

## Horticulture.

### THE ORCHARD.

#### Cultivating Orchards—Pro and Con.

"What shall I do when doctors disagree?" And who shall be taken for the best guide to the orchardist—the one who says that orchards should not be cultivated, and adduces the result of long experience to support his dictum; or the equally certain expert who also has tested the point and found that cultivating is the only means by which sure results can be obtained?

On this question can be cited Mr. Thomas Mehan, who is justly considered an authority on all matters relating to gardening and horticulture. He says that the time spent in cultivating orchards is time thrown away, and in support of his position, cites his experience. He prepared a piece of hard, rocky soil, by ploughing under a heavy old sod and planting potatoes, followed with rye; and set in the fall on stubble, 1500 fruit trees of all kinds and sorts, for his own use—dwarfs and standards. The work was done by common laborers in a rough manner, and the land seeded; since which he had mowed from two to three tons per acre yearly for four years. All varieties seem to do well, and make a large current year's growth. He has applied surface soil, taken from along hedge rows and highways, each year about the trees, as far as the roots extend; but the next year leaves the place where applied the year before, and puts the mould outside the former application—thus getting the tree-fool farther and farther from the trunk and placing it where the feeding-roots can get it. He also applies to the grass \$6 or \$8 worth of phosphates per year. He prunes but little, and grows fine fruit with little expense.

Per contra, "Agnola," in New York Herald, says that, as a general rule, orchards should be cultivated, or at least kept clean and free from vegetation till the trees are at least ten years old. Experience, as follows, is adduced to support his views: The best orchard of bearing peach trees we ever saw was on ground kept perfectly clean and mellow by cultivation, no other crop being allowed to occupy the soil; and we have no doubt that those who own orchards of fine fruit would find it greatly to their advantage to discard every other crop on ground thus occupied, in order to keep it perfectly mellow by successive ploughing and harrowing; this would certainly be the case where, as in many cases, the orchard proves more valuable than all the rest of the farm. A part of a neighbor's young standards grow on ground occupied with field beets, a part with carrots, and the rest with young fruit trees only a few inches high, in rows about four feet apart. The latter, of course, made much less draft on the soil than the others, covering, as they did, but a small part of the surface, all being kept thoroughly cultivated. The trees on this part consequently made a most vigorous growth; on the carrot ground the growth was conspicuously diminished, while on the ground occupied by beets the young shoots were not more than one-half the length of those first mentioned. This experiment is the more interesting from the fact that these root crops, if well hoed, as they were in the present instance, are found to be incomparably better for the trees than the common way of planting them in grain fields or in grass. Potatoes were not tried; but we have seen a row of peach trees growing in potato grounds, none of which had made shoots of less than a foot and a half, while, side by side, in wheat, under circumstances otherwise precisely the same, none of the trees had grown more than three inches.

#### Enemies of the Apple-Tree.

The apple-tree numbers among its enemies not less than seventy-five different species of insects. Of these, the blight-insect (*Eriosoma pyri*), and the young of the cicada, prey on its roots. The former is a near ally of the *Phylloxera* that does such great harm to the vine. The roots of a tree infested with it should be dipped in soap-suds, and, when replanted, a shovelful of ashes should be mixed with the dirt. The young of the cicada—commonly called locust—lives sixteen years in the ground, and, though usually sucking the sap from the roots of the oak, it some-

times attacks the apple tree, and during this long period, proves a serious danger on the tree.

The trunk of the apple-tree is subject to attacks from a number of beetles that bore into the bark and wood. Among these pests the most prominent is the common apple tree borer (*Saperda candida*). This may be kept down by cutting out the worms, or by pouring hot water into their holes, in the autumn; or by applying soap to the trunk, or surrounding it with tarred papers, in the spring. Two important borers, the *Chrysobothris fumosa* and the *C. Harrioti*, are also conspicuous foes, and are to be treated in the same way as the *Saperda*. Other boring beetles infesting the apple-tree are the white-lined *Psenocorus*; the cylindrical bark borer, or *Tomicus mali*; the apple-twigg borer, or *Amphiceros lucanulus*; the prickly leptostylus (*Leptostylus aculeatus*); and the apple leopius.

Next to the borers, the most destructive enemy of the apple-tree is the scale insect (*Aspidiotus pomorum*, Bouche). The best remedy for this evil is to scrape the bark of the tree in autumn, and again in June, when it should be washed in whale-oil soap.

The leaves of the apple tree are liable to the ravages of the American tent caterpillar (*Chioasampa Americana*), the canker worm (*Amorophaga vernalis*), the apple-sphinx (*Sphinx gopkins*), the swallow tail butterfly, (*Papilio trochus*), the apple mola (*Nola Malana*), the bud-worm, the palmer-worm, the twin spotted leaf-miner, the apple-aphid, etc.

The codling-moth attacks the fruit, laying its eggs in the calyx of the blossoms, just as the petals are falling. The worm hatches in a few days, and burrows into the core. In three weeks it is full-sized, and the apple it feeds upon withers prematurely, and drops to the ground. The worm then leaves it and creeps under the bark of the tree, where it weaves a cocoon. A few days after a moth appears to reproduce a crop of caterpillars before winter, and thus the round of life of the codling-moth is sustained from year to year, and the crop of apples is seriously diminished, or entirely cut off, by its mischievous depredations.

#### Bird-Scarer.

The following device for scaring birds from fruit trees or vegetable seeds is an old one, but is none the less valuable on that account. Get a glass bottle and cut off the bottom, which can be done by tying around it a string saturated in turpentine or kerosene and burning it. A slight touch will detach the bottom if it does not part without. Make



a hole in the cork and suspend by a string or fine wire coiled two or three times to give it a little spring. A good sized nail, a stone or anything will make a clapper for your glass bell. Then drive in the cork securely or wire it down, and leave wire enough to hang the bottle to some delicate bending twig or to a pliant sapling thrust in the ground. The bell will ring by the motion caused by the wind or by the birds alighting on twigs near it.

#### Experience in Pear Culture.

At a meeting of the Massachusetts Board of Agriculture, Dr. J. R. Nichols, of Haverhill, gave his experience in growing pear trees as follows:

I have a plantation of pear trees numbering some three or four hundred, some twenty years old and some three or four; and I have endeavored to observe pretty carefully both my own trees and those of my neighbors in the northern part of the county; and some peculiar and interesting experiences have come up in the course of my connection with those trees, showing the contrary influences which govern men in their judgment as regards trees. For instance, year before last, in one plantation, where there were ten pear trees of ten different varieties, the trees were apparently in very good condition in the autumn. When I watched round them with manure in the fall, I left them in very good condition, as I supposed. In the spring I found that every tree of the Stevens Genesee variety took the blight, and every one was entirely destroyed. Of course my prejudices were immediately raised against the Stevens Genesee.

The past winter I found that precisely the same influences had been at work upon the Flemish Beauty. Every one of that variety in this plantation was destroyed in this way. The bark became black, there was a little black spot upon each leaf, which gradually extended, the leaf turned yellow, and the trees died, and I was obliged to

dig them all up; so that my prejudices were immediately raised against the Flemish Beauty. What will happen next year I don't know. So that, as regards fixed facts in the culture of fruit, it seems to me that we have not many of them.

There are, however, two facts that are forced upon my mind very particularly with relation to pears; first, that the pear must have a deep soil; and secondly, protection. I am inclined to think that pears will not flourish and bear fruit if you are deficient in depth of soil; and I am inclined to think so from the fact, that a neighbor of mine, who pays no attention to his trees at all, has abundant and most excellent crops; but his trees were set out in deep soil, and are protected from the northerly and the easterly winds. I therefore think, that in setting out a plantation of pear trees, no matter what the variety may be, we can rely on these two things as fixed facts or principles—protection and deep soil; and I think we can, if we keep in mind these two things, reckon with great confidence upon our crops.

As regards the kinds which should be planted—that is, which are the most hardy—my experience leads me to think that all varieties will take a fancy to die, in spite of all we can do; and if I was asked which I would choose, I should hardly know what to say. I might mention the four varieties that have lived with me, and borne largely and continuously; but I should hesitate, because some other man might rise up here and say he had had exceedingly bad luck with those trees.

**CORRECTION.**—In the article on p. 105, last issue, on "Plums at Owen Sound," the compositor made "Sarawak" say that certain plum orchards in England, where he used to go for plums nearly thirty years ago, are still flourishing. It should have read, "fifty years ago." The writer has resided in this country since 1830.

**SAVE YOUR SOAP-SUDS.**—A person who would throw away a barrel of soft soap, or a boxful of hard soap, would be called wasteful, as such material will operate like an excellent fertilizer when spread around fruit-trees of any sort, or berry-bushes. After a barrel of soap has been diluted, and has passed through the washtub, the elements of fertility in the mass will be even more valuable to growing trees and plants than if applied in any other manner.

**TO PROTECT TREES FROM THE FLAT-HEADED BORER.**—The following is the recipe recommended by Mr. Henry Shaw, proprietor of the celebrated gardens at St. Louis, bearing his name, for protecting trees from the flat-headed borer:—To a barrel of water put 10 pounds whale or fish-oil soap and 5 pounds Paris-green. Applied during the Summer months to ash and other young trees with smooth bark in the recently planted Tower Grove Park, it prevented the entrance of the insects, which had previously done much harm.

**MCINTOSH RED APPLE.**—This is an apple found by a correspondent of the *Vermont Farmer* in Matilda, Dundas Co., Ont. The parent tree originated near where it now stands some seventy years ago, and has borne every year since the oldest inhabitants can remember, and is still perfectly hardy, the apple also being good in every respect. It has been propagated from, and distributed in the neighborhood, and evidence is given "of the most positive character as to hardness, productiveness, and longevity of the tree, and quality size, and keeping properties of the apple. Also, there is another peculiarity about this variety—the limbs seem to come out like pins, and never split down.

**HASTENING THE RIPENING OF FRUIT.**—Acting upon the principle that renewal of the earth immediately surrounding the roots increases their activity, and accelerates the maturing of all parts of the plant, including the fruit, a New Jersey grower removed the earth about an early pear tree, eight weeks before the normal period of ripening, for a space of 13 to 15 feet in diameter, and to such an extent as to leave a depth of earth over the roots of only 2½ inches, which would be thoroughly warmed by the sun. He was surprised, not only by the ripening of the fruit in the middle of July, but also by its superior juiciness and flavor. In another experiment, the removal of the earth from the north side of a tree, alone, causes the fruit on that side to ripen several days earlier than that on the south side. Frequent watering was of course necessary in the above experiments.

**TO PREVENT FRUIT TREES FROM SPLITTING.**—It frequently happens, in very fertile regions, that trees split limb from limb through sheer weight of fruit. We saw many instances of this wherever a small garden had been planted in the foothills of the Sierras in California. The common mode of prevention is to prop up weighty branches with a piece of slung. Isaac Lewis, of Hopkinsville, Ky., gives in the *Prairie Farmer* another plan:—"When I find a forked tree that is likely to split, I look for a small limb on each fork, and clean them of leaves and lateral branches for most of their length. I then carefully bring them together and wind them round each other, from one main branch to the other. In twelve months they will have united, and in two years the ends can be cut off. The brace will grow as fast as any other part of the tree, and is a perfect security from splitting. I have them now of all sizes, and I scarcely ever knew one fail to grow."