Soils and Crops

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Summer Work in the Orchard.

Summer work in the orchard may be divided among four different headings: spraying, cultivation, cover crops, and thinning, with possibly pruning in some instances.

The first is a spring operation which it is usually necessary to carry on into the summer, as at least one spray should be about two or three weeks after the bloom is off, and may consist of bordeaux or lime sulphur mixture with some arsenical poison added for biting insects and nicotine sulphate added for aphis control, if they are present at that time. For fuller particulars re spraying write your nearest Experimental Farm Superintendent.

Cultivation in orchards, except those in sod mulch, should be practiced continually until about July first. By maintaining a good dust mulch during early summer the trees can be helped through that trying time in late June when the heavy drops of fruit are so discouraging. Especially in districts where winter injury is a factor, cultivation is discontinued about the first week of July and the orchard sowed to some cover crop, such as rape, vetch, clover, or field peas, the selection largely depending upon the cheapness of the seed. The following rates of seeding per acre are recommended: buckwheat, 1 bush.; rape, 2 pounds; crimson clover, 15 pounds; red clover, 12 pounds; summer vetch, 1½ bus.; field peas, 1½ bus.; rye, 1½ bus. Where there is much danger of loss of plant foid during winter, the winter rye makes an excellent cover crop, but is of little value in stopping tree growth during August, as at that time it makes but little growth itself.

Thinning is an operation which will amply repay the orchardist if judiciously applied.

After the June drop has removed its quota, all trees should be gone over and, where there is a heavy crop, some of the fruit should be removed, leaving not more than two to a cluster, and, if a really high class product is desired, leave only one fruit to a cluster.

Where thinning is practiced, there is a smaller percentage of No. 3 and waste fruit, which means higher prices per acre for the crop. The orchardist who adopts thinning as a regular orchard practice is bound to be in the front line when it comes to the pack-out returns.

Summer pruning is now generally conceded a place in most young orchards, as it is difficult to do much pruning when there is a crop on the trees. Mid-June is a good time to go over the non-bearing trees and shape up those straggly fellows. Where they are inclined to produce a long, willowy growth with few laterals, nip off the terminal bud, which will induce a lateral growth, probably that season, instead of continuing a long, barren branch which it would be necessary to head back severely in later years.

Broilers.

If broilers are to be produced in any great number, they can be sold to advantage only where there are a considerable number of buyers who are not obliged to consider the price and with the exception of a few health and pleasure resorts this class of buyers is not numerous outside the larger cities.

The broiler is a very profitable adjunct of the poultry business if properly handled, and marketed from the early spring to the end of June, when prices are high. Every poultry breeder, however, may not be in a position to take advantage of this trade.

Market early cockerels as broilers—Far too many male chicks that would be available for the broiler market are carried over to the soft roaster stage or even longer, with the erroneous idea that the bigger the bird is the larger the profit. It should be borne in mind that the larger bird is growing and feeding on a fast declining market and will probably reach it at the lowest ebb. The sale of cockerels as broilers will carry the cost of raising the pullets to maturity.

Time to hatch—To catch the best market they must be hatched before the last of April, and take about two months to reach the desired weight. The males of almost any pure breed are in demand. Even Leghorns at this age will be eagerly accepted on the market, if plump and well dressed.

The broilers may run with the rest of the flock of chicks and be fed the same until approaching one pound in weight and should then be separated and placed in small yards or pens, fed only soft mash, consisting of two parts corn meal, two parts ground buckwheat and one part ground oats or similar fattening ration, mixed with sour milk or buttermilk. The mash should be fed fairly thin and in troughs, three times a day. Give the birds all they will eat, then clean out the troughs. Allow no feed to remain before the birds between meals.

If sour milk is given for drink it will add to the palatability of the meat and hasten the gain in weight, and an abundance of green feed should be available or provided.

Killing and marketing—Broilers are exceedingly tender and great care should be exercised in plucking. It may be advisable to market alive if the price can be adjusted to compensate for the time saved the shipper, but if shipped dressed they should be carefully packed and graded so that each package is uniform in quality and weight.

By marketing the surplus cockerels as broilers, a quick and profitable return is effected, and an income provided at a season when there is not much return otherwise from the poultry and when the funds are often acceptable to provide feed for the growing stock.

The sale of cockerels as broilers has the added advantage of helping to distribute the produce over the year, rather than selling so much in the fall when cockerels are usually sold.

"I have always held, and still hold, that the raising of hogs is, year by year, one of the surest and safest revenues for the farm, and that the development of our export bacon trade is one of the most profitable and dependable industries that the country as a whole can get behind. But, unless Canadian farmers are prepared to accept responsibility for the future of the Canadian bacon trade, by supporting it through steady production, year in and year out, under adverse as well as under satisfactory conditions, we can never make a success of the business. It is useless to attempt to build up an industry if the producers themselves are not prepared to carry it through to success, in spite of all difficulties that may be experienced and all competition that will have to be faced."—H. S. Arkell, Dominion Live Stock Commissioner.

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Thinning the Fruit Crop

While the majority of fruit growers devote special attention to pruning, cultivating, spraying and fertilizing—they do not look upon the thinning of the fruit on the trees as of equal importance, yet with the single exception of spraying no one thing will do more to insure high-grade fruit than proper thinning. Many growers, who have never practiced careful thinning, believe that because the practice has never become popular that it is not very valuable after all. However, a visit to the farms of those who are selling their fruit at top prices finds them overwhelmingly in favor of it. It is mostly a fear of lessening the yield of fruit and the notion that it requires an unusual amount of skilled labor which prevents the practice of thinning fruit from becoming more popular on many farms.

It is not to be expected that growers who have had no experience in finding fancy markets for high-class fruit will find thinning as profitable as those who have a trade that is willing to pay for the better quality, yet there are numerous benefits from systematic and careful thinning which the prudent grower cannot afford to overlook. In these days of advancing prices and demand for superior quality every effort possible should be made to produce what discriminating buyers want and are willing to pay a fancy price for. There has never been a time in the history of Canadian fruit growing when proper thinning of fruit crops would pay as large cash returns as it will at the present time. Let us, therefore, consider some of the good results which can reasonably be expected from thinning our 1921 crop.

First of all, and probably the most important of all in practical value, thinning greatly increases the size of the fruit which is left on the tree. This is more important with some fruits than with others, but with every fruit it tends to improve the quality and increases the value for a discriminating trade. The value of peaches, for example, will be more enhanced than that of plums, because buyers are much influenced by the mere size of peaches, while they are not so likely to pay so great attention to the size of plums.

In some markets a mere increase in the size of an apple, peach or pear may raise it from a lower to a higher grade, from choice to fancy, thus greatly increasing its value; and everyone knows how the fancy fruit dealers vary their prices directly with the size and color of the specimens. This, of course, is due to the fact that mere bigness is not a true index of quality, and that, as a rule, medium-sized apples, peaches, pears and the like are of finer texture and flavor than the very large ones. In many instances the increase in size of fruits left on the trees is so great that a larger number of bushels are actually harvested than in the case when the entire crop is left to ripen, and almost without exception the fruit on the thinned trees will sell for more money.

With certain varieties of peaches, pears and apples the color of the fruit is greatly improved by thinning. This is one of the most valuable effects, and along with the increase of size adds commercially to the value of the product. Even the trained scientist as well as the practical grower seem unable to account for the improvement in color other than it may be due to the fact that in taking away some of the fruit it allows the sunshine to reach the surface of those fruits left on the trees, or perhaps that the better coloring of the fruit has an influence on the color. One thing we do know, however, the color is there, and that is the important item in securing top prices.

During years when the trees set an exceptionally heavy crop, thinning prevents serious damage from the breaking down of limbs and crotches. This is not always a logical argument unless we remove an unusual amount of the crop from the branches that are less able to hold the heavy load, for if we remove only a comparatively small proportion of the specimens we will have as much, if not more weight, left on the trees, and as a matter of dollars and cents it will seldom pay to take off sufficient fruit so that the trees will not needs some propping. In other words fruit trees will not carry more fruit to maturity than some of the weakest crotches and limbs can properly hold up.

Besides increasing the size and improving the color of the fruit, careful thinning enables the grower to get rid of ill-shapen and defective fruits which proves a decided help in putting up a good pack at harvest time. The new rigid and high-class systems of grading fruit crops that are being adopted by so many co-operative shipping associations demand that the quality of the fruit can be improved. Then, too, it is a question if the speed with which the fruit can be picked, graded and packed will not more than repay the grower for the labor used in thinning. This is a point upon which there is always room for argument, though in these days of high-priced labor during the harvesting season it seems a reasonable contention.

Another advantage in thinning fruit is the fact that it aids in holding certain diseases and insect pests in check. Some seasons this advantage is much greater than others. With such fruits as peaches and plums where disease often starts at a point where two fruits touch and give the disease spores a good lodging place and where moisture is held for their germination, careful thinning is valuable. Damage from certain insect pests that live in apples may also be minimized if the fruits that have been attacked are taken off the trees before other specimens have been injured.

Some authorities claim that thinning tends to enable the trees to bear more regularly and produce more uniform crops. They argue that there is no reason in the nature of things why trees should not bear annually, but the formation of the fruit spur is usually such as to preclude the production of fruit on the same spur every year. The real object of thinning in such cases is to encourage some spurs to bear one year, and others the next. This means that when fruit is thinned one should remove all of the fruits from some spurs in order that they may produce fruit-spurs the following year. In some instances where certain varieties are carefully thinned, the trees bear with great uniformity every year. This is especially true with peach trees, and it would seem that the same practice might apply with some force to fruits of other kinds, especially varieties that have a tendency to bear heavy crops of fruit one year and little or nothing the following year.

There is no dispute of the value of thinning for peaches and pears, but for many years growers of apples have hesitated about thinning, claiming that the practice did not pay so long as the fruit was shipped to market in barrels, but the selling of extra fancy fruit in boxes is forcing the question. The fruit must all be picked sooner or later, and it does not cost very much more to pick it early in the season than to pick it late.

Turning now from the advantage of thinning fruit to the methods used by successful orchardists it may be said that the work is performed in essentially the same way as the fruits are harvested; that is, the fruits are taken off by hand and dropped on the ground where they may be left, or gathered up and burned to destroy the insect pests or disease. The first consideration is that of removing the fruits before they have become a tax on the tree sufficient to reduce the yield of the crop. Peaches should be removed when they are about the size of a hickory-nut and apples before they have reached twice that size. The main thing is to discriminate between good and bad fruits and to leave the specimens on the trees well distributed. Several special implements have been devised for use in thinning fruit, but a good pair of fruit shears will prove about the best tool for general use.

It requires more discrimination and judgment to thin fruit than to pick it. In the thinning of peaches, it is a good rule to allow none of the fruit to hang closer than four inches apart. This means that in years of heavy setting as much as two-thirds of the crop should be removed in June. On some of the best fruit farms in the country this practice is regarded as indispensable. No accurate estimates of the cost of thinning fruit can be given, because so much depends on the form of the tree and the quality of the fruit to be removed. The result also depends upon the kind of help one is able to get and the wages paid them for doing the work. Large peach trees will probably cost nearly one dollar to thin with wages at present levels; apple trees of corresponding size will cost about double that amount.

THE SUNDAY SCHOOL

JUNE 12.

Making the World Christian. Isaiah 11: 1-10; Acts 1: 6-9. Golden Text—Isaiah 11: 9.

Connecting Links.—Those who have found the true and the living God want to make Him known to others. The people of Israel found Him in many experiences of their history, but especially in the two great deliverances, from Egypt and from Babylon. It came to them in the teaching of the great prophets of the last centuries before Christ, that they should tell these experiences to the world. They had a story to tell to the nations, and a song to sing which all the world should hear.

Israel has been entrusted with the saving and enlightening knowledge of the true God who can save, and so is to be "for a light to the Gentiles," and for "salvation unto the end of the earth."

"The Lord hath made bare his holy arm in the eyes of all the nations;
And all the ends of the earth shall see the salvation of our God."

So also Jesus would have His disciples tell the story of His redeeming and saving work. They had been with Him; they had seen and heard; they were to be His witnesses, telling His story to the world. The apostles and ministers of Jesus Christ have not only the story of God's great work for Israel in Old Testament times to tell, but also that of Christ and His work for the Kingdom of God.

Isa. 2: 1-10. **There shall come forth a rod out of the stem of Jesse.** Isaiah was expecting the birth of a child of the royal line of David, who would be the Saviour of His people, and who would be a great and just and glorious king. First to the weak, capricious, and unprincipled Ahaz, and afterward to the well-meaning but weak Hezekiah, he predicted the coming of this king, and he seems to have expected that He would come soon. As time went on he projected His coming farther into the future, and dwelt upon His character and His reign, with high anticipation and confident hope of great things.

Micah (5: 2-6) a younger contemporary of Isaiah, repeated the same prediction. Jeremiah (23: 5-6) took it up and made of it a message of comfort for those of his time who suffered at the hands of their enemies defeat, humiliation, and exile. Ezekiel, among the first of the exiles, saw Him in a brighter future as a second David, and as the good shepherd of His people (34: 23). Others, who followed, preserved and handed down this great hope to later generations, and seven hundred years after Isaiah, Jesus of Nazareth gave it a new meaning, a new direction, and a fulfilment in His Kingdom of the Spirit.

In Isaiah's expectation the coming King is to be richly endowed with the spirit of the Lord, with such wisdom and understanding, such counsel and might, such knowledge and reverent piety, as only God Himself can impart. By these high qualities and gifts He will be prepared for His kingly office, to rule wisely and well.

In verse 3 read (as in Rev. Vers.): His delight shall be in the fear of the Lord. That will be the king's supreme virtue, and implies all other kingly virtues. For the king who fears God will be just and merciful.

The rod of His mouth. This and the following sentence express in a fine poetic figure the directness and authority of the king's commands and laws. So also verse 5 declares the character of His rule—which shall be one of right and truth. The wolf, leopard, lion, and bear and poisonous serpents represent the fierce and warring elements of human society, which shall be tamed and made to live at peace.

The entire picture here presented of the reign of the great Deliverer is of a transformed society, in which peace with justice shall prevail. Mount Zion, the place of Jehovah's temple, is conceived as swelling and broadening until it fills the whole world, and the world of humanity becomes the holy temple of the Lord.

"They shall not hurt nor destroy in all my holy mountain,
For the earth shall be full of the knowledge of the Lord, as the waters cover the sea."

Acts 1: 6-9. **The kingdom to Israel.** Even to the last the disciples of Jesus expected Him to establish again the kingdom of David and to be a real king with court and army and royal power. Jesus made no attempt to set up such a kingdom, yet He did speak of a kingdom of God, and He did assert high authority. His kingdom was to be of a new age and of a new order. It was to make real and supreme the will of God in the lives of men. It was to be, as men came slowly to understand, a mightier power than that of any earthly kingdom or empire—a kingdom of the Spirit.

Jesus did not answer His disciples' question by a direct negative. He did not desire to destroy their national hope of freedom and greatness. But He did place before them two great immediate experiences and duties—the first, the receiving of power through the gift of the Spirit of God, and the second, bearing witness to Him in the world.

Thus, and thus only would His kingdom be established in the world—by the work of His Spirit in the hearts of men, and by witness-bearing. And thus would be fulfilled the old prophetic vision of justice, peace, and the knowledge of God filling the whole world.

Application.

It was Mr. Beecher who once said, "As soon as a tree ceases to grow it begins to rot." There is no such thing as standing still either for the individual Christian or the Church at large. We must be continually reaching out, extending our activities, and seeking new fields of usefulness. If ever a Christian were to say, "I will cultivate the Christian graces in my own heart, and let others look after themselves," we know that person could not long remain a Christian. We live by growing. We cannot afford to be provincial in our outlook. As long as there are parts of the world un-Christian or others only partially Christian, that task is our challenge.

A Grain-Tight Hay Rack.

I have found that it has paid me to make the floor of my hayrack of good material. At the time I made this one (two years ago), flooring of the ordinary yellow pine cost me about $50 a thousand. A good rack builder told me that it would be the very best thing to get edge-grain stuff for the flooring, and to get narrow pieces. So I bought four-inch edge-grain flooring at $65 a thousand. I am very glad that I did it, as my rack has to stand out part of the time, and where other newer but chaper racks are cracked open so that grain can't be hauled loose, mine is still in good shape, and edge-grain stuff does not sliver up when shoveling on the floor, like regular flooring.

This is another case where economy consists in paying enough to get high-grade material. It goes against the grain to do this sometimes, but I have never bought a quality product yet that I regretted afterward.

Here is an idea in fastening the floor of a rack down that is worth while: I blind-nailed the whole top, and find that it pays. This means slanting the nails, and I feel that this will partly prevent their pulling out, as they do when put in straight from the top. A neighbor who has just made three racks used screws on the last one. This serves the same purpose, as the screws do not work out either. A lot of farmers have found that the hayrack with a tight bottom and a set of side boards makes a fine box for loose grain hauling.—E. R.

Taffy With Syrup.

Boil one quart of syrup until brittle when dropped into cold water, stirring frequently to prevent burning. Add one-half teaspoon of soda, and stir well. Then pour on greased pans until cool enough to handle.

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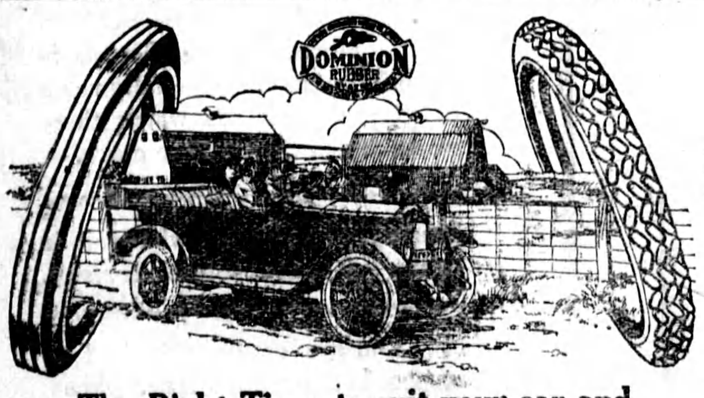

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