

Garden and Orchard.

The Apple Tree Borer.

More important even than the cutting out of the borer when it has established itself in the apple tree, are the precautionary measures to prevent this destructive insect from getting into the trees. We must become acquainted with the borer and its habits, and so be enabled to guard against it.

The apple tree borer is the offspring of the beetle *Saperda Candida*. It is important to understand these insects and their workings in order to prevent their getting into trees, for one borer is sufficient to stop the growth of a young apple tree, and having once entered the tree, it is dangerous following him with a knife. This borer is of a light brown, with two broad white stripes extending from head through both wing covers the whole length of the insect; the face, antennae, under-side of the body and legs, white; length, about three-fourths of an inch; antennae, about the length of the body. From this description, it will be easy to recognize the insect. The larva of this species penetrates the young tree just below the surface of the ground (where the beetle deposits her eggs), and eats its winding way up in such a manner as to make it difficult to follow it with a wire. The only way to save the trees from this destructive insect is to prevent it from getting to them. This, in our view, is easy enough if proper care and attention is given to the trees.

In the first place, be careful to remove all sprouts, suckers and grass from the roots of the tree. Secondly, keep the bark near the surface smooth and clean by frequent scouring or rubbing with the naked hand. This should be done at least once a week during the months of May and June. This will brush off the eggs. Another remedy, and perhaps a most effectual one, is to take one pint of sulphur, add to it one gallon of soft soap, and tobacco water sufficient to make it of the consistency of common paint. Apply it with a brush in May or June on the body of the tree at the surface and two or three inches below. I think if the above remedies are used faithfully, no borers would be found to trouble the apple trees. I have no faith in other remedies, such as the use of the knife and wire, camphor and chloroform, ammonia, sal ammoniac, brine and potash.—[Ex.]

Coal-Tar vs. the Curculio.

Mr. A. Y. Van Eps asks The Tribune for information as to the efficacy of coal-tar smoke in fighting the curculio. Its use for this purpose was first recommended by Mr. Windoes, of South Haven, Mich., in March, 1874, at a meeting of the Pomological Society of that place. He accidentally discovered its value while burning some of it near a plum tree; upon jarring this tree no curculios were found upon it. The next year, 1869, he mingled one pound of sulphur with one gallon of tar, placed the mixture in a large frying-pan, which was fastened to the end of a long pole, and each alternate morning passed under the trees, carrying the vessel with its contents ignited, and of course it gave off a cloud of smoke, so dense that it would often fairly blacken the foliage. He continued this practice from the time the plums set until they were the size of a hickory-nut, or from about the middle of May till the 1st of July.

That year his crop was enormous; the next he was away from home, and so neglected the orchard, and had no plums. In 1871 he again tried the coal-tar and induced a neighbor to do the same; they both had full crops, while neighboring plum orchards, which received no attention, produced no fruit. The succeeding seasons gave the same result. These experiments convinced Mr. Windoes that "with a reasonable amount of labor the plum crop is a certainty, and very profitable." Of course this treatment does not destroy the foe, but only drives him to some other feeding-ground; and as he is quite indiscriminate in his taste, attacking the apple, cherry, pear and peach as well as the plum, the best fruit-growers prefer the other remedies—the Ransom or chip method, and the jarring process. By these means many orchardists are entirely successful in overcoming the curculio, and are reaping rich profits from the plum and peach.

THINNING FRUIT.—The sooner fruit is thinned after it has set, the better it is for the tree, as all growth of fruit costs effort for the tree to make, and is therefore exhaustive. No one who desires the choicest fruit will fail to thin an overloaded tree.

Benefits from Hoeing.

One of the greatest benefits from sowing our garden seeds in drills is the opportunity it affords us of hoeing frequently and thoroughly between the rows.

Too many persons who use the hoe supposed that the chief benefit derived from it is to kill the weeds. That, certainly, is an important work, and which is greatly neglected. Weeds are not only in the way of cultivating the crops which we plant, but they rob them of much of the nutriment which they need. Hoeing, then, is an essential service in respect to destroying the weeds.

There are other advantages, however, which are quite commonly overlooked. Let us see.

1. The loosening of the soil in the operation of hoeing is beneficial to the plants; as much as the destruction of the weeds or more so.

2. Moisture abounds in the atmosphere during the hottest months, and it is absorbed and retained most abundantly by a soil which is in the most friable state. Prof. Schluber found that 1,000 grains of stiff clay absorbed in twenty-four hours only thirty-six grains of moisture from the air; whilst garden mold absorbed forty-five grains; and fine magnesia seventy-six grains.

3. Then, again, pulverizing the soil enables it better to retain the moisture absorbed.

4. The soil, in order to be healthy and active, must breathe. A light, porous soil admits the air and thus it is fed and greatly invigorated by the atmosphere.

5. The sun's rays heat a hard soil much quicker than a loose one, and the hotter the sun is, so much greater will be the evaporation from it. So that the hard soil is deprived of its moisture much sooner than one of a loose texture.

6. The roots of plants can find their way through a moist, loose soil, in search of food, much better than they can through a hard, dry soil.

7. A soil that is kept loose near the surface by the action of the hoe, will receive and hold the rain water that falls, while a hard soil will allow most of it to run off into the valleys and streams as it falls.

An English gardener, Mr. Barnes, of Devonshire, in giving an opinion of the importance of hoeing, said he "did not agree with those who say that one good weeding is worth two hoeings; I say, never weed any crop in which a hoe can be got between the plants, not so much for the sake of destroying weeds and vermin, which must necessarily be the case if the hoeing be done well, as for increasing the porosity of the soil, to allow the water and air to penetrate freely through it." He adds: "I am well convinced, by long and close practice, that oftentimes there is more benefit derived by crops from keeping them well hoed, than there is from the manure applied. Weeds or no weeds, I still keep stirring the soil, well knowing, from practice, the very beneficial effect it has."

Mulching for Fruit.

A fruit grower gives the result of his experience in mulching for fruit, as follows:

It may not be generally known, especially by farmers or those engaged in pursuits foreign to fruit growing, that many varieties of fruit plants, vines and trees, require, to obtain the best results, a large amount of mulching and manuring.

The grape vine is a great feeder, requiring before planting a deep preparation of the soil, good cultivation, and frequent applications of manure to the surface ever after.

Currants and gooseberries require frequent mulching to keep out the blue grass, keep down weeds, and to promote luxuriant growth.

The Doolittle black cap raspberry, which every family should have in abundance, can not be grown successfully on any soil without heavily manuring, and should be cultivated both ways, like corn, and no tips allowed to grow.

The strawberry bed also requires a frequent top dressing of well rotted compost and plants kept thin on the ground.

Cherry trees, old enough to bear, by heavily manuring, will produce nearly double the number of bushels, much larger and sweeter, and from ten days to two weeks earlier.

It has been a theory with fruit growers, and has generally been conceded, that apple orchards, even when down in grass, are better off without manure. When an orchard is not in cultivation and is old enough to bear, a good mulching in the fall or winter will, in nine cases out of ten, result in a fair crop of apples the next season.

Codling Moth.

Prof. Cook gives the following in the Prairie Farmer:

This insect passes the winter as a larva, concealed in some crevice, and wrapped in a thin cocoon of light colored silk. Early in May it resumes the pupa state, and soon after emerges from its concealment, as a small gray moth. The moth, whether from the cellar, the kitchen, or the orchard, steals forth to the bearing apple trees, where, on the blossom end of the now forming fruit, it lays its small eggs, only one on each apple. These moths will continue to emerge from their winter home for six weeks. Here at Lansing they come forth from the time of the fruit blossoms—the middle of May—till the first week of July. The eggs soon hatch, and the wee larvae eat in to the apples, from which they emerge sleek and full-fed, in about five weeks.

So the larva from the first brood will be leaving the fruit from the last of June till the last of July. About half of the apples which are attacked—rather more in early varieties—fall to the ground before the larvae leave them, and, unless the apples are destroyed, the "worms" crawl forth and seek a crevice in which to transform. In the absence of rubbish or stumps beneath the trees, they crawl up the tree trunk and hide under bark-scales, in cracks, or wherever concealment is offered. Those in the apples which adhere to the trees crawl down on a like errand. In from ten to twelve days—sometimes eight, if the weather is very warm—the second brood of moths comes forth to prepare for a repetition of same destructive work. This second brood behaves very much like the first, except that the larvae do not assume the chrysalid or pupa state till the next summer. So we see that the moths cease to emerge after the first of September.

If hogs or sheep are kept in the apple and pear orchards they will eat all the windfalls, and so destroy all "worms" that fall with the apples to the ground. As many of the larvae which leave the apples while the latter are still pendant will be destroyed by sap suckers, blue jay, robin, cuckoo and shrike, the above remedy is more complete than we would at first believe, and should never be neglected, unless a better one be made to take its place. The best remedy, and one which has given excellent satisfaction whenever applied with thoroughness, is to trap with hands. This demands the removal of all rubbish from beneath the trees, which should be done before the first worms leave the fruit. In this latitude June 20 would do. Further south June 1 would be none too early. This work can be done at any time in April or May, when most convenient. Five weeks from the time that the trees bloom the bands should be placed around all trees which are bearing fruit.

The bands should be woolen cloth or carpet paper. They ought to be about five inches wide, and long enough to reach around the tree and lap sufficiently to tuck. First tuck one end of the band to the tree, about four feet from the ground, driving the tack clear to the head. Then pass the band around the tree, bringing the untacked end over the tack first driven. Through this end a second tack should be driven, though not quite to the head, that it may be easily removed with a claw.

Seven weeks after the trees bloom the bands should be examined. It is well to go first to the trees which bear early apples. If no worms or cocoons are found examination may be delayed for ten days, when all the bands should be carefully unwound and all the larvae and pupae killed. This is easily done by pressing them with the thumb. After all are killed retack the band. To make the tacking quick and easy, a small tack-hammer with a good claw may be suspended about the neck. After this the work should be repeated every tenth day, and if very warm, every eighth day, for seven or eight weeks, and again after all the fruit is gathered, in November or December.

Killing the Peach Tree Borer.

A contemporary recommends the following: "One pint of crude carbolic acid, costing 25 cents, is sufficient for twenty gallons of soft soap, with as much hot water to thin it; then stir in the pint of carbolic acid and let it stand over night or longer to combine. Now add twelve gallons of rain water and stir well, then apply to the base of the tree with a short broom or old paint brush, taking pains to wet the inside of all crevices. This will prevent both peach and apple borers. It should be applied in the latter end of June in this climate, when the moth and beetles usually appear."