

AGRICULTURAL.

[FOR THE BEE.]

MR. DAWSON,

Sir,—If you deem the following directions worthy of a place in the Agricultural pages of the Bee, they are at your command. They are founded, principally, on the experience of English and American cultivators of the present age, whose improvements are adapted to climates similar to that of Nova-Scotia.

ON THE CULTIVATION OF APPLE-TREES.

Soils.—The primary observation with respect to the soil, is, that it be warm. Though there are many varieties of the apple-tree that endure cold equally as well as our native forest trees, yet a warm soil is that in which they are proved by experience to prosper. If the fruit to be raised is intended for sale, the ground on which it is cultivated should be dry and sandy, but if for table use or other purposes, it may be moist and loamy. Stoney land that cannot be cultivated with advantage for any other purposes, is admirably adapted for apple-trees, as the small stones on its surface attract very powerfully, the rays of the sun, and thus cause the earth to possess a more than ordinary degree of heat.

Location, &c.—The orchard, if possible, should be situated on the south side of a hill of moderate descent, as in this situation are united the advantages of warm soil and protection from the northerly winds. As a further protection from the winter blasts, it should be surrounded with closely-planted evergreens. For this purpose, the spruce or white hemlock may with advantage, be selected, which are hardy natives. As cattle must at all times be kept from the orchard, it should be enclosed by a strong stone-wall or hawthorn hedge, situated immediately on the outside of the evergreens.

Raising of Trees.—It is generally believed in this part of the Province, that raising apple-trees from the seed is equal to grafting, and much safer than importing them from abroad. I once entertained similar opinions, but experience and observation have fully convinced me that I was in error. I have seen trees raised from seed, but their fruit was small and unpleasant; and French and American cultivators assert, that they have raised trees from the seed of the best table-fruit that their countries could afford, but the fruit which they produced was comparatively worthless. Good fruit can be obtained from seed, but three or four generations of the tree must elapse ere it can be such, during which time a course of cross fertilization must be carried on. Our safest and speediest way to obtain trees is to import them, either from Europe or the United States. An English writer asserts, that the catalogue of an extensive Horticultural Society in England, presents a list of twelve hundred varieties of the apple-tree alone, many of which are cultivated in much more northern latitudes than that in which we live; and the varieties cultivated in the United States are nearly as numerous. Surely selections may be made from these sources, adapted to the climate of Nova Scotia, and with less expense than they can be raised from seed.

Transplanting.—Trees, when removed to the orchard, should never be planted within the distance of twenty feet from each other, or their subsequent growth will cause the tops to meet; if the soil is fertile they should be twenty-five or thirty feet apart,—and American cultivators, where the soil is extremely fertile, plant them forty, and sometimes fifty feet asunder, and even then, before the trees become old, they completely shade the ground. The best guide then, for the cultivator to adopt, is the fertility of the soil, for, according as it is rich or otherwise, he may vary the distance from

twenty to fifty feet. Not a few persons in this section of the Province adopt a very destructive mode of transplanting fruit trees. After depriving the tree of all its long and principal roots, the remaining ones are gathered into small compass, and forced into a hole in the earth not more than 15 or 18 inches in diameter. Nothing can be more destructive to the vitality of the tree than this. The progress of the sap is thus impeded, and the consequence is, that the tree during the first or second season after being thus treated, withers and dies. Its owner then, unconscious that he himself was the cause of its destruction, supplies the place, by a similar process, with another, and another, but without success, until his patience and trees are exhausted, and then he boldly asserts that the climate is not adapted for fruit-trees. The roots, if possible, must be preserved entire, and the hole for their reception should be large enough to admit them without being bent or changed from their natural position. The opening in the earth must first receive a quantity of compost, the tree is then to be carefully inserted, to the same depth that it was in its former situation, and with the side that was previously to the north, still in that direction. The opening is then to be filled up with rich soil or compost. If barn-yard manure is used, it should never be permitted to touch the roots, as it would have a tendency to corrupt them, and cause disease in the tree. The process of transplanting should be performed in autumn,* immediately after the frost has arrested the growth of the trees.

Grafting.—This process is performed in Spring, and about two years previous to removing the tree from the nursery to the orchard. The process is by no means a difficult one, but is of great utility in propagating good fruit. The principal object is to have the inner barks of the scion and the stock or tree in which it is to be placed, to meet, so as to unite; there are several ways by which this is accomplished, such as the following: "The upper part of the stock is prepared in the form of a wedge, by two sloping cuts, one on each side. The scion is prepared by splitting it upwards, and paring out the middle part on each side to a point. When the stock and scion are of equal size, the adjustment may be made perfect; but if unequal, one side at least must exactly meet. The whole is secured by a strong matting and covered with the composition or clay. The string however is to be removed when a perfect union takes place." Another mode is very successfully adopted, which varies very little from the above, excepting that the stock is split, instead of the scion, and the latter prepared in the form of a wedge.

Inoculating.—This process, in its objects, is similar to grafting, and is performed in the latter part of summer. The first part of the operation is, to make a perpendicular slit in a small stock or branch of the tree, near the top of which a cross cut is to be made through to the wood; a bud is then taken from the tree intended to be propagated, with a small strip of bark above and below it, from half an inch to an inch in length, which is inserted into the stock to the bottom of the slit, and the whole, excepting the top of the bud, firmly bound round and covered with a strong wet bass matting. The string is to be removed in about ten days, and in the following spring the stock is to be cut off immediately above the bud, with a slope downwards on the opposite side.

* When trees are to be imported, this rule cannot be adopted, as it would necessarily require them to be taken from the ground while the leaf is expanded, and imported in summer. The Spring, when this is the case, is a more successful season for transplanting, if the trees can be obtained at an early period.

Cross fertilization—consists in the application of the pollen or prolific powder, contained in the anther of the flower of one variety of the tree, to the blossom of another; but as there are a number of other ways by which the apple can be propagated as successfully, and with less labour, than by this mode, I deem it unnecessary at present to give a further description of the process.

Pruning.—The most suitable time for pruning, is, after the ground is freed from frost in spring, and previous to the opening of the leaf. If performed earlier, it causes inveterate canker—the wounds blacken, and the bark for several feet below becomes dead, in consequence of the bleeding. It is necessary that the trees have an equal proportion of branches on every side, and to accomplish this, a part of the limbs when necessary, should be removed from the sides on which they are most numerous. If this is attended to while the tree is young, there will be little necessity for future pruning, further than to remove suckers, dead branches, and limbs which interfere with and chafe each other.

Manning.—In this I must condemn the unsuccessful proceedings of many of my fellow-countrymen, whom I have frequently observed heaping up piles of compost and even barn-yard manure, around the trunk of the tree. The manure when placed there is not only of no use to the tree, but has a direct tendency to breed insects. Trees derive their nourishment through the extreme ends of their roots, every one of which acts as a mouth to receive food from the soil. It is there then, and not at the trunk of the tree that the ground requires to be fertilized.

INSECTS.

There are several species of insects that are injurious to the apple-tree; the most destructive of these are, the borer, the bark louse, the caterpillar, and the curculio,—for the extermination of which a few directions are necessary.

The **borer** is a destructive worm that perforates the wood, at or a little below the surface of the earth. If the insect has entered the tree, it must be dug out, or destroyed by introducing a small wire into the aperture, and the hole filled with clay. To prevent its attacks, the trunk of the tree at the surface of the earth, should, in April, be surrounded with a mound of clay. Small trees are preserved by applying with a brush, a solution of two pounds of good potash in six or seven quarts of water, from the surface of the ground to the height of a foot up the trunk of the tree.

The **bark louse** is a species of insect in form not unlike half a kernel of rye, but much smaller, with the flat side adhering to the bark of the tree. The following mode of destroying this insect has been adopted with success: with two parts of soft-soap and eight parts of water, add lime enough to make a thick white-wash, and apply it with a brush to the tree. This not only destroys the insect, but causes the outer bark to separate from the tree, which soon exhibits a healthy and vigorous appearance.

The **caterpillar** makes its appearance with the opening of the bud in spring. The most successful way of preventing their depredations is, to dislodge the nest from the tree ere they have left it.

The **curculio** is a winged insect or beetle, and is very destructive to fruit. They rise from their earthy bed and chrysalis state when the young fruit is forming, in each of which, after ascending the tree, they deposit an egg. This soon hatches, and produces a small worm, that, by its depredations, disfigures the fruit, diminishes its size, and finally causes it to fall from the tree ere it has received its growth. They then retreat into the earth, where they await