# THE FARMER'S ADVOCATE.

### Pruning.

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### ITS NATURE AND ITS EFFECTS. BY B. COTT.

Pruning is mainly of two kinds, viz, root pruning and branch pruning, with respect to parts, or winter and summer pruning with respect to time. It is, however, quite evident, for obvious reasons, that the great burden of pruning, both as to root and branch, must be done in a time quite free from any impediments from winter cold or frost. The state of defoliation, therefore, is generally what is most readily understood by winter treatment in pruning. To prune in the winter for wood and in the summer for fruit, is an old saying that has gained currency as to its effects, and generally there is much practical truth in its observance. According to the adopted division of our subject, then, we have first,

### ROOT PRUNING.

This mode of pruning consists, theoretically, in contracting or circumscribing the area of root growth in the soil. The philosophy of the opera-tion is that whatever threatens to endanger the life of the plant will hasten to promote fruitfulness, and in modified growth directs the energies of the plants to fruitfulness. Practically, this is done in two ways, but the resulting effects of both ways are the same. First, by digging to a certain depth around the tree and at a certain diameter. having the tree for a centre. The practical effect of this is to cut off the fine fibrous or feeding roots and deprive the tree of a very large part of its accustomed nourishment, and this threatens to endanger its life, and the result will be plentiful fruitfulness. Second, by taking the tree up and removing it to another place the result will be the same. The only material difficulty with these operations is that they must in many cases be persistently repeated, but in many cases the habit of fruitfulness being properly commenced it may in all probability continue. These kinds of pruning, however, are seldom resorted to except in extreme cases, and only for once or twice. But we are to notice, secondly,

### BRANCH PRUNING.

This is by far the most popular, the most practical and common method of pruning. Theoretically, it consists in lopping off many of the buds and some of the branches in order to throw greater force of vegetable life into those that are left, and the implements used in this work may be of several kinds to suit the convenience of the operator, as knife, axe, saw or chisel. As has been already noticed, branch pruning may result differently, according as it is done when the leaves are on or when they are off, or in other words, in summer or winter; as the one is said to be used for increased fuitfulness, and the other for increased luxuriance or wood growth. Practically, pruning in summer is a very simple operation, but requires close observance and good judgment. It consists in going over the trees or the vines (this is very much used in grape vines), and with the thumb and forefinger pinching out the tip of the young growth. This pruning is sometimes called pinching from this circumstance. By this means trees may be modelled and the growth directed in a most surprising manner. Pruning in the winter, practically, is much more laborious and complicated, as we have to do with matured buds and branches. It consists in cutting off or out such buds or branches as are deemed unnecessary or superfluous for the proper development of the tree, according to our notions or the plant we are working by. For this kind of pruning, it is a good and very safe rule to examine the tree or vines annually, and properly directing the growth to suit our purposes so that we may never have to cut out very large branches or very many buds at any one time. The disastrous effect on the tree is thus reduced to a minimum and is not so marked as practical slaughtering by cutting off large, heavy branches at once. The minutiæ of the busi-ness must be learned by practical contact and under the direction of a good master. The effects of pruning should be in line with the objects sought, and these are many and various according to the circumstances of the operator. For practi cal purposes,

But, secondarily, the objects of pruning Beasons. may be, 1st, to change the size and outward form of the tree or vine. By this means, trees and vines can be totally changed from the natural instincts and habits of their natures, and towering trees be made low and open, spreading trees, dense, and the regardless clambering vine be made obedi ent and domestic. 2nd, to render more enduring of severity in cold climates. This is done only in the summer time, and the effect is to more perfectly ripen the wood growth, and render it hard and enduring against severe cold. 3rd, to change the bearing year. This pruning must be very severe. and done only in the summer time. By taking off all the prospective fruit and severely pruning or checking the wood growth, the bearing year may be changed to suit our convenience or profit. 4th to render fruit producing or fruitful. This is best done in the summer, and is performed as previously described, by diverting the energies of the tree to the formation of fruit spurs and fruit buds. Root pruning is chiefly used for producing this much desired object. But 5th, and lastly, the object may be to develop and perfect higher standard samples by increased size or increased beauty of appearance, or increased flavor, or internal qualities, or each and all of these; the prices are better and the rewards are greater. If I may be allowed to thus generalize, I may say that this is the one absorbing effect that embraces all and each of the others, viz., to make the tree further our personal gains or rewards.

#### THE OBJECTIONS

to pruning may be hurriedly put lst, all pruning is a direct attack upon the life of the plant and a thrust at nature. 2nd, it is an interference with natural production—the agent interfering with the architect to turn to his mercenary ends. 3rd, the energies of the plant spent and exhausted in restoring equilibriums and no definite progress made. 4th, the habit and life of the plant, if not in accord with our purposes, must be made so—an example of the weaker over-ruling the stronger. 5th, it requires the most constant watchfulness and careful attention, else by this very means we may frustrate the objects of our own purpose.

In answer to these objections, we may remark that the great object of planting and care for trees is to further our personal interests, and therefore many of the objections are not solid, for, 1st, we plant trees for ornamental purposes and must bring them within the prescribed limits of the highly cultured gardener's art ; or, 2nd, we plant trees for fruit, and to secure our best interest direct and certain path to fruitfulness must necessarily be taken. It will thus be distinctly appreciable that the arguments for pruning and the course of the pruner lie in a path midway between the objects or reasons for, and the said objections or reasons against. There is, however, one great argument not yet adduced, viz.: "our experience demonstrates its practical utility." This is the best of all arguments, and the one resorted to when all others fail. If human experience is seen to be in favor of a prescribed course, it matters little what may be said against it. The experimental argument is invariably decisive.

February, 1882.

### Hot Beds.

In reply to I. S. S., Mt. Vernon, Ont., we give the following :-

For all general purposes the last week in February or first in March is soon enough to turn over the manure of which the bed is intended to be composed. About all our stable doors is the material which is the best, viz., long stable manure; this should be shook over and piled into a conical heap, so as to avoid the snow covering it as much as possible; and if practicable, before it heats violently, it should be turned over again. This will insure a more regular heat in the bed, and what is of as much importance, the heat will last longer. A south-eastern aspect, sheltered from winds on the cold quarters, should be chosen for the hot bed, and if the ground is dry, we would recommend digging out the foundation about a foot in depth: this serves to confine the heat which our bleak winds are apt to dispel very rapidly where the bed is made entirely on the surfage.

All being prepared, shake the manure loosely in with a fork, and over every layer of manure add one of leaves, until you get the bed of the desired depth Avoid tramping on the manure, but beat it thoroughly down with the back of the fork as the bed progresses; and see that you construct it so that when settled it will be fully a four higher at the back than in front. By thoroughly incorporating the leaves and manure, the heat will be milder and more genial, and will continue longer than if manure alone was used.

Hot bed sashes are generally made 6 ft. long by 3 ft. wide, and we should prefer glass say 6 inches wide or wider, as in the constant handling to which they must be subject, if the bars are wider apart it weakens the whole sash, and the consequence is much more glass is broken. The frame to receive the sashes should be, sav 2½ ft. high at back and 1 ft. in front, and should sit on the bed so as to allow good 15 inches of manure clear outside it all around. This ledge will be found very useful should a cold snap of weather come when the seeds are just germinating, on which to pile up a fresh lining about the box.

When the whole is completed, an inch thick or so of earth should be spread evenly over the surface of the bed under the sash, to absorb the gases in a measure before putting in the full complement We have often seen hot beds completely of soil. spoiled by not attending to this particular. All the soil required had been thrown in before the rank heat had passed off, and consequently was so burned or impregnated with gross gases that the tender plants could not live in it. The hot bed secured, cucumbers, tomatoes, peppers, egg plants, a little celery for early use, rad-shes, lettuce, ann al flower seeds can be sown, dahlia and other roots put in to he started, and many other things by which we can not only get several weeks the start of those who have no hot beds, in such little things as can be matured in it, but we lay the foundation for some luxuries in the shape of early vegetables out of doors, weeks in advance of the time they could otherwise be procured. Cold Frames.-A cold frame is simply a box without bottom, filled with rich, mellow earth. It should have a south-eastern aspect, the back of the frame higher than the front. Let laths be placed cross the frame at convenient distances, so that the growing plants may be easily protected by covering them with a mat or with glazed canvass if necessary. A cold frame is very useful as a seed bed for many varieties of plants, and as a nursery bed into which young plants may be dibbled out from the hot bed to harden them for final transplanting.

#### THE OBJECTS

may be said to be in effect primarily twofold. 1st, to regulate or balance the growth; 2nd, to form and mature fruit spurs and buds. That is, by checking luxurious wood growth and directing the energies of the tree or vine to the formation of fruit spurs and fruit buds, to be developed in other

### Seasonable Hints.

Flowers grown in pots often need re-potting while they are growing. This is an operation requiring much thought and care. As a rule there is more danger of a plant being in too large than too small a pot. It may not grow well in a small pot; the leaves may not be of as dark a green as when it has plenty of earth to grow in. The trouble with a large pot and a small plant is that the water does not always run away fast enough. When this is the case small mould grows, or, as gardeners say, the soil gets sour, and the young and tender points of the roots are rotted. plant sickens and very often dies. It is safest, especially for those with no pretension to skill, not to re-pot unless the plant has a number of active roots, and to put it in a new pot not more than a half inch or an inch larger than before. The hole at the bottom of the pot should be care fully guarded so as to be sure it will not get choked. It is this which allows of the rapid escape of water, which is the great essential of successful plant culture. The soil for potting is usually one third of sand, and this is to enable the water to pass rapidly away. For nourishment nothing is better, if it can be had, than thoroughly decayed cow manure. Any kind of manure, if thoroughly decayed, is good for pot plants.

## Delusions.

Few men keep doing so much for horticulture as Mr. Peter Henderson does, by his shrewd, practical common sense. He may sometimes get wrong, but he is generally right, and always does good. In a recent paper on "Delusions," he shows up the notion that plants in sleeping rooms are injurious; that money is to be made 'rom the business without practical knowledge of the business; that there is much special virtue in special manures for special crops; that plants take more nitrogen from insects than they can get from the atmosphere in the ordinary way; that the production of variegated leaves by inoculation is a proof of the truth of graft hybridism, and some other notions of similar character. Let us hope that Mr. Henderton will keep at it. There is plenty of such work so be done yet.