

gals. of water, covering the leaves well with the spray. A second application later may occasionally be necessary. If only a few small trees are infested, dusting air-slaked lime in a fine dust over them will destroy most of the larvae.

DISEASES.

The diseases attacking pear trees will be found treated at considerable length in a bulletin entitled "Diseases Attacking Fruit Trees," which is being prepared by Professors J. E. Howitt and L. Caesar, and will be available soon after the publication of the present bulletin.

The chief diseases are as follows:

PEAR BLIGHT.

This is a bacterial disease and constitutes the greatest menace to pear growing. It is the disease which throughout the growing season causes the death of the leaves, also of the twigs and branches and often of the whole tree. It is carried from tree to tree by insects. The chief time for distribution is during the blossom season when bees and other insects that visit infested trees or portions of them, get their legs or beaks contaminated with the organism and fly from blossom to blossom, leaving the organism on everything they touch. A week or two after the blossoms fall, the leaves will be seen to turn brown on the infested twigs and die. This is evidence of the presence of the disease. Throughout the summer, sucking insects are the principal means of spreading this trouble. These by chance or otherwise puncture diseased twigs, fruits or leaves, or get contaminated with the organism by walking over places on the branches where the disease is causing an exudate of gum which contains many organisms; then they move to healthy twigs, especially water suckers, and by feeding on these cause them to become infected.

Control is not easy, in fact, it requires the utmost care and promptness. It has been demonstrated, however, that the disease can be controlled. The method is to go through all the orchards during the months of February and March, or any time before the sap has begun to move freely. Prune out all diseased branches, cutting about six inches below where the bark is seen to be dead. If there is a diseased area at the crotch, or if it extends only a short distance around the base of a water sucker or other twig, the diseased bark may often be removed with a draw-knife, or even with a stout jack-knife. Special pains must be taken to see that it is removed to a sufficient extent, so that there are no signs of discoloration in what is left. The reddish-brown stains in the bark are indications of the presence of the disease. The object of cutting it out early like this is that the disease may not be carried by the saw or other tools, as it would be if the sap were moving at the time of treatment.

Just before the blossoms open, it is important to go around again and visit all the trees to see whether any diseased parts have been left, and to remove all suspicious cases, or treat further all cases that give evidence of not having been properly treated before. All prunings should, of course, be promptly removed and burned so that insects will not have access to them.

The great importance of this early pruning is to remove as much as possible of the organism from the orchard so that bees, ants, wasps and other insects may not have a chance of becoming infested with the organism, and of spreading it at blossoming time.