Soils and Crops

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

M. T.—Will you please tell me what time of the year is best to plant rhubarb, and how to replant it? I have several bunches but they are not doing well.

Answer—Rhubarb may be planted in either the fall or spring. September is a good month to replant because the roots are dormant by that time. Rhubarb is a ravenous feeder. It is necessary, therefore, for best results to fertilize the soil well before planting. The plants should be set not closer than four feet apart in soil that has been well fertilized to a depth of two and a half feet.

T. A. B.—I had an unsightly appearance of locusts, willows and brush this spring in front of my house along the roadside, and spent some time in cutting same down. Now the stumps are shooting out branches, and by another year it will look just as unsightly. Isn't there something I could apply to the stumps to prevent any new growth?

Answer—The best plan, and perhaps the only plan so far as willows are concerned, of getting rid of the plants, is to dig them out root and branch. By digging around the roots a team of horses with a chain should be able to remove each plant successfully. Indeed it would seem that a neat appearance of the front of one's house could not be secured except by complete removal of the roots and levelling and seeding in the usual manner for making lawns.

SAVING TIMOTHY FOR SEED.

Tests made at Experimental Stations go to show that it is quite profitable for one to grow his own timothy seed. This may be done by seeding timothy at the rate of 10 pounds per acre when seeding down. Or, if 8 pounds of timothy, 8 pounds of red clover and 2 pounds of alsike are seeded, a good even stand of clear timothy will be secured the second year after seeding. It is seldom that there is not a fairly clean stand of timothy somewhere on a farm; such area should be reserved for seed purposes. It does not mean a great loss of hay as the straw after threshing is of fair quality and can be fed unless badly weathered. It was found that a seeding of timothy alone in 1920 gave in 1921 280 pounds of timothy seed, and 2,220 pounds of straw per acre after threshing. The harvesting was done August 4th, and as the season was dry the seed ripened rapidly. This same area produced 157 pounds of seed and 2,475 pounds of hay per acre in 1922. A considerable amount of other grasses, particularly red top, was noticeable in the 1922 cutting. An adjoining area seeded in 1920 with the clover and timothy mixture mentioned above yielded 186 pounds of timothy seed and 3,052 pounds of timothy straw per acre in 1922. This seed was of particularly good quality and much better than the seed from the area in timothy seed for two years.

The practice here is to leave the timothy that is to be cut for seed standing until it is nicely filled and to cut with a binder. The sheaves are stooked neatly and allowed to stand for two or three weeks, or until the heads shell readily. It is then taken in and threshed in a threshing mill of with a flail. It sometimes happens that birds cause a great loss from shelling in which case the sheaves should be taken inside to a loft and allowed to stand until they can be threshed.

Storing Spuds, and Other Jobs

Good stable manure is becoming such a scarce and expensive commodity that home gardeners who are so situated that they cannot procure all they require for their gardens must try to replace it with other humus-forming material.

For this purpose there is nothing better than the leaves which in fall gather in drifts along our roads and under the trees; when properly stored they become in time a rich humus which needs but little stimulating dressing of commercial fertilizer to make it a manure substitute that is even superior to some animal manures.

The question of storage requires some consideration. Where the gardener's grounds are commodious there should be no difficulty in selecting some out-of-the-way place for the compost heap, but in the small yard it may take some thought and a little trouble to concoct a suitable receptacle. Tramped firmly in boxes or barrels the leaves can be left in some out-of-the-way corner, or a hole can be dug for them; tramped firmly and some soil spread on top, they will in the course of a season become a solid block of rich black humus. A large bin or crate can be readily made by fixing four strong posts in the ground to form a square and then nailing boards or wire netting round them.

Another method of storage is to build a wall of sod, either in the form of a square or an oblong. In this the leaves are tramped firmly in layers of about one foot. On this is spread three or four inches of fresh manure, then more leaves as before, alternating the layer of leaves with manure to any desired depth, the whole being covered with a roof of three-inch sods. Late the following summer the entire mass is turned over and mixed thoroughly, and it makes a pile of unexcelled manurial matter.

POULTRY-HOUSE FERTILIZER.

But where no place is available for composting the leaves they may be dug into the soil as they are gathered. The best plan is to open a trench along one end of the patch, into which a thick layer of the leaves is spread, covering them with the next spading, continuing until the entire area is finished.

In whatever way the leaves are composted or piled, a little air-slaked lime should be used as the work proceeds, scattering just sufficient between each twelve-inch layer to whiten the surface.

Where chickens are kept their droppings make a splendid fertilizer if properly cared for. As poultry manure is very strong in ammonia, its loss must be prevented. That can only be done by keeping it dry. It is usual to find air-slaked lime being freely dusted on the boards, but this is altogether wrong. The lime certainly keeps the house sweet, but its action on the droppings sets free the valuable ammonia, it is driven off as a gas and thus is lost. Gypsum or land plaster should be used instead, dusting it over the perches and boards daily, using more when the manure is scraped off. Gypsum will do all that air-slaked lime does in keeping the house sweet and clean. In the spring the manure will require to be crushed, reducing it to a fine powder on a hard floor with the back of a heavy spade or club. Before using add half its weight of acid phosphate and you will have an excellent fertilizer for all garden vegetables.

The time will shortly be at hand when the harvesting and storing of the potato crop will require attention. The earlier varieties must have our first care, but in taking them up to store, the main guide is the weather and condition of the soil. Of all mistakes made in dealing with potatoes none is greater than working among them, and especially digging them up, when it is raining of when the soil is soaking wet underfoot. If we wish to have our potatoes in the best possible condition throughout the winter, the crop must be left severely alone while they are wet. In light sandy ground the tubers, as a rule, come out clean and free from any heavy deposit of soil, even though the latter may be moderately wet, but in heavy land the soil will not fall away from them as it should do unless it be moderately dry.

When digging we should always choose fine dry days for the operation. Get as many taken up as possible during the early part of the day, bringing them well to the surface and spreading them out to dry as digging proceeds. Then before evening they should all be collected together and covered over on the ground. It is, however, a better plan if, after being exposed for two hours or so, they are taken into an open shed and spread out to dry there. In this way much time will be saved and the tubers will then be handled in the finest possible condition. Some gardeners pull up all the vines before beginning to lift the roots, but this is not a good way of going about it, for there is nothing left to guide them or show where each hill of roots is located, and the consequence is that an innumerable quantity of them are spoiled with the fork. The proper way of going about the work is to push the fork in behind each hill and throw it forward. A few inches must be allowed for the crowd of tubers which cluster near the base of the stems. Be careful not to get right on top of them with the fork, it is best to push it in a little to the side. When a quantity has been dug and is spread on the surface, they should be sorted over.

NEXT SEASON'S SEED.

The seed for next season is now selected, choosing second-size tubers averaging two or three ounces each in weight and taken from those hills which yielded well and heavily. The main crop is then picked up to store for winter.

In whatever place it may be decided to store the best tubers, they must never be put away until you are certain they are thoroughly dry and then there will be no danger of any great loss or deterioration taking place. An open shed where the sun will not reach them is an ideal place in which to dry and cure the tubers before storing. Immediately they are dry all light must be excluded, for if exposed to bright light for many days they will become green, thereby impairing their flavor. It is an advantage to have them dried and stored away as qickly as possible. Those selected for seed are not so carefully dealt with in this respect; in fact, they are all the better for becoming quite green, as in this condition they seem to keep must better and are not so likely to sprout prematurely. They should be spread out thinly in shallow boxes and may be fully exposed to the light. It is an advantage to have the sets nicely sprouted in the spring before planting and if proper accommodation is available they should be boxed for sprouting in the fall or soon after they are lifted and sorted.

For our purpose shallow boxes are necessary and if the ends are three inches higher than the sides they can be tiered one above the other and still admit light and air to all the tubers. A dry cellar wherein air can be admitted, but quite cool, though excluding frost, is a first class place in which to keep them, choosing a spot where they will receive plenty of light. If temperature and other conditions are right, they will, by planting time, have made short sturdy shoots. Two good strong sprouts on each tuber are ample.

SIGHTS AT EXHIBITION

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Watson Gun Sight Co., 384 Victoria St., Toronto

THE SUNDAY SCHOOL LESSON

SEPTEMBER 2

Paul the Apostle. Acts 7: 54 to 8: 3; 9: 1-31; 11: 25-30; 13 to 28; Phil. 3: 4-14. Golden Text—I press on toward the mark for the prize of the high calling of God in Christ Jesus.—Phil. 3: 14.

LESSON FOREWORD—This week we study the life of Paul. Paul is, after Christ, the most conspicuous figure in the New Testament. It was the great achievement of Paul to lead Christianity to a world-wide adventure. Paul was led by his experiences to so understand Christ as to see that he was the light of the world, and to so understand the world as to see that its deepest need was for that light. His whole life was dedicated to bringing Christ and the world together.

I. HOW PAUL FOUND CHRIST, ACTS 22: 3, 6-10.

V. 3. *I am verily a man . . a Jew.* Paul speaks these words in Jerusalem, where he had come for the fifth and last time, after the third missionary journey. Friends in Ephesus, Tyre and Caesarea had tried to dissuade him from this journey, while Agabus, the prophet, had said his going would mean imprisonment to him, Acts 21: 11. But Paul would not be persuaded. A false charge of having polluted the temple by taking Gentiles into it, stirred the people to violence against him, from whom Paul was rescued by the Roman soldiers. Paul speaks his words of defence from the stairs of the castle. His first words declare that he is a Jew, for he had been mistaken by some for a foreign desperado, Acts 21: 38. *Born in Tarsus.* Tarsus was the capital city of Cilicia in Asia Minor, a great commercial and university centre. It was part of Paul's training, as apostle of the Gentiles, that he had lived in a great Gentile city. *Brought up . . at the feet of Gamaliel.* At the fitting age, he had come to Jerusalem to be educated by the great Gamaliel. We get a glimpse of Gamaliel in Acts 5: 34. *Taught according to the perfect manner;* and therefore was not likely to be guilty of doing dishonor to the Temple.

Vs. 6, 7. *It came to pass, that, as I made my journey.* Paul, having declared himself a Jew, now proceeds to tell how he became a Christian on the way to Damascus as a persecutor. *There shone . . a great light.* Even at noon, when the sun was at its height, this greater light came. *Heard a voice.* The original words make it clear that Paul heard words, while his companions heard only a sound without hearing the words. *Saul, Saul.* They were words, not of anger, but of loving reproach.

Vs. 8-10. *Who art thou . . I am Jesus of Nazareth..* It was Jesus whose Messiahship and resurrection Paul had denied. *Whom thou persecutest.* The persecution of the disciples of Jesus was a persecution of Jesus himself. *What shall I do?* These are the words of surrender. His proud will has been broken by love. His hard heart has been melted. *Go into Damascus . . It shall be told thee.* The persecutor enters Damascus led by the hand. There in the dark he received his great commission.

II. HOW PAUL SERVED CHRIST, PHIL. 3: 7-14.

Vs. 7, 8. This passage is taken from a letter written by Paul, a prisoner in Rome, to the Christians in Philippi, in acknowledgment of their kindness in sending a gift to him. Among other things he warns them against teachers who would make Judaism greater than Christianity. *What things were gain . . counted loss.* As a Jew, Paul had all these things which the false teachers counted important—he was a Hebrew of the Hebrews, a Pharisee, he was zealous unto persecution, he was blameless in his observance of the law; but when he came to Christ, all these things, on which he prided himself, were as nothing. *All things . . loss;* not only the things of his past life, but anything in his present life in which he might glory, were also counted loss. *For the excellency of the knowledge of Christ;* for the supreme worth of all these things that he had learned in Christ and learned of Christ. The knowledge of which Paul speaks is the knowledge of the heart rather than that of the mind. *Count . . but dung.* Paul does not seek to strike a balance between his losses for Christ and his gains in Christ. His losses are not worth counting. They are like things cast on the rubbish pile.

Vs. 9-11. *Be found in him . . righteousness which is of God.* At death, Paul wishes to possess, not the righteousness which comes through seeking to keep the law in one's own strength, but the righteousness which comes through the power of God in his heart, for which power faith opens the door of the heart. *Know him . . comformable unto his death . . attain unto the resurrection.* Paul desires to share in the sufferings of Christ, so that his death would conform in spirit to Christ's death and that so in turn he might share in the power of Christ's resurrection.

Vs. 12-14. *Not as though I had already attained.* Paul has not yet reached all his desires. *I follow after . . that I may apprehend;* but he seeks to attain what has not yet been attained. He seeks to lay hold on it as a prize, just as Christ had laid hold on him for this end. *One thing . . forgetting . . reaching forth . . press toward the mark.* A high call has come to Paul from God, through Christ. To answer his call is the supreme desire of Paul. So, like a runner in the race, he never looks back nor thinks back, but thinks only of the goal to be reached and the prize to be won. These words show the dauntless spirit and quenchless hope of Paul. He is Paul the aged and Paul the prisoner. But his spirit is as eager as ever in the service of his Master.

APPLICATION.

Paul, the Tarsian. The pre-Christian days of Paul are full of interest for us. No man leaves all his past behind him. The interests of the earlier period have a modifying effect on all subsequent experience. Paul, the Christian apostle, seems, and is, a very different person from Paul, the Pharisee; and yet it is possible to unduly minimize the things that are common to both periods. We can be sure that it was not only as a Christian missionary, under obligation to defend himself, that he was glad and proud to remember and tell of his status as a citizen of Tarsus, and moreover that he enjoyed the privileges and immunities of a Roman citizen. And again, whatever emancipation of thought there was when he heard the Gospel and learned the truth of Christ, there can be no doubt that what he earlier learned at the feet of the great Rabbi, Gamaliel, tinctured his doctrine.

Paul, the Christian. Paul was a great Christian. Everything else seems subordinate to this great determinative fact. Christ was everything to him. The love of Christ constrained him, urged and impelled him to all that heroic missionary life of privation and peril.

Paul has no honor and no friend but Christ. Christ was to him both Saviour and Lord. "I live; yet not I; but Christ liveth in me: and the life which I now live in the flesh I live by the faith of the Son of God, who loved me, and gave himself for me." Gal. 2: 20. "For to me to live is Christ." Phil. 1: 21. In his letters he likes to introduce himself as the servant, the slave of Jesus Christ. In all this he is an inspiring example to modern Christians. Personal loyalty to Christ—this was the outstanding fact in Paul's life. (See 2 Cor. 5: 14, 15.) It may be that sometimes this important aspect of Christian life has degenerated, and become too sentimental, but in the manly, wholesome, reverent, passionate devotion of Paul is to be found the secret of his marvelous power, and the church's great need to-day.

Do It Now.

The "Do It Now" sign is very often found in business offices for the purposes of getting things done quickly so that the big boss can go golf playing, or to give the impression that the place is a busy one.

While this sign is used mainly for impressional purposes in offices, it might be used to practical purposes around the farm buildings. It may pay to wait in some few things but when it comes to repairing and repainting, a stitch in time saves nine.

The longer a small repair job is left the longer and more expensive the job will be. Our sense of economy may indicate that building materials are too high to do necessary repair work. If that is so, our sense of economy needs adjusting.

Your implements may need adequate shelter; your chicken coop may make it necessary for your chickens to spend their winter shivering; your barn may be leaking and thus cause loss in hay and fodder; and even your house may begin to look a little the worse for wear. If that is so the time to get busy is now.

To keep in repair is greatest economy; to repair when repairing is necessary shows good judgment, but to leave repairing go until it becomes a big job, is the grossest waste and extravagance.

When it comes to keeping things in shape, or putting them in shape, "Do It Now" is good, sound business advice.

Co-operation is the way of the golden rule in the commercial world.

Says Sam: If you're building a house, and a fellow will show you where you've got the foundation wrong, you'll thank him. But if you're building, say, a marketing organization, and he shows you a fault at rock-bottom why, dern him, he's a knocker!

We have graduated from the days when "business is business" to the days where our course calls for humble devotion to that new classic, "business is service."

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LB53

Home Education

"The Child's First School is the Family"—Froebel."

The Story Hour—By Mrs. Grace P. Abbott.

It has been one of the many romantic fancies of my life that someday, seated in front of a glowing fireplace, I would observe that holy of holies, the story hour, with my fair-haired boys and girls gathered at my knee. My girls, it is true, are fair-haired and dearly love stories though they are young yet, but they do not love "The story hour" as I had so many times visioned it. Then, I was the story-teller and they the starry-eyed audience.

I know that I am not alone in this disillusionment for I have seen other mothers try the same thing and then abolish the story hour, saying regretfully, "Somehow, my children don't care much for stories. I guess they aren't like I was when I was a child. I used to sit by the hour and listen to my Mother and I well remember once how—": "By the hour" was probably how it seemed to them and not to their mothers and they probably listened much as do the children of to-day, by doing all of the talking themselves.

It took me a rather long time to learn my lesson. I hated to give in to the fact that I was beaten and I would not give up that story hour, but at last I was forced to admit my defeat in order to keep the hour that has now become an even more precious thing than I had visioned it.

I have come to a happy compromise, which is really what all great happinesses are based on,—we make up our stories together. I start in or one of the children starts, or sometimes we all just sit there ever so quietly until a new thought comes along and hops right out of us. Or sometimes we have great fun telling nursery rhymes in turn,—each one thinking up hers while the one in turn before, recites. The littlest one of us, my baby of three, has to be started on her rhyme quite often or switched from her favorite recital, the "Now I lay me," prayer, which she cannot distinguish yet from good old Mother Goose. My other daughter loves to tell stories of real life as she sees it, stories about good little girls who drink all their milk every day for weeks and weeks and weeks and grow fatter and fatter and fatter until I am afraid they will burst of goodness or too much milk. I get in one or two short funny stories each night but they must be very short and very funny. The ones which can be illustrated in life by the making of faces or gestures are the most popular.

I have learned how to tell a story and make it interesting (stubborn pride in my romantic fancy brought me to it and for once I can be thankful for my stubbornness) but more than that I have learned how to observe the story hour and make it happy.

Let it be the children's story hour, guide their shapeless thoughts into laughing channels but let it be their story always and you will find that they will love that time at your knee by the soft firelight quite as well as you and be willing to sit there for the hours that we all think we so vividly remember.

Shop Tools.

Of course, you have a shop. And after you have it, what ought you to have in it?

First and foremost, a set of bits and augers, of all sizes; and don't get them at the five-and-ten-cent store, either. Get some good ones while you are about it. Back of the bench nail up a strip of inch-board with holes in it to stand the bits up in. Get a good stock to go with the bits and hang that up on a hook close by the bits. A couple of nails driven into the wall an inch apart will hold the augers.

Then get good saws, rip and cross-cut. Farmers as a rule are pretty short of good saws.

No reason why they should be. A saw is one of the most indispensable tools on the farm. Some hooks back of the bench will hold these, if they don't run away with some careless man.

A couple of hammers will come handy, one for the house and the other for the shop.

Keep on getting tools, a few at a time, until you have a set of strong chisels, a standard square, a spirit-level—and be very careful of that, for it is a valuable and delicate instrument—two or three whetstones, coarse and fine, an adz, a small bench-vise, a try-square, a bevel-square, a compass, a saw-set, a cold-chisel, a screw-driver, a nail-set, some rat-tail, three-cornered and flat files, a wood rasp and finally a drawshave and some good planes. A good jack-screw is also a farm necessity.—Farmer Vincent.

The spirit of co-operation demands that everyone who participates in the growing, transporting, preparing and marketing of goods is entitled to a fair return for his effort, and no more.

Feed Floor Buys Itself.

I think that a concrete hog-feeding floor will pay for itself in about five years. I built one 36x40 feet. I believe the feed it saves me has easily paid for the materials in the few years that I have had it. It makes feeding easier. You don't have to get so dirty, especially in the spring, and the feed is always cleaner. On the ground some of the grain is bound to be wasted.—J. H.

Money grows on well-kept berry bushes, even if their fruit goes only into desserts, jellies and jams for the home.

If a drawer sticks, try rubbing the edge of the two sides with laundry soap.

All About Horses

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