

we were looking them over in July the disease was very active, the bark on the main limbs and trunk was blistering, and much thin, gummy liquid was exuding from the freshly cankered parts. Mr. Stagg intended to tear them all out this fall.

9. Mr. T. D. Jarvis, Grimsby, has three pear orchards, all in sod. One of these is composed of twelve-year-old Kieffers. Almost every tree in this orchard bore evidence of an attack by blight about three years ago. The ends of many branches had been killed back to a distance of from six to thirty inches, and in many cases the disease had continued to pass down the under side of the branch until a main limb or the trunk was reached; here usually it stopped, and there was but very little evidence of blight on the main limbs and trunk. The dead bark had shelled from many of these cankers, which had run down the under side of the branches, and the living bark was gradually healing over the wound.

The other two orchards contained several varieties of pears, Flemish Beauty, Clapp's Favourite, Bartlett, and others. These had a considerable amount of old blight canker in them, but not much that was very active, due probably to the fact that they had been in sod two or three years.

Mr. Jarvis has also a mature Greening apple orchard, and a mature Baldwin apple orchard. Both of these were badly infected with twig blight, due to blossom inoculation by bees and other flower-visiting insects, and later to the spread among the water-sprouts and young twigs by aphids. Nearly all the young growth on some trees was killed back by the blight.

Other orchards that we visited were those of Mr. E. D. Smith, of Winona, Mr. Tweddle, of Fruitlands, and Mr. Onslow, of Niagara-on-the-Lake, all of which we have referred to in the text.

In addition to these, we called in numerous other orchards while passing through the various districts visited. In these we found conditions similar to those already described. Wherever we went we could not fail to be impressed by the extensive ravages and heavy losses caused by the blight in the pear and apple orchards throughout the fruit districts generally.

We are thoroughly convinced, however, that with concerted action on the part of the fruit-growers, due care and adequate precautions as we have already suggested, the disease may be brought well under control, if not entirely eradicated, from our midst.

EXPERIMENTS.

EXPERIMENT I.—April 17th. (a) Inoculated two twigs on each of three Bartlett and three Flemish Beauty pear trees with broth cultures six days old from laboratory stock cultures of *B. amylovorus*. Inoculations were made by first puncturing or slightly tearing the bark near the end of the twig with a steel needle sterilized in an alcohol flame, then