

23rd. The mixture used on the large block of trees was 3 lbs. arsenate of lead to 40 gallons water sweetened with nearly one gallon of black strap molasses. On the twenty Montmorency trees the molasses was omitted. In applying the mixture a double-acting Gould spray pump was used and the work was well and rapidly done.

RESULTS.—At picking time neither the pickers nor Mr. Shipton nor the senior author could find any wormy fruit, no matter where they picked it. The same was true of the plot where arsenate of lead alone was used. When, however, cherries were being stoned Mrs. Thompson found an occasional worm, but not more apparently than 1 in 1,000 cherries.

Mr. Thompson remarked on the unusual way in which the cherries remained on the trees for weeks without rotting, this indicating that the spraying had helped against the Brown Rot disease.

It is evident, therefore, that in this orchard spraying for the Fruit-flies gave most gratifying results.

CHECK.—In consequence of the previous year's experience no checks were intentionally left nearby, but a number of orchards in the neighborhood were selected for the purpose. These will be referred to later. It was discovered, however, when the cherries were ripe that there was a little clump of cherries in a ravine about two hundred yards from the main block. These, therefore, served as a check on orchard No. 3. Examination showed that approximately 75 per cent. of these were wormy.

Orchard No. 4.—This orchard of about one hundred and eighty moderately large trees, mostly Montmorency, belonged to Mr. Stevens of Homer village, and was situated not more than a quarter of a mile from orchard No 1 which had been sprayed in 1913. In that season so large a percentage of the fruit had been attacked that it and orchard No. 3 were considered the worst infested orchards seen anywhere in 1913, and were therefore chosen for the tests of 1914. The species infesting the orchard was almost exclusively the Whitebanded Cherry Fruit-fly, and, as it did not begin to emerge until June 11th, the first application was not made until June 12th. The ordinary sweetened mixture was used, except that on twenty trees to the west of the orchard the molasses was omitted. The second application was given on June 20th, and this time no molasses was used on any of the trees, but only the arsenate of lead and water. The spraying was well done with a barrel outfit. Cages spread over the ground to capture the adults as they emerged showed that in most of the orchard there were several hundred flies to each tree, so that the test was a good one.

RESULTS.—No worms were found in any of the Montmorency trees, so that the owner was delighted. Late in the season it was discovered that one Morello tree and another, probably a Late Duke, had a few wormy fruit. From these trees six thousand cherries were carefully examined and twenty-three found wormy. This was a little over $\frac{1}{3}$ of 1 per cent. Mr. Shipton, who had watched the orchard very carefully, thought that the flies that caused these wormy fruits must have come in from a clump of badly infested trees scarcely two hundred yards to the east, because the poison appeared to have killed every fly in the orchard in about a week or a little more after the last application.

This experiment, therefore, also gave almost perfect results, and likewise showed the value of arsenate of lead alone in controlling the flies.

Orchard No. 5.—This was an orchard of about forty moderate sized Montmorency trees. It was not inspected the previous season, but was reported to have been badly infested. It was sprayed with the usual sweetened mixture