

Horticulture.

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THE ORCHARD.

Common Mistakes.

What a common mistake it is, amongst even some of our most intelligent men, to select low, sheltered, warm places, if possible, whereon to lay out their orchards, quite forgetful of the fact that by so doing they are laying their fruit and other trees all the more liable to the ravages of frost. This may seem paradoxical; but let us examine the philosophy of it. On hills, where the wind blows freely, it tends to restore to plants the heat lost by radiation, which is the reason that hills are not so liable to sharp frosts as are still valleys. When the air is cooled it becomes heavier, and rolling down the sides of the valleys, forms a lake, so to speak of cold air at the bottom; this adds to the liability of frosts in low places. The coldness is frequently still further increased by the dark and porous nature of the soil in low places, radiating heat faster to the clear sky than the more compact upland.

A knowledge of these properties, therefore, teaches us the importance of selecting elevated localities for fruit trees and all crops liable to be cut off by frost; and it also explains the reason why the muck or peat of drained swamps is more subject to frosts than other soils on the same level. Therefore, corn and other tender crops upon such porous soils must be of the earliest ripening kinds, so as to escape the frosts of spring by late planting, and those of autumn by early maturity.

Seasonable Hints.

NEWLY SET TREES—Continue to break the crust and to maintain a clean, mellow surface for several feet around the base of the stem. Nothing contributes more to a free and healthy growth. Mulching may be applied in such places as this mellow cultivation cannot be given. Never water young trees—depend exclusively on cultivation, and, if necessary, mulching added.

PRUNING young and newly set trees after the leaves are out is wrong. They want the benefit of all the foliage they have opened and carried so far. The only exception is where a moderate pruning is given for the sake of a proper form. Lopping off leaves is always a check to transplanted trees; the injury is less to trees not removed, and least to such sorts as quickly reproduce shoots, as the peach, for example. Stopping the growth by pinching off the ends of shoots is the true way to impart a good shape.

YOUNG GRAFTS—Rub off all starting shoots below the graft on their first appearance, the larger they become the greater will be the check to the tree by the loss of the leaves. The same care is needed for buds set last summer.

SUCKERS which have been permitted to spring up at the foot of the stems in apple orchards, may be now taken off to best advantage. If small enough, grasp the upper ends with both hands, place the foot between them and the tree, and a jerk will remove them to the base. If too large for this treatment, cut them out with a gouge and mallet, carefully leaving no stub to sprout again.

THINNING fruit on young trees, by removing all defective specimens, and as many more as will prevent overbearing, will prevent exhaustion to the tree, and give finer and handsomer fruit. Trees that are full should have at least two-thirds taken off, and they will still be likely to bear as many bushels, that will sell at much higher prices. It is much easier to strip off poor specimens now, than to pick and assort (and get poorer returns) after the crop has grown and ripened.—*Country Gentleman*.

HORTICULTURAL—An attempt was made in Kindred to organize an Agricultural Society and poultry exhibition, but the project failed, and it was resolved to confine all efforts to the formation of a horticultural society.

Securing Apples for the Off Year.

One of the most successful agriculturists in the country is Robert Pell, who has a 1,200 acre farm in Ulster County, N. Y., all in the highest state of cultivation. One feature is an orchard of 200 acres, planted exclusively with the Newton Pippin and the produce of this orchard is famous in England and Europe as well as at home. To attain his present perfection in fruit culture Mr. Pell studied the art of pomology, and learned how to assist nature in her efforts to support mankind. Commonly speaking the apple tree bears every alternate year. Mr. Pell determined to have an annual harvest, and to give his orchard a handsome start, he sacrificed the crop of a bearing year. All the apples were picked while green. He discovered that the germ of next year's fruit was in existence at the time of the apple harvest, but that the tree would be so exhausted that this germ would fail of development, and a year of rest would follow before another crop could be produced. Having stopped his trees from fruiting in the manner I have mentioned, he was sure of a crop on what was generally the off year, and determined to follow this up by a treatment which would abolish the year system. He learned that trees require a variety of food, the chief of which is found in potash, lime and soda, and his orchard has been thus fed with all the success that could have been anticipated. The potash is found in wood ashes, lime is obtained from oyster shells at low cost (stone lime being undesirable), while soda is supplied by common salt. Orchards thus fed and judiciously pruned cannot fail of success, and although this season is generally short of apples, Mr. Pell's crop is of usual abundance.—*New York Tribune*.

The Apple Worm.

M. B. Batcham, after referring in the *Ohio Farmer* to the numerous traps for catching the codling worm, falls back on the old remedy of pasturing the orchard with hogs and sheep as the most efficacious. He says:

"There is one fact of importance which I have observed, and which has not been set forth, I think, by any writer on this subject, namely, that the first brood of the worms nearly all fall to the ground in the young apples which they inhabit, and hence if these first wormy fruits are eaten by hogs or sheep before the worms escape therefrom, there is little need of any of the traps referred to. My advice to orchardists is to try the hog and sheep remedy."

This has been questioned, many believing that quite a proportion of the worms leave the apples before they fall, and consequently traps applied to trunks of trees fail to catch them, and again, a good many of the apples do not fall at all, but continue to grow to nearly the full size of the apple.

To Prevent Suckers.

The season has now arrived for what appears to be a successful method of destroying trees which are given to the nuisance of suckering from the roots, and to do it in so effective a way as to prevent their roots from forming any sucker progeny. Some sorts of poplars, locusts, &c., are inamenable in neat grounds, owing to this habit, and can only be tolerated in ground devoted to wood.

The method referred to is simply to cut through the bark all around at or near the ground, and then to tear the bark off as far up as can be conveniently reached. This is easily done when the bark peels freely. The effect on the tree is complete extinction.

Even the pruning of a tree at this season of free flow of sap, and of great demand for it by the leaves, is very weakening, especially if done before the leaves have fully expanded, for then they cannot yet relieve the gorge of sap by their rapid evaporation. Consequently the wounds "bleed," they cannot dry or seal or heal over, because of the continual flow and pressure; hence the sap, which ought to go to the leaves for preparation, is wasted. If the wounds are very large all the ascending sap escapes on the way, and the tree becomes entirely exhausted. The leaves exhaust the top. Supplies from the roots are lost before reaching the leaves, and the roots themselves no longer receiving any prepared sap by which to extend themselves, can neither repair or advance the feeding rootlets, nor build up the projections which we call suckers. Of course, all suckers that are already formed should be cut off or prevented from leafing, when the mother tree is stripped of bark.

Under certain conditions this method may fail of its object, it may even improve the condition of a tree. For if the bark is stripped off as late as mid-

summer, and so nicely as to leave the layer of cambium (the thin forming layer of new bark and wood, as yet only a mucilage) uninjured, and if no heavy rain or drying wind or burning sun strikes it before it has crystallized into form, a very thin but perfect new bark will cover and seal up the vast wound, and the tree will grow and swell out all the more freely.

A disadvantage of this process is that it requires some weeks of time; the trees standing the while pitifully stark and staring white. An incidental advantage comes in, however, which is, that if the stems are wanted for stakes, posts, or other use, they are so much the harder, stiffer, and more durable for their deprivation of sap.—*Cor. Country Gentleman*.

How to Treat Fruit-Trees.

In considering the growth of organisms, the action of the alkalis is to be looked upon as scarcely less important than that of air and water. Lime is the great animal alkali, and potash the vegetable one; its old name of vegetable kali expressed that fact, and all the potash of commerce is well known to be derived from wood ashes. The importance of potash as manure has been frequently overlooked by farmers, who rarely know the large amount of this material found in grass, grain crops, leaves, barnyard manure, roots, and fruits. How potash acts in plants, in conjunction with carbon and silica, to form woody fibre, starch, sugar, and oil, is yet unknown to chemical observers, but the fact of its action is beyond a doubt. Liebig long since pointed out that the chief cause of barrenness is the waste of potash carried off by rich crops, especially tobacco, with no replacement by proper manure. How many millions of pounds of potash have been sent to Europe from the forests of America, and in the grain, tobacco, and hemp. Luckily one alkali may be replaced by another, and we have received a considerable quantity of soda from European sea-weed, and in the shape of salt. Lately, nitrate of soda from natural deposits in South America is brought to us at a cheap price.

The point to which we now call attention is that our farmers and fruit-growers have ignored, or rather been ignorant of, the importance of wood ashes as a vegetable stimulant and as the leading constituent of plants. Even coal ashes, now thrown away as useless, have been shown, both by experiment and analysis, to possess a fair share of alkaline value. According to our observations, if the practice of putting a mixture of wood and coal ashes around the stems of fruit-trees and vines, particularly early in the spring, were followed as a general rule, our crops of apples, grapes, peaches, &c., would be greatly benefited in both quality and quantity and the trees and vines would last longer. We will relate only one experiment. Some twenty-five years ago, we treated an old hollow pippin apple-tree as follows: The hollow, to the height of eight feet, was filled and rammed with a compost of woodashes, garden mould, and a little waste lime (carbonate). This filling was securely fastened in by boards. The next year the crop of sound fruit was sixteen bushels from an old shell of a tree that had borne nothing of any account for some time. But the strangest part was what followed. For seventeen years after the filling, that old pippin tree continued to flourish and bear well.

Let us call attention to still another point of importance in fruit-raising. This is the bearing year for apples and fruit in general in New England; probably it is also in some other parts. Now when such years come, the farmers rejoice too much at their prosperity and abuse it, as nearly all people do the gifts of fortune. We should be temperate as to the quantity of our fruit as well as of our fruit juices. By proper pruning and plucking, the apple crop in bearing years may be reduced to but little more than half a crop as to number, but the improvement in size and price, and in the future effect, will more than balance the loss. Next February, March, or April, according to latitude, let the tree-trimmer stimulate and nourish his trees and vines with a fair supply of ashes, and in nearly every case he will have a good crop of fruit in the non-bearing year.—*Scientific American*.

The general belief is that the present year will show a yield of fruit in Niagara never paralleled. The prospects were never more favorable for such being the case, especially with pears, apples and plums. The peach crop, also, bids fair to be much larger than usual. As for the small fruit, there is no ear but there will be an ample supply. The apple crop is of course the most important of any. Last year the apples shipped from Niagara county were valued at over \$1,000,000. The knowing ones express themselves as confident that the amount will be more than double this season.