Garden and Orchard.

Rules for Pruning the Orchard.

1. Prune at or near the outside, to let in the light on the large thrifty leaves. 2. Do not prune in the interior, leaving the foliage thick on the outside. 3. Pruning may be done at almost any time of the year if sparingly performed. Heavy pruning, to make trees more vigorous, should be done early in spring. 4. But if the trees are quite hardy and the winters usually mild, it may be done in winter. 5. Heavy pruning of growing trees will check growth. 6. Large wounds at any time should be covered with paint, tar or grafting wax. 7. If done often and moderately, it is better than heavily and rarely. 8. It is better if done so often that no limbs need removal which may not be done with a pocket knife. 9. For pruning a large orchard and employing hired men, the owner should precede them and mark with chalk a line for every saw-cut, and allow no other. 10. If the heads of bearing trees have become too thick and brush-like, thin out at equal distances all over, and particularly toward the outside.—[Country Gentleman.

Grape Rot and Mildew.

The American and English Consuls in France, in recent reports, make it appear that there is reason to believe a partial remedy, at last, has been found for grape rot and mildew. Applications made last season on vines near Panulæ, the Commune of St. Julien and other districts of France, of sulphate of copper and lime in solution, were, it seems, attended with satisfactory results. M. Prilleux, Inspector-general of Instruction in Agriculture, after inspecting vineyards in the Medoc district, reports as follows:

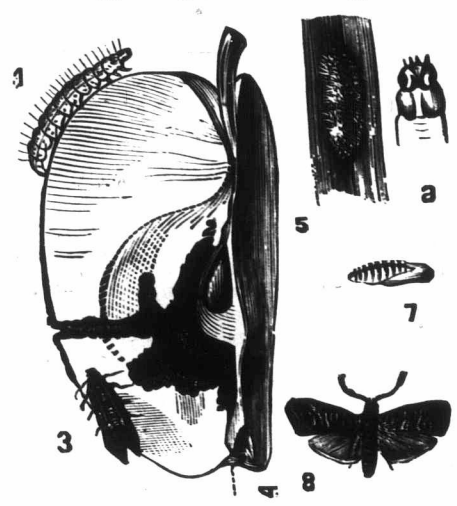
"It appears to me to be established by the facts that I have verified in the Medoc district that the sprinkling of vines with a liquid composed of about 8 per cent. sulphate of copper, mixed with slacked lime, arrests the progress of mildew and permits the complete maturity of the grapes on the affected vines. This treatment is simple and inexpensive, and it is to be hoped that next year all viticulturists will use it. The earlier the remedy is applied the better the results will be."

Prof. Millordet recommends that the remedy be applied as soon as mildew is discovered, as it is more efficacious than when used later, although beneficial at any stage of the disease.

The Codling Moth *(Carpocapsa pomonella.)*

This moth is represented in our cut at figure 3 in its natural size. It is a small, dark colored moth with a copper-color spot, somewhat representing the shape of a horse-shoe on its anterior or front pair of wings. The moth flies only at night, and, as it is not attracted much by light, it is but rarely seen.

The moth appears when the apple is in bloom, and lays her yellow eggs singly on the flower just when the young fruit is forming; sometimes, when too late for the flower, she deposits her eggs on the calyx or flower end of the apple, and very rarely on its side. About a week after the eggs are laid the young larvæ are hatched out, and immediately bore their way to the core of the apple. The castings are pushed out of the hole which the larva entered in at, and sometimes adhere to the apple; by this the presence of the enemy may be detected. The larva or worm has a fleshy color and is covered with minute hairs. It reaches full growth about three or four weeks after it has left the egg, and then leaves the apple to spin its cocoon, generally in some crevice or crack on the trunk of the tree. The apples generally fall prematurely to the ground, sometimes with the insect still harboring in them, and sometimes after it has left them. If the insect leaves the apple before it drops, it either climbs down the branches to the trunk, or descends to the ground by means of a silk thread which it is able to spin at will, and then climbs up the trunk again. The cocoon is constructed out of white silk, but is frequently covered with bits of bark or other foreign matter to conceal it. In this cocoon the larva is transformed into a pale brown pupa or chrysalis, from which the full grown moth emerges about two weeks later. This brood of moths again lay their eggs on the apple, which again produce the larvæ—a second brood—but these do not leave the apple until the fall or winter. Sometimes they leave it before it is harvested, and then spin their cocoons outside in some sheltered place; but more frequently they are carried with the apples into the storing rooms, and then their favorite spot to spin their cocoons is between the hoops and staves of the apple barrels. They pupate early in spring and the moth appears again the following season.



CODLING MOTH.

1, larva; 2, section of infested apple; 3, moth at repose; 4, hole where worm enters; 5, cocoon; 6, magnified head of larva; 7, pupa; 8, moth with wings expanded.

REMEDIES.—A very effectual remedy is to bind strips of old cloth, four to six inches wide, or even paper or straw, tightly around the trunks or stems of the trees. The larvæ seeking for a sheltered and concealed spot to spin their cocoons in, will find what they look for under these strips. They should be put on about the commencement of June, and examined about every week, care being taken to remove all larvæ and cocoons. The bandages should be left on the trees until all the apples have been harvested. It is not necessary, however, to examine them after the end of August, for all the larvæ concealing themselves after that time remain there during the winter months, and may be destroyed any time in the late fall.

Pasturing the orchards with sheep or swine is also a good plan, for these animals will consume all the apples that they can find, and with them destroy the larvæ they may contain. The best remedy for large orchards is, however, the spraying with Paris green or London purple, and the best manner of application is by the means of a force pump. For this purpose place a barrel of water, to which half a lb. of Paris green has been added and thoroughly mixed, on a light wagon or cart, and to it attach a force pump with hose and nozzle. The spraying should be done just after the apple has commenced to set, and should be applied with considerable force, so that the poison reaches the fruit which is more or less protected by foliage. It is very important to mix the poison thoroughly with the water, so that every drop of it is poisonous. No fear of poisoning anything but the insects need be entertained, if care is taken not to come in direct contact with it, and if animals are kept out of the orchard until a rain has washed off all the poison.

The Tent Caterpillar *(Clisiocampa Americana).*

The moth of this caterpillar deposits her eggs during the first half of July on the small twigs of the apple tree, and with them completely encircles the branch. But the young larvæ do not make their appearance before the next spring. They are voracious eaters, and a mature caterpillar is said to consume two leaves a day. Their peculiarity is to spin a web to which they always return after feeding; generally they leave it all at the same time, once in the morning and once in the afternoon.

REMEDIES.—The best remedy is to destroy the nest early in the morning or late at night, before they have left or after they have returned to it. This is easiest accomplished by pulling it down with the hand and trampling upon it. Spraying, as recommended for the codling moth, will also destroy the tent caterpillar.

The White Grub *(Lachnosterna fusca).*

The white grub is the larval form of the May beetle, a chestnut-brown, thick beetle, about three-quarters of an inch in length. The larva, the white grub, is of various sizes, sometimes growing to an inch and a half in length. It has three pair of legs and a soft white body, the posterior end of which is enlarged and usually curved under. It feeds on nearly all tender roots that come within its reach, but is especially fond of those of the grass and strawberry.

REMEDIES.—Swine and insectivorous birds are especially fond of them, and will consume them when within their reach. Another remedy, lately been tested with the strawberry plants that are attacked by the white grub, was a decoction prepared by cutting burdocks into small pieces, pounding them and soaking them over night. The roots of plants to which this liquid has been applied are said to be "white grub proof." This is also supposed to be an excellent remedy for the onion and cabbage root maggot.

The Flat-headed Apple-tree Borer *(Chrysobothris femorata).*

This insect is the larva of a shining greenish-black beetle, which may be seen running about on the trees on a sunny day in June or July. The beetle is about half an inch in length and marked on the wings with two raised lines. The female lays her eggs, which are very small and yellow, in crevices or under loose pieces of bark. These eggs soon hatch, and the larva or borer bores into the sap wood of the tree. The borer has an enormously large and flat head, and is a pale yellow footless grub, having the appearance of being half starved. Sickly trees suffer most from it,