

Soils and Crops

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

Improving Your Poor Fruit Trees.

Almost every farmer will find a knowledge of budding and grafting helpful. It may be to make over an apple tree from an inferior variety into a palatable and salable sort. Or it may be to add a few new varieties by putting two or three kinds on one tree.

To describe the operations of budding and grafting, it is necessary, first of all, to get straight on the meaning of the terms.

"Budding is accomplished by taking a bud from one tree and inserting it in another tree, which is spoken of as the "stock." The stock is usually only one to three years old, and in good growing condition.

"Grafting" consists in taking a small branch, which is spoken of as the "scion," from one tree and fastening or grafting it onto another, in such a way that it will grow. The scion is generally cut from active young growth, about the size of a lead pencil. It should be cut during winter or in very early spring, while the buds are still dormant. The scions may be kept in sand or soil, in a cellar, or in an ice house.

I like to do my grafting just after the buds begin to swell in the spring, so that scions will start to grow as soon as possible after grafting. Budding may also be done at that stage, but I prefer doing it in late July or August, after the buds for the next season's growth have matured. Of course, such buds do not start to grow until the following spring, but they should unite with the stock in three or four weeks.

In budding there are three distinct steps.

First, make your bud. This is done by cutting a dormant bud, of the variety wanted, with a little strip of bark three-fourths of an inch to an inch long. A sharp knife should be used, to make a clean cut, and a little sliver of the wood may be left in the curve of the bark.

Second, make a T-shaped slit in the bark of the stock, and slip the bud into this so it fits snugly under the bark.

Third, tie the bark firmly over the bud with raffia or soft twine, to hold it secure without cutting it.

In a few weeks, or as soon as the bud grows fast, cut the tie to prevent its binding the growing stock. The following spring, when growth starts, the stock is cut off clean, just above the growing bud, which forms the new leader, making a new tree on the old roots.

Grafting is of two kinds. If you have a small tree or branch to make over, say as big as your finger, you can use a "whip" graft. This consists in cutting off the stock with a long, slanting cut, and cutting a scion of the same size, and in the same way, so that the two pieces will exactly fit together like a splice. The inner bark, or cambium of the two pieces must just fit together, as this is the part

which will form the adhesion. A split or tongue in both pieces will serve still further to hold them in exact position.

When I have to make over larger trees, or add new varieties to a bearing tree, I select a number of strong new branches, an inch or two in diameter. These are cut off clean and square instead of slanting. Then they are carefully split across the middle so that the two scions can be inserted. The ends of the scions are cut to a slim, tapering wedge, so that they will fit snugly in the split, care being taken to place them flush with the outer edge of the split, so that the inner bark of both stock and scion will come together.

In both whip grafting and cleft grafting the scions should be firmly bound in place as soon as inserted, and the entire joint well covered with grafting wax. If both scions take, in a cleft graft, one may be cut off later. As the scions grow, the top branches of the tree are removed; in the case of an older tree, a few each year, until the new growth replaces the old after three or four seasons.

The Babcock Tester Who Woke Up Our Town.

Down here in a little country town of southern Illinois, is a man who has stirred up more interest in dairying than anyone here ever dreamed of, writes an Illinois farmer.

Our farmers had been shipping a little cream for some time—just taking what milk the calves did not get and selling the cream, and that was about all.

A man here, owning a few acres, decided that he would like to buy cream for some company. He knew a cream buyer in another town, and had learned how to test cream. So he took the examination and got a license to test and buy cream. He made a deal with a certain company, and they sent him an outfit.

The cream station was rigged up, and a little cream began to come in. After a few months a few more buckets came in, and occasionally a whole can. This man (I will call him Smith, although that is not his name), having a pretty keen brain, began to wonder if there wasn't a way to get the farmers to use more and better cream, so there would be more cream to ship. His volume was so small that the business was not paying very well, so he suggested to his patrons that they bring in a sample of each cow's milk and let him test it. They would then know which were their good cows and which were their poor ones. Three-fourths of them never had thought of such a thing. But they all gladly brought in their milk samples. Smith tested the milk without charge, and insisted that they bring a sample every week for a number of weeks, so he could get an average for a period of time.

Now we come to the interesting part: Naturally, Jones didn't like to

The grocer who recommends to you Red Rose Tea, on which he makes less profit than he does on other teas, can be trusted when he recommends other goods.

have his neighbors know what poor cows he had. That is exactly what happened. Smith averaged these tests, giving each patron a sheet with the reports for everyone on it. Every man could see how much butterfat he had sold each week, and how his cow tested, and whether his was better or worse than his neighbor. It was also reported regularly in the county paper.

Did they wake up? Well, I guess so. Soon the farmers in bunches began to buy good dairy cows by the carload. Old Brindle waddled down the lane for the last time, and was shipped to the packer. I wish I could make you visualize the changes that have taken place in that little community. Many farmers now bring in one, two, three, and more gallon cans of cream every week. Smith has a fine business, but the farmers most all have a finer one. Why, a bank has started where one never thought of before! The farms are fairly beginning to bloom since they have been better fed with cow manure. Silos are to be seen on every farm. New barns are common, and not by any

means the least are the many new homes built from the proceeds.

There is keen competition between the best farmers to see which one can get the largest cream checks each week. Record-keeping is still the leading feature of interest. It takes a real force to handle the cream books now, where, at the start, Smith could handle it himself. Now he charges a small fee for testing and making reports to each one. They are glad to pay him to keep them posted on what their cows are doing.

I wonder if there aren't other places that need a Smith to wake them up?

If a button comes off when you are far from needle and thread, take a small piece of string of a suitable color and, working from the underside, thrust it through the garment, using a hairpin as you would a bobbin-in fancy work; slip the button on the string, work the string again through the goods and tie the two ends firmly together. This is much better than trusting to the holding qualities of a pin.

A Practical Hog House

The profits from the hog crop form a very important item of the total profits from many farms. These profits depend in large measure upon the care of the hogs, and good care of the hogs calls for an up-to-date and sanitary hog house.

Money put into a good hog house is well invested under any circumstances, but when market hogs are up around fifteen cents, good shelter is all the more important. The floor plans here shown illustrate a popular arrangement which is proving very satisfactory on a great many farms throughout the corn belt.

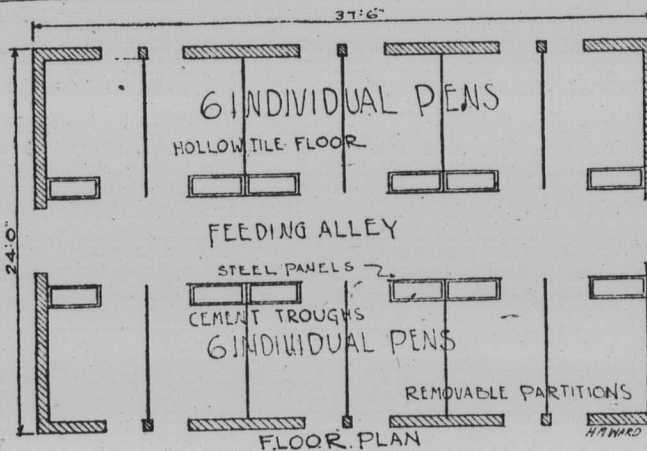
The outside dimensions of this house are twenty-four feet by thirty-seven feet six inches. It contains twelve separate pens each six feet by eight in the clear, with an alley four feet, ten inches wide, running the full length of the building between the two rows of pens. Practically all hog raisers have agreed that a pen six by eight feet is large enough for a sow and her litter, indeed a five by eight-foot is used by some with good results.

There is an outside door at each end of the alley. Then a door opens outward into the alley from each pen,

and two-by-four number one yellow pine rafters, twenty-four inches on centre, sheathed with one-by-four roof boards, number two lumber spaced two inches apart if wood shingles are used. If prepared roofing is used one-by-six dressed and matched boards should be used. A heavy three-ply prepared roofing covered with crushed slate will give a good roof for twenty to twenty-five years without any attention. This makes a very warm roof for winter use.

The metal roof windows let the sunshine strike every part of the building during the day. There is no better disinfectant for a hog house, no more efficient destroyer of disease germs known, than plenty of bright sunlight. Plenty of sunshine is better and cheaper than buying medicine for the hogs.

Fresh air is also an essential feature of any well-constructed hog house. Every farmer knows how soon the air in the ordinary pig shed becomes foul when filled with hogs. Hence to insure healthy hogs some provision must be made. This is provided for by two ventilators. These ventilators are especially valuable during the cold weather in the winter



so that the hogs may be separated and moved from one pen to another with convenience inside the building.

Each pen is also supplied with an outside door so that separate runs or yards may be built on the outside for each. In decent weather this door could be left open so that the pigs could have the use of the outside run and inside shelter at will.

These small doors should be twenty-four inches wide and thirty-six to forty-two inches in the clear. In cold weather a piece of burlap or ducking hung at the top of the door, with a stick a little shorter than the width of the door nailed across the bottom to prevent the wind from blowing it back, will help materially to keep the pigs warm. The pigs will soon learn to lift the curtain when they want to go through. The board doors would then need to be closed except in very bad weather, or while the pigs are very small.

The walls of the building may be of three materials: wood, hollow building tile, or concrete. The cost of these different materials would be about the same, provided a good warm building is constructed.

The hollow building tile is being used by a great many with very good results. On account of the dead air spaces in the tile, such a house will not freeze if there is stock in it, no matter how cold the air is outside. The hogs are more comfortable in cold weather and do not require so much feed to keep them in good condition.

Wood is the most commonly used because of the ease with which it is worked into a finished building. But if a wood building is constructed as warmly as one built of hollow tile or concrete blocks the cost would possibly be the same or higher.

The roof in all cases will be of wood

closed for protection from the cold.

Such a house is especially adapted for brood sows during the farrowing season. Each sow and litter can be provided with a separate pen and outside run, until the pigs are old enough to be together in a large lot. The individual pens are also useful for weaning purposes. The pigs can be shut in this pen and given special care during the weaning period.

The partitions can be made removable, and when the sows are through farrowing, they can be removed and it can be used for two large sleeping floors for the sows.

Altogether, this house has many advantages which recommend it to the average farmer. If the house is too large or too small for the purpose of any individual reader, he could follow the same plan of construction and fit the size to his individual needs.

SEEDS

Vegetable, Farm, Flower, New Improved Strains All tested, sure to grow. Send for Catalog.

DUPUY & FERGUSON

34-35, U.S. ROAD, TORONTO, ONT.

HIDES-WOOL-FURS

"With prices low, it is necessary that you receive every cent possible for what hides and skins you have. Make sure you get same by shipping us your lot whether it is one hide or a hundred."

WILLIAM STONE SONS LIMITED WOODSTOCK, ONTARIO ESTABLISHED 1870

ISSUE No. 10-21.

THE SUNDAY SCHOOL

MARCH 13.

The Lord's Supper, St. Matt. 26: 14-30. Golden Text—1 Cor. 11: 26.

Time and Place—Thursday, April 6, A.D. 29. An upper room in Jerusalem.

Connecting Links—Matthew, Mark and Luke all agree that it was the passover supper which Jesus ate with His disciples on the last evening which they spent together. This was the sacred feast held in memory of the great day of the deliverance of their fathers from Egypt (Exod. 12-13). Jesus had made secret preparations with a friend in Jerusalem to eat the passover in his house. He appears to have known of the plotting of Judas to betray Him, and to have believed that Judas would make known the place to His enemies that they might come there in the night and seize Him. By His secret preparations the traitor's plan for the time being was thwarted, and he had to choose a later hour and another place.

Judas Sells His Master, vv. 14-16.

v. 14. Judas Iscariot. The surname means "man of Kerioth," a town in the south of Judaea. Judas seems to have been the only one of the twelve who was not a Galilean. He must have had some education and some aptitude for business, for he acted as treasurer for the little company of disciples. He had, no doubt, expected great things of Jesus, and had dreamed of places of great wealth and power for those who were close to Him. Now he is disappointed in his selfish ambition. He has given up all hope that Jesus will make Himself a king. It is possible, too, that he has been already pilfering from the common purse which he carried. In his base and treacherous folly he now bargains with the chief enemies of Jesus to deliver Him up to them secretly and quietly. For that he is paid "thirty pieces of silver," equivalent to nineteen or twenty dollars, or the ordinary price of a slave. That Judas had in him the possibility of better things is evident from the Master's choice of him, from the trust reposed in him by his fellow disciples, and from his late and bitter repentance.

The Passover, vv. 17-30.

The first day of the feast. This was the fourteenth day of the Jewish month Nisan, and seems to have been Thursday of the Passion week (Exod. 12: 17-18). The Jews were, and still are, very particular to remove all leaven and leavened bread or cakes from their houses at the beginning of this day. In the afternoon the paschal lamb was killed (Exod. 12: 6), and in the evening the passover meal was eaten. It was on this day, therefore, that the disciples asked the question, "Where?" and received the answer here recorded. Jesus had kept His secret well, and neither the traitor Judas nor the others knew where they were to eat. Luke says that He sent Peter and John. The man to whom they were sent would be found in a certain place at a certain time and would be expecting them. Mark and Luke tell the story more fully at this point.

When Jesus told them to say "My time is at hand," He must have been thinking of the approaching crisis which He knew would end in His betrayal and death, but they would naturally think only of the time of the Passover meal.

When the even was come. Luke tells of the first words of Jesus (22: 14-18), which Moffatt translates as follows: "I have longed eagerly to eat this passover with you before I suffer, for I tell you I will never eat the pass-

over again till the fulfillment of it in the reign of God." He knew that the end of His earthly career was at hand, and that for them as well as for Him a new order of things was about to begin. We who commemorate this last gathering of the disciples with their Master in the Lord's supper think of Him as present with us in spiritual reality and power, sharing with us the common meal.

One of you shall betray Me. They were amazed and grieved. With one exception they were staunch and loyal friends. Not one of them would have betrayed Him, save the traitor Judas, who, with affected innocence, joined the rest in asking "Is it I?" The answer of Jesus was indefinite. They were all dipping, according to the custom of the time, in the common dish, and from time to time Jesus recognized and honored one or another by dipping a morsel of bread in the broth and handing it to him. In this way He seems to have intimated to Judas that He knew what was in the traitor's heart, but the others did not suspect him. If they had they would hardly have let him go.

Even as it is written. Although the Jews did not commonly understand the prophecy of the suffering servant of Jehovah, in Isa. 53, as referring to Christ, yet Christ Himself saw in it a prevision of His own suffering and death.

This is My body. Jesus is, of course, speaking in figurative language. He is comparing Himself, about to be slain, to the lamb whose flesh had been eaten, and whose broken body and shed blood had been the symbol of deliverance from Egypt. So would His body be broken and His blood shed, that He might fulfill His mission, and bring redemption to humanity, and establish God's Kingdom in the world. By faith they would become partakers with Him in that redemption. His words, His teaching, His example, would become their spiritual food. His spirit would enter into them and give them new life.

Application.

It is doubtful if we can imagine the dismay which followed the announcement which Jesus made that one of His own disciples would betray Him. "Exceeding sorrow" is the way the evangelist describes it. But it was not merely to amaze them with grief that Jesus made this startling assertion. In tones thrilling with sorrow and love He sought to reach the heart of the traitor. Surely the realization that the Master knew what dreadful plans were in his heart would be too much for Judas. Even the most in the statement to earnest heart-searching. It is a testimony to the moral quality of the eleven that not one of them enquired if it were someone else. Every man examined his own heart to discover the possibility of such a moral lapse. And very right it was that it should be so. "In every individual there lie coiled and dormant, like hibernating snakes, evils that a very slight rise in temperature will wake up into poisonous activity." None of us should boast our freedom from any form of sin. All wickedness has one root and essence. It is selfishness, living to one's self instead of to God, and this may easily pass from one form to another. There is nothing more foolish than for any one to indulge in the self-confidence that any form of evil has no danger for him.

ROYAL YEAST CAKES

Good home made bread is the finest food on earth, and the wife that is a good bread maker is a real helpmate to the bread winner. Bread is the one food that perfectly combines in itself all the elements that give strength to the body. Children who eat lots of good home made bread thrive the best—they never get sick from eating good bread. Bread making is a simple operation. Bread made in the home with Royal Yeast Cakes possesses a greater degree of nourishment, and will keep fresh longer than that made with any other.

Scientists highly recommend yeast as a food and as a corrective agent for certain functional disarrangements, attributed to poor blood conditions. Soak a cake of Royal Yeast for half an hour in a cup of luke-warm water with one teaspoon sugar. Then stir well and strain once or twice through muslin and drink the liquid. BETTER results will be obtained by allowing it to soak over night and drinking half an hour before breakfast. Repeat as often as desired. Send name and address for free booklet entitled "Royal Yeast for Better Health."

E. W. Gillett Company Limited
Toronto, Canada
Made in Canada.

FOR BIGGER & BETTER CROPS USE

STONE'S FERTILIZER

Your Best Investment—Assures a more Profitable Field

Wm. Stone Sons Limited: INGERSOLL ONTARIO

What He would say—

"Use Imperial Mica Axle Grease and Imperial Eureka Harness Oil."—Save your horses, your harness, your wagons.

Imperial Mica Axle Grease lightens loads. It smooths the surface of axles with a coating of mica flakes. It cushions the axles with a layer of long-wearing grease, and materially reduces friction. Use half as much as you would of ordinary grease.

Imperial Eureka Harness Oil makes harness proof against dust, sweat and moisture. Keeps it soft and pliable. Prevents cracking and breaking of stitches. It prolongs the life of harness and adds greatly to its appearance. Is easily applied and surprisingly economical.

Both are sold in convenient sizes by dealers everywhere.

IMPERIAL OIL LIMITED
Power, Heat, Light, Lubrication
Branches in all cities.