A Power Sprayer as Used in Mr. S. C. Parker's Orchard, Berwick, N. S.

lines of hose, two men on the ground and one man on the tank. The men on the ground use hose thirty or forty feet long, allowing them to walk around an ordinary tree, covering all sides, while the man on top of the tank covers the top of the tree. We have practically discarded Vermorel nozzles for those of the Friend type. The latter use more liquid than the Vermorel, but do not clog; and time is worth more than a little extra home-boiled lime-sulphur. A good pair of oxen makes a splendid team for a spraying outfit. Many of our large orchardists are using them, as it leaves the horse team free for ordinary farm work.

To ensure good apples we must spray; and spraying with the appliances of to-day is to the spraying of fifteen years ago as the reaper of to-day is to the sickle of our fathers. About one hundred and twenty-five gasoline spraying outfits were bought by Annapolis Valley orchardists in the spring of 1911. Probably as many more will come in for 1912. Spraying must always be a costly and arduous work; but with the improved appliances and good fungicides it is being freed from much of its terrors.

Peach Diseases in Ontario

Prof. L. Caesar, O. A. C., Guelph, Ont.

Brown Rot (Sclerotinia fructigena) (Pers.) Schroet, is the same disease that is so common on plums and cherries, especially sweet cherries, and that frequently causes a large percentage of these fruits to rot. Fortunately it is not so destructive as a rule in our province to peaches as to cherries and plums or as it is to peaches in some parts of the United States, where it has been known to destroy as high as forty per cent. of the whole crop in a year that was very favorable for the disease. Nevertheless, we sometimes lose a good many peaches from this rot. Triumphs and a few other varieties are much more subject to the disease than Elbertas and some of our other profitable kinds.

Not only is the fruit attacked, but also the twigs and small branches on which diseased fruit is borne. The disease in such cases seems usually to work its way down from the diseased fruit into the twig or branch and gradually girdle it. This, of course, causes the part above, with all its leaves, to die. Some seasons the blossoms are also attacked. I have noticed this to be quite common in the case of sweet cherries.

Like most diseases there are certain conditions that favor the development of Brown Rot. The chief of these are damp, warm weather, lack of sunlight and of good air circulation, the presence of old mummied fruit on the trees, two or more fruits touching one another on the tree, and injuries from hail or biting insects, like the Plum Curculio.

MEANS OF CONTROL

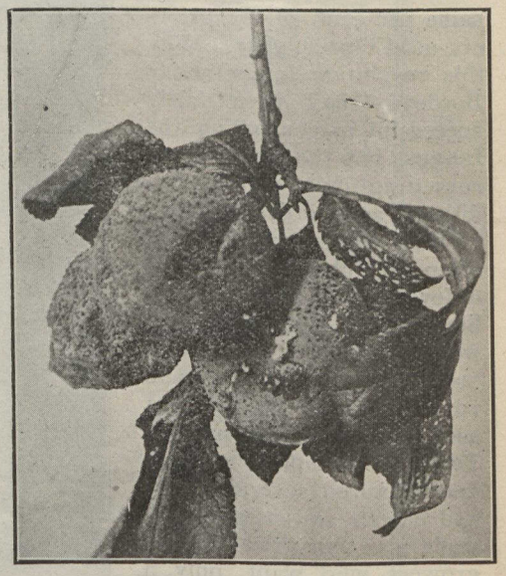
The conditions favoring the disease give us hints as to how we may help to ward it off: First, give the trees plenty of sunlight and good air circulation by removing unnecessary windbreaks and by judicious pruning; second, knock all old mummied peaches and plums off the trees in the fall and either gather and burn them or plough them under early in the spring; third, thin the peaches so that no two will be touching one another; fourth, spray with lime-sulphur for Leaf Curl and this will protect the blossoms from attack; fifth, if the Curculio is troublesome, spray with two or three pounds of Arsenate of Lead to forty gallons of water soon after the fruit is set, and remove all rubbish and thickets from around the fence corners, as the beetles winter in such rubbish. Two or three pounds of freshly-slaked lime may be added to each barrel of the spray mixture as a safeguard against burning. Sixth, spray with self-boiled lime-sulphur about a month or five weeks before the fruit is ripe. Bordeaux or commercial lime-sulphur is likely to injure the foliage. For directions for making the self-boiled lime-sulphur, see our spray calendar or lime-sulphur bulletin.

CANKERS AND GUMMING OF PEACH TREES

In certain localities in the Niagara district, especially at Queenston, Niagara-on-the-Lake, St. Catharines, and in one or two orchards at Winona, it is a common thing to find large black gum-covered cankers, chiefly on the upper side of large branches. These cankers do not heal over, but continue to widen out and enlarge until finally the whole branch dies. The disease is not confined to Ontario, but is quite common in Michigan and in parts of New York State and probably in other states as well.

In Ontario, so far as I know, it was not very troublesome until the spring of 1908, and in that and the next year there was a regular epidemic of it in the above mentioned districts. Since then there seems to have been much fewer new cases, but the old ones are still active and are causing the loss of many branches in otherwise vigorous orchards. The cause of these gummy areas is very doubtful. There is apparently no bacteria present.

At first, as the result of a number of inoculations which showed that the Brown Rot fungus would, if inserted through the bark, produce very similar gum masses, I was inclined to think that this must be the cause of the disease,



Fruit Attacked by Brown Rot

The same disease attacks peaches, plums and cherries (After Duggar).