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Preparing Land and Trees for Orchard Planting

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Preparing the Land for Young Trees

An orchard neglected while young will, at its best, be only a second-class orchard. To get the young tree started right is important. The average man justly feels that he must economize in starting the young orchard, and too often economy leads to neglect. Though the process of rearing the trees to a productive age is an expensive one, it is worth doing well. The buying of poor trees, careless preparation of the land for planting, or lack of care after planting, is poor economy. The productive and profitable old orchard is the one grown well while young.

While raw land is not the most satisfactory upon which to set young trees, it often seems advisable to plant on such land without previous cropping. The matter of breaking the land in by some previous method of cropping hardly seems important enough to necessitate the loss of one or two years' growth on the young orchard. With a little additional care the young orchard can be successfully grown on land its first season under water. The soils in our arid countries are dry and require careful watering. If the raw land must be set, it should be carefully prepared before planting. As a rule, the sandier soils should be thoroughly watered before an attempt is made to level them. Very often the higher spots settle most, and if these knolls are leveled before watering, soil must be moved back after settling is complete. Water should be worked onto these high places as the first step in the preparation of the land. Often the land is thoroughly watered before it is plowed. When ready for the plow, it should be worked deeply and thoroughly. Some even advocate the use of the subsoil plow in the space to be occupied by the tree rows. This could surely do no harm and may give the roots a better chance to penetrate the subsoil.

The next step is to level the land. The young orchard should never be planted on a poorly leveled piece of land. Leveling after the trees are set is unsatisfactory, and the
orchard set on half-leveled land soon shows a lack of uniformity which it requires years to outgrow. Good leveling greatly reduces the labor of watering and the per cent. of trees lost in setting.

Land which has been previously farmed or cropped is the most satisfactory upon which to set young trees. If the land has been well watered, it is uniformly moist, will require the minimum amount of water to start the young trees, and all danger from future settling is obviated. However, this land will suffer quicker from over-watering than the raw land. The amount of moisture already in the subsoil retards the recovery from over-watering.

There is one precaution to be taken in the preparation of all land for planting to young trees. The earlier it can be done the better. The land plowed in late spring takes water too freely and the young trees often suffer from over-watering. The upper part of the soil becomes saturated with water, which drives out the air and smothers the roots of the young trees. To avoid this difficulty the land should be prepared early and thoroughly worked down or settled with frequent winter and early spring cultivations. This is especially necessary in the case of alfalfa land which is to be planted to young trees. The disc harrow and smoothing harrow are satisfactory tools for this work.

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Preparing Young Trees for Planting

The framework of the future orchard tree should be entirely formed when the third year's pruning has been given. Too often no attention is given to this important part of tree training, and in other cases the tree is given the proper shape when planted, but here the work is allowed to stop. If we are to have the character of the tree
Top determined at the third spring, close study and attention, as well as work, must be given the young trees each season.

For those who are unfamiliar with the growing of trees and plants, the basic principle cannot be too often insisted upon—that most trees and plants must be cut back when planted.

Yearling whips of all sorts of orchard trees are the best to plant in Colorado. Such trees usually have no branches. Cut them back to a point 12 to 24 inches above where the first branch is wanted. The mere cutting back will induce most of the buds to form branches. If not cut back, usually but a few comparatively weak branches will push out, and these near the top. Many trees die outright where this important feature is neglected. The second year, from three to five branches are selected to form the framework of the tree. All the rest are removed. The selected branches should be properly spaced around the stem so as to form a symmetrical, well-balanced top. One should constantly have in mind the way the tree will appear when full grown. Many may think at first that the distance between the first and last limbs, as given above, is far too great, but when the branches grow to be six and eight inches in diameter the proportion will not appear out of place. In fact, we believe that even a greater distance, say 30 inches, will result in a stronger tree. These framework branches should be pruned back to about 14 inches. Many side branches will develop on each of these limbs during the second year’s growth. The second pruning will consist in selecting two branches on each of the last year’s limbs, one near the center of the top and the other at about 14 inches distance. The main branch is cut off just above the last one selected. The rest of the branches are removed as before. The selected branches are cut back to about 14 inches. The third pruning is mere repetition, selecting two branches on each one of last year’s growth properly spaced and heading them in. If we
have started the tree with three limbs, we should now have, after the third pruning, 24 scaffold limbs, or, if the start was made with five, there will be 40 limbs. This will be enough to satisfy anyone and meets the objection sometimes raised that this system does not provide a sufficient amount of top. In practice it is doubtful if 40 limbs will ever be left, but judgment must be used in this respect.

Two-year-old trees have their branches already formed. Unfortunately they are usually close together and too high from the ground. One must either make his selection from the branches as he finds them, or else cut back the entire top and train a sprout from below to form a new top. The training of the scaffold limbs is in all cases practically the same.

Some have found that such pruning during the early life of a tree retards its time of coming into bearing. This need not be so, however. In fact, fruit may be had just as soon, and fruit spurs may be had more nearly where they are wanted. When a young limb is headed back, most of the buds will start into vigorous growth. If now these side growths are cut back to a single bud, particularly in the summer time, many of them will form fruit buds.

Apple trees have been particularly in mind in the above discussion, but the principles will apply to all fruit trees. Open centered trees have also been discussed, for the reason that they are considered best. If one prefers a tree with a central leader, the training is much the same, except that at the first pruning the uppermost branch is left longer, upon which is developed what amounts to a second top.

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Heeling in Trees

There are some very good reasons why it is better to have trees that are intended for spring planting delivered in the fall, the one drawback being the difficulty of keeping the trees over winter. The careless man should not attempt it, but the person who takes pains with his work need not fail.

The trees should be unpacked as soon as possible after they are received, to guard against injury by drying or heating; this will, of course, necessitate heeling in. The bundles should also be cut, for, if left in packages, it is difficult to fill in the earth around all the roots. A somewhat sloping position should be chosen, and the ground should be prepared by plowing deeply, and if too dry, it must be made damp by irrigating or other means. There is little danger of getting the soil too wet when trees are heeled in for a short time in the spring, but too much water must be guarded against in the fall. If the soil is damp enough to work well, it will be just right to keep the trees in excellent condition through the winter.

A trench is now dug of sufficient width to hold the roots of one row of trees and of sufficient depth so that when the trench is filled the roots will be covered with two feet of earth. The trees are placed in the trench, one at a time, with the tops sloping at an acute angle, up the grade. The earth is now filled in, and pains must be taken to see that it sifts in around the roots, leaving no open spaces. The tops are now bent over to the ground and the trunks and tops are covered with at least six inches of earth. It is now generally considered that one-year-old trees are the best for planting in Colorado, and trees of this age are certainly much more easily protected than the larger, older ones.

One nursery firm in the state has made a practice for several years of taking up all its fruit trees from the nursery rows in the fall and protecting them during the winter as
above described. Their stock invariably comes out in the spring plump and fresh—quite a contrast to the dried out, worthless stock that too often comes to us from the so-called cold storage cellars.

Care must be taken to see that the covering is not allowed to remain on too long in the spring. Much injury results to most trees if growth has started before they are planted; in the case of sweet cherries this usually results in death. The exact time when the covering may be removed from the tops and trunks will depend upon the locality and upon the season.

Tree Planting---Spring or Fall

In many of the eastern states, fall planting of both large and small fruits is much in favor. There are several reasons for this preference, the most important being that there is little or no danger of either trees or soil becoming dried out during the winter. Then, in many locations, spring rains prevent early working of the soil, so that it is often late before planting can be begun. But if the planting is done in the fall, some of the plants may become partially established, and, as the wet weather in spring is favorable to growth, the fall planted trees have a great advantage.

Under Colorado conditions quite the reverse is usually true. A few people have success with fall planting, but they are the exception.

Our fall weather is usually very dry, and many of the ditches do not supply late water, consequently fall planted trees usually experience adverse conditions from the start. Then the following winter weather is equally trying. The prevailing weather is dry, with occasional drying winds. The cold nights, with a rise of temperature of 40 degrees or more the following noon, is equally trying to newly planted trees.

In the colder fruit sections many trees
are killed by "freezing dry," as it is termed. This occurs with established trees when the ground freezes to such a depth that root action is practically stopped. Moisture is given off by the tree tops during winter, as well as in summer, though not to such an extent. When the ground is frozen, no water can be taken in by roots and the tops become so dry that many of the plant cells are killed. Such trees may appear all right in the spring and may bloom, and the leaves may grow to nearly the normal size. If the trees reach this stage, they usually die suddenly, seemingly in a day.

Fall planted trees do not have the advantage of an established root system to supply the moisture lost by evaporation, consequently they are much more susceptible to injury during winter. It is not necessary for the ground to become frozen in order to bring about this condition in fall set plants, so freezing dry may occur in any locality.

The above are a few of the reasons why it is not usually profitable to plant in the fall in Colorado.

And the prospective tree planter who is unfamiliar with Colorado conditions will, in this respect at least, find it to his advantage to follow the custom of the most successful orchardists.

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