor already owned in doing their own work.

The larger machines give much better satisfaction where a number of farmers expect to co-operate in its use. Even then, for maximum efficiency, no more than ten or twelve men should be interested in it. This allows all to thresh out in good time, where the usual acreage is grown (15 to 50 acres on general farms). The investment is not too heavy for any of them to carry; they are better satisfied, and still have help—which in the larger rings sometimes becomes expensive and burdensome—to keep things running smoothly. Then, if there is spare time and members of the company are willing, they can pick up outside jobs, and apply the net profits upon the purchase price of the rig, or declare a dividend in case the rig is paid for.

Farm Fire Losses and Insurance.
Farm fire losses from lightning have been unusually heavy recently. The thunder showers which have given the needed moisture over a large section of the province have added greatly to the prospective crop yield, and have thus been of great value to the farmers as a whole. But the electrical bolts which accompanied them have inflicted heavy losses on many individual farmers in the same area.

In the majority of such cases there is an insufficient coverage of insurance, and in a few cases none at all. Thunder storms are certain to occur. They are a fixed element of fire risk to every farmer. They are most prevalent at the season of the year when the barns are filled with the season's harvest. Yet they are but one factor of every farmer's fire risk, which is constant, rather than seasonal.

Farm fire losses are generally total losses, due to the inflammable nature of the risks and the general lack of fire protection. At the same time farm fire insurance premiums are reasonable because of the isolation of the risks. Consequently it is the part of wisdom for every farmer to carry enough insurance to cover his peak risk. The additional premium is not large. It is a small item compared with the possible loss in case of fire.

When these losses occur in one's neighborhood, it should prompt us to figure up the replacement cost of the buildings, contents and equipment and compare the sum of these items with our insurance coverage. In most cases the result will be a surprise. And it is far better to make this comparison before than after a fire loss, from which none are immune.

Canadian music will be a feature at the Canadian National Exhibition this year.

Gardening in Late Summer

Just because August is not May is no sign that there is nothing to do in the garden. In most sections of the country the spring rains come in May and June, when they are most needed and will do the most good, but unfortunately they are very often followed with a rather prolonged drought in July and August. There are only two ways in which the garden can be successfully brought through these periods; by irrigation or by cultivation.

No preparation has been made for irrigation in most sections of the country and the watering of the garden in any other way is out of the question unless the area is very small. Where it becomes a matter of life and death with the plants and they begin to wilt, the small garden should be watered and it may be possible to water certain of the most seriously affected plants in the large garden.

There is a right and a wrong way to do this necessary watering. To go over the plants lightly with a sprinkling can and spatter a little water on the leaves of the plant is almost worse than useless. To dampen the surface of the ground is not much better. If you are going to water, water, do not sprinkle. Be sure that the ground is soaked for an inch or more in depth. Scratch into the ground a little and see how deep the water is going. You will be surprised to see how much water it actually takes to wet the soil to any depth when it has been very dry. This is the only kind of watering that counts. It penetrates to the roots of the plant and is used. It does not have to be done every night. If followed up by proper cultivation, the plants will get the benefit of it for a week.

But watering should seldom be necessary in a well-kept garden. The rains which fall in the spring are usually sufficient to take care of the plants for several weeks if—and this is a vital "if"—it is properly conserved for the use of the plants and is not permitted to be evaporated by the sun before the plants can use it.

That is exactly what happens to most of the moisture when the soil is not properly cultivated. The top soil dries and bakes into a hard crust which draws the water up out of the ground like a lamp wick until the soil is dry at least as far down as the plants can reach. The only way to prevent this is to break up this hard crust by shallow cultivation and keep the ground covered with a dust blanket or mulch. The moisture does not pass readily through this dust blanket and remains in the lower strata of the soil where the roots can get at it. As long as this blanket is kept intact, about the only moisture which gets out of the ground is that taken out by the plant. This is as it should be and as long as the moisture already in the ground is conserved in this way, there will be very little necessity for watering.

This is the reason why the garden should always be cultivated shortly after a rain, as soon, in fact, as the soil will not stick to the hoe. It keeps the water from getting away from the plants. But watch out for the beans.

Poultry Pointers.
When fowls are kept in not too large flocks and have a large run they will easily secure enough mineral matter to supply their needs, but if confined or kept in large flocks it is well to supply this in suitable form for their consumption. Mineral matter is as necessary as food because a considerable percentage of the dry matter in both eggs and fowls is composed of mineral elements. When fowls are fed liberally of such feeds as alfalfa, clovers, bran, and other commercial feeds, they obtain some mineral constituents but not sufficient for their well-being. The mineral foods now recognized by authorities as best to use are bone, shell, grit, and charcoal. Cut green bone is one of the best forms. Bones obtained from a butcher and put through a bone grinder will furnish a supply. Lacking bone meal, granulated bone, as it is sometimes called, answers the purpose. The granulated form may be fed in hoppers, enabling the birds to take their supply at will. In the meal form it is usually mixed with the mash.

Hens, as well as all other animals, require a certain amount of lime for normal health and growth, but on account of the lime needed for shell-making, an additional supply is necessary. Oyster shell is perhaps the most convenient source of lime for poultry feeding. This product which is purchasable at feed stores, is made by crushing the shells, the particles being separated into the various sizes according to the purpose for which they are intended. Fowls that are laying heavily, according to Bulletin No. 91 of the Dominion Experimental Farms, should have a supply of crushed shell before them constantly.

Fowls running at large, unless on clay soil, will usually pick up sufficient fine gravel to supply grit. Should there be any doubt as to the birds getting sufficient grit from this source, it is prudent to provide commercial grit in a suitable hopper. This product is made by crushing rock into sizes suitable for the different classes of fowl. Grit, as is usually well understood, supplies the teeth of the fowl, inasmuch as the birds need it to work up the food as it passes through the gizzard. It is believed also that some of the mineral elements are extracted

by the birds and assimilated.

Charcoal does not in itself supply nutrition but is known to have a valuable corrective influence in the digestive functions. Indeed, humans sometimes find charcoal useful and take it in tablet form. If given access to charcoal, fowls will consume considerable quantities of it. This alone indicates a lack in the food not otherwise supplied. As in the case of crushed shell, charcoal should not be mixed with other food, but supplied in a hopper in granulated size, and kept before the birds at all times in order that they may help themselves as they feel the need.

A Good Picking Receptacle.
A half-bushel basket is a very good receptacle for picking the fruit in to avoid badly bruising the fruit. Such a basket should have a hook attached to the handle for hanging on the ladder or tree limb. Great care should be taken in emptying the fruit into the barrel as bruised fruit will not bring top market price. Carefully picked and handled fruit will bring the top market price provided all other troubles are kept under control during the growing season. Often a fruit grower will use great care in growing fruit but will lose the full benefits of his work by allowing careless picking.

Home-Mixed Putty.
The following formula will make 100 pounds of good putty, and smaller amounts can be made by cutting the materials in halves or in quarters: 18.75 parts of raw linseed-oil, sixteen pounds of white lead, seventy-five pounds of whiting.

Toughly mix the white lead and oil in a pail, and stir into this mixture enough whiting to make a stiff dough. Pour out on a board or large pane of glass which has been sprinkled with a good layer of whiting to prevent the soft putty from sticking to the board. Then knead, gradually adding the whiting to give the desired consistency. This putty can be kept indefinitely if covered with water.

A baby clinic conducted by the Ontario Government will be one of the features in the Government Building at the O. N. E. this year.

The Sunday School Lesson

AUGUST 28.

From Asia to Europe, Acts 15: 36-16: 18. Golden Text—Acts 16: 31.

Connecting Links—Paterson Smyth (in the Story of St. Paul's Life and Letters), writing of the beginning of this second great missionary journey, says, "I think Paul was already feeling the stir of that ambitious impulse which afterwards took him ever westward, westward; took him to Rome, even to Spain, to the bounds of the Empire, to plant there the banner of the beloved Lord. Soon he saw clear signs that God was guiding him. They started by land up through the northern highlands, out through the dark defiles of the Cilician gates, that great frowning pass, eighty miles long. Then westward for days along the mountain road, till he touched the region of his first missionary journey. One evening, from the heights he looked down on Derbe and rejoiced that he was to meet the old friends again. Next day along the mountain road to Lystra, where Barnabas and he had been Jupiter and Mercury, and where Barnabas had lifted him up for dead after the mob had stoned him, I see him come into Lystra, and the converts crowd around him delighted to see him, and I am sure the first question is, Where is Barnabas? And the next is, Have you recovered from the effects of the stoning? And so they talk together in affectionate intercourse, and Silas is introduced, and at night the presbyters (elders) bring their difficulties to be solved, and are taught still further of the gospel of Christ; for they do not know very much, these presbyters, and there are no written gospels as yet to teach them."

Timothy, who is introduced to us here, is one of the most interesting and engaging personalities of the New Testament. Of mingled Jewish and Greek parentage he had the advantage of instruction both in the Jewish religion and the Greek learning. No doubt he read and spoke both languages perfectly. Paul became strongly attached to him and Timothy was his companion on many long and sojourns.

16: 6-18. Phrygia and Galatia are the older names of certain parts of Asia Minor. The Romans, however, included, for administrative purposes, a considerable part of Lycania and of Phrygia, lying to the south and west of Galatia, with that province and under its name of Galatia. The churches of Derbe, Lystra, Iconium, and Pisidian Antioch are called, therefore, by Paul the Galatian churches, and it is to them that one of his great epistles is written.

The apostles appear to have intended going on into the Roman province of Asia, which lay along the Aegean Sea, and occupied about a third of what we call Asia Minor. It contained the well-known cities of Ephesus, Pergamum, and Smyrna, and was the richest part of Asia Minor. Paul whose interest was always in the cities, must have looked with eager desire upon this western province as a great open field for his gospel. Just how he and his companions were forbidden by the Holy Spirit to preach there we do not know. In some way it was made clear to them that their work lay elsewhere. From Mysia, in the northern part of this province of Asia, they next sought to go into Bithynia, the northern province which bordered on the Black Sea, but again this mysterious power intervened. The Spirit of Jesus suffered them not.

Paul and his companions did not travel alone. They were always conscious of that invisible presence. Their Master walked with them and His Spirit guided them. He was fulfilling

to them the promise which He had made, "Lo, I am with you alway." Compare Acts 22: 17.

Troas, or Alexandria Troas, situated on the coast southwest of the ancient Troy, was a Roman colony, and was the chief seaport in the north-western part of Asia Minor for trade with Europe. While there, in a dream or night vision, Paul heard the Macedonian call, and taking it in the simplicity and directness of his faith to be a call from God, he immediately made ready to cross the sea northward into Europe. His decision was indeed a momentous one, and marks an epoch in the history of humanity. For it was in Europe that the gospel was destined to win its greatest triumph. Europe was to become the Christian continent.

The writer of this history, Luke, pushed in vv. 10-16, the pronouns we and us. It seems that Luke joined the company of Paul at Troas, and went with him as far as Philippi where he remained. It has been conjectured that Paul may have previously met him in Pisidian Antioch, or one of the other Galatian cities, on his first missionary journey. When Paul turned to Philippi, some years later, on his third journey, he found Luke still there, and took him with him on his way back to Palestine, and then to Rome (see the same pronouns resumed in Acts 20: 5 to the end of the book).

Passing the island of Samothrace half way, they came to the port of Neapolis, and proceeded thence inland to Philippi, chief city of eastern Macedonia, and "a Roman colony." Paul and his companions sought and found work, for they had to support themselves by the labor of their hands (2 Thess. 3: 8). On the sabbath they joined the company of Jews, who had a meeting place outside the city by the river. They were, apparently, too few in number to have a synagogue. Under such circumstances it seems to have been a custom of the Jews to meet by the sea, or river, or lake, where they could obtain water for their ceremonial washings.

Lydia, a seller of purple, is distinguished as the first European convert to Christianity, at least the first of whom we have any definite knowledge. She was probably a Greek woman who had become a convert to the Jewish religion. Her home had been in Thyatira, a city in Asia famous for its dye. She was now a merchant in Philippi, and in her house the company of missionaries found a hospitable welcome.

Not only to the prosperous and capable Lydia did the saving grace of the gospel come, but also to the poor half-witted maid, whose abnormal condition of mind was being exploited for gain by certain unscrupulous traffickers in the superstitions of the people.

Application.
When Paul decided to go west in obedience to this vision, it was one of the really great moments in human history. We do not mean to say that if Paul had not done this the gospel would not have travelled west; but it would have been delayed perhaps for centuries. Thus it is that our actions have a far-reaching significance that we very seldom realize. Sometimes we are conscious of the importance of what we are doing, but more often we are not. Before the great naval battle between the Russians and the Japanese, Admiral Togo sent word to his men: "The future of our empire depends upon your conduct here-to-day." There is a sense in which our own future depends upon decisions which have to be speedily made.

Proper Care of Raspberries.

There is a tremendous difference between the crops obtained in a properly kept and a poorly kept raspberry patch. One may plant the best varieties but unless the plantation is properly looked after at the different seasons of the year the patch soon becomes overcrowded, diseased, and practically useless. Raspberry culture is not a difficult sort of gardening, but like many other farm duties, the right thing has to be done at the right time. It is a too common practice of the average grower, after removing the crop, to allow the plantation to take care of itself. This is not a good practice because it gives encouragement to both disease and insect enemies, and allows weeds to grow and thrive and infest the soil by scattering their seeds.

As early as possible after the crop has been harvested the plantation should be carefully gone through with a strong pruning knife and all the wood that has borne this year cut out close to the ground. This pruned material should not be allowed to lie around to spread insects and disease, but it should be carefully gathered and burned. It is well also at this time to take out any suckers that are found coming up between the rows. These, however, will be properly taken care of if the plantation is gone through from time to time with a cultivator or hoe as it should be.

One of the most troublesome insects that will be destroyed by the cutting out of the old canes, is the raspberry cane borer. These, however, are not always confined to the old canes but are apt to work in the young shoots as well. Their presence is indicated by wilting at the tips of the canes. This insect is very common in wild raspberries which are often noticed to have their tips wilted during the summer. Cultivated canes thus affected should be topped well below the wilted part in order to be sure of getting the grub which often penetrates well down into the cane. The cuttings must be burned.

Having completed the burning of the old wood and the infested canes a thorough spraying with bordeaux mixture should be given. This should be either the ready mixed commercial sort, or the 4-4-40 mixture made from four pounds of copper sulphate, 4 pounds of unslaked lime, and forty gallons of water. Circular No. 9 "Common Garden Insects and Their Control," by the Dominion Entomologist, thus describes the preparation of bordeaux.

"Dissolve the copper sulphate (by suspending it in a wooden or earthen vessel containing 4 or 5 or more gallons of water). It will dissolve more quickly in warm water than in cold. Slake the lime in another vessel. If the lime, when slaked, is lumpy or granular, it should be strained through coarse sacking or a fine sieve. Pour the copper sulphate solution into a barrel, or it may be dissolved in the slaked lime in the first place; half fill the barrel with water; dilute the slaked lime to half a barrel of water, and pour into the diluted copper sulphate solution, then stir thoroughly. It is then ready for use. (Never mix concentrated milk of lime and copper solution.)

A stock solution of copper sulphate and milk of lime may be prepared and kept in separate covered barrels throughout the spraying season. The quantities of copper sulphate, lime and water should be carefully noted. Bordeaux mixture deteriorates with age and should be used as soon as made.

To test bordeaux of potency, let a drop of ferrocyanide of potassium solution fall into the mixture when ready. If the mixture turns reddish-brown, add more milk of lime until no change takes place.

It is expected that at least 200,000 children will visit the Canadian National Exhibition on Young Canada's Day. They will get free admission.

Farm dairy equipment, demonstrations and milk tests will take the place of the butter-making competitions at the Canadian National Exhibition this year.