

and promotes a vigorous and healthy growth. Experience has shown the correctness of the following general principles:—

1st. Over pruning produces barrenness, and moderate pruning leads to productiveness.

2nd. It is a well known law that the removal of one bud or branch, strengthens another. The reason of this is, that the sap which formerly supplied an amputated limb, transfers itself to the other branches.

3rd. To stop a branch by cutting away its extremity, induces what is left to produce side branches, which would not otherwise have appeared. By this means we are enabled to give a shapely form and proper balance to the head of the tree.

The application of these principles is easy. The great object to be kept in view, is the necessity of keeping the branches thin; remove such as are straggling, or cross, and come in contact with each other. Abundance of light, and a free circulation of air amongst the leaves, are of vital importance to all plants. When branches and consequently leaves are crowded together, they are smothered. When pruned to grow well apart, they break freely, and perspire profusely; the result is, strong, thrifty shoots, and dark green fat leaves, instead of spindling twigs and yellow weasened foliage.

In apple orchards that have been recently planted, very little pruning is necessary. Let the trees be examined yearly about midsummer, and all crossing branches removed, while they are yet small. The heads can then be properly adjusted and balanced, and little trouble required to keep them in order for the future.

In all cases let such limbs and twigs as are necessary to be removed, be cut close to the trunk or branch from which they are taken. This facilitates the healing of the wound, and prevents the unsightly appearance of dead and decaying stumps or spurs. After being pruned in spring, an application of the subjoined wash will prevent the ravages of insects, and greatly promote the thrift of the tree. Cultivating the soil around the trees, and the regular use of manure, are also of essential importance. Every fall, let some good rotten manure be put round the roots, and dug down in spring.

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Toronto Nursery, Feb., 1850.

#### WASHES FOR THE STEMS AND BRANCHES OF FRUIT TREES.

1. A peck of quick lime, half a pound of flour of sulphur, and a quarter of a pound of lampblack; mix the whole together with as much boiling water as will form the ingredients into a thick paint. Before applying the composition—which will be best done with a paint or whitewash brush—scrape off all the moss and loose bark from the trunk and branches.

2. Dissolve two pounds of potash in two gallons of water. This is applied with a brush once, or at most twice, and is an efficacious preservative against the attacks of insects.

3. For old trunks with thick and rigid barks, a wash of soft soap is very beneficial. A portion

of it remains upon the bark, which, dissolved with the rain, penetrates into the crevices, where insects are lodged, and effectually destroys them.

The use of any of these washes will rid the stems and branches of trees of the bark louse, the scale or scab, the white mealy insect, and render the bark soft, smooth and glossy, and add to its natural lively colour.

#### IMPORTANCE OF ORCHARD PLANTING.

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##### Planting and Cultivation of Orchards.

Orchards should not be planted on ground where water stands at any season of the year. If not intended to be underdrained, open drains should be made so as to carry off all surface water as it falls; after which, the land should be thoroughly ploughed and manured. The best way to do this, is to subsoil plough it first, then trench plough it, to incorporate the manure thoroughly; or, if the whole field cannot be subsoiled, a strip of land, eight feet wide, should be so treated where the rows of trees are to be placed. If the land is sloping, care should be had to run these strips up and down the slope, and not across it, so as to allow the water in the soil free egress. The orchard should also be put on the best soil on the farm, if otherwise suitable, as it will well repay such care.

The trees, if apples, should be planted thirty feet apart each way. Some plant them forty feet apart, but it is a long time before they cover the ground. One of my orchards has the apples and pears planted quincunx, thirty-three feet apart each way, and between every one of these trees, a plum or peach tree is planted, so that in reality, the trees are only twenty feet apart; but before the apples and pears need the ground to themselves, the peaches and plums will have died out. This is a very good plan where you have not ground or room for separate orchards for each kind of fruit; but I would, where practicable, advise planting each kind of fruit by itself, as they require different manures, and standard pears may be planted twenty-five feet apart, as they grow more upright than apples; plums, cherries, and peaches from fifteen to twenty feet apart.

If the trees are planted in the fall, it is well to make a conical mound of earth about fifteen to eighteen inches high, round each tree, this serves to protect the roots from frost, it also prevents the tree from being blown about by the wind when the ground is soft, and thus saves the trouble of staking the trees; it also prevents the depredations of mice in winter.

If planted in spring, the trees should be mulched; that is, long manure, chip manure, or other litter placed round the trees a few inches thick; this protects the roots from the effects of drought in summer, and keeps the ground moist, and prevents it from baking and cracking; and, if it is necessary to water the trees in summer till fairly started, it will prevent the water from quickly evaporating. But, in general, it will be better not to water the trees at all. I have never found watering, unless slightly over the foliage or wood, if the tree is long of growing, do any good during the prevalence of dry weather; but on the contrary, I have found it do great injury. During wet weather, though it may look ridiculous to say so, it is sometimes very beneficial; when sufficient rain has not fallen to penetrate the ground thoroughly, then is the time to give them a good watering, so as to reach to the roots, and then the evaporation will not be so injurious as during the prevalence of long continued drought.

The holes for planting the trees in, should be three or four feet in diameter, and eighteen inches or two feet