



Spraying a Spy Orchard.

One of the government sprayers, at work in the orchard, at Trenton, Ont., of Messrs. L. & A. Little, is here shown. This orchard contains over 700 Spy trees, all of which were sprayed three times with most satisfactory results.

weighing about 1,050 pounds each, could handle an outfit on hilly, cultivated ground as easily as could be expected with an outfit of this capacity.

It was necessary at frequent intervals to replace the small washers in

the nozzles with new ones, as the chemical action, together with the high pressure at which the pump was run, 125 pounds, soon enlarged the holes so that the spray was not as fine as it should be for good work. It was necessary, also, to replace the length of hose three times during the season, the regular half-inch, four-ply spraying hose of the best quality being used. The continuous high pressure, together with the dragging of the hose over the ground, served to shorten its term of usefulness. For the season of 1906 I propose using what is known as "Pneumatic," a hose used in mines and other such places. It is one-quarter inch, four-ply canvas, covered with capped ends, which will stand hard usage.

It is also my intention to place a small platform over the highest part of my outfit and to spray the tops of the trees from that; then with two lines of hose on the ground to take care of the lower parts, the trees can be well

covered. With the proposed platform no higher than the present outfit, and with removable nails, the trees would suffer no more damage than in the past.

Four nozzles instead of six on each line of hose would be an advantage, as better work could be done with less waste of material. In practice we find that we can easily spray out one tank of the solution, or 80 gallons, in 20 minutes.

The daily capacity possible with the outfit may be estimated from the fact that in spraying one orchard with two lines of hose, 1,040 gallons were applied in eight working hours. When it is considered that at times the outfit was at the extreme outskirts of the orchard and had a long distance to travel from the base of supplies, it is unnecessary to say that it was much more economical, so far as labor was concerned, than the usual hand work, to say nothing of the maintained pressure of 125 pounds which of necessity made possible a better application of the solution.

In spraying my orchard I can apply in half a day more solution than I formerly could in two days, and thus leave my men and horses at liberty to perform other necessary work at that busy season.

The outfit more than paid for itself last year in the saving of labor alone in the orchards in which it was operated.

Spraying Experiences for 1905

Joseph Tweddle, Fruitland, Ont.

I HAVE found the application of lime and sulphur to red currants and gooseberries once before the buds open, followed by one application of Bordeaux mixture after the bloom, gives wonderful results in the growth of wood and healthy foliage. Currants hold their foliage much longer than usual. English gooseberries that had been almost destroyed in previous years, were entirely free from mildew on both foliage and fruit. Not only was the crop clean but also the bushes themselves. I attribute the results obtained largely to the application of lime and sulphur.

Another lesson learned was the danger in the use of what is known as Soda-Bordeaux used on fruit trees in conjunction with arsenic, either in the form of Paris green, white arsenic or arsenate of lead. The sal-soda of the Bordeaux and the arsenic form a chemical compound very injurious to foliage. I shall use the standard lime and Bordeaux in the future, especially when mixed with arsenic as an insecticide.

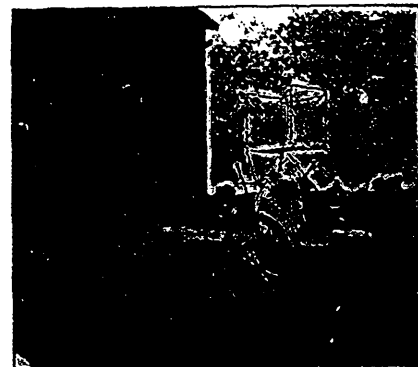
In treating Pear Psylla, the lime and

sulphur, where thoroughly applied in April, destroyed all the eggs, but where small portions of the tree were missed enough were left to reinfest the trees, as badly as ever before the season was over. Nothing but perfect work in spraying will accomplish its extinction. A Psylla will kill a pear tree just as quickly as will the San Jose Scale, but it can be eradicated by thorough spraying with lime and sulphur mixture. I would respectfully warn pear growers of this serious pest. It is much more prevalent than may be suspected by most growers, but it is too small for easy detection by the naked eye. To the initiated observer, however, its presence is readily detected in the orchard by the busy hum and buzz of numerous wasps and flies, seeking the honey-dew which is exuded by the larvæ, and which is easily observed on the surface of the foliage.

With the general use of power sprayers the advantages and disadvantages in the use of the different machines have been watched with interest. With fine weather and the soil in firm condition for using the wheel-gear horse-power sprayer, a great amount of excellent work can be done at a minimum cost for power, as the team drawing the sprayer furnishes the power. One disadvantage of this machine shows up in

wet weather, the horse-power sprayers where the soil is heavy sometimes being laid up for a week at a time from the soft condition of the ground, while the conditions of moisture were propagating fungous trouble most rapidly, thus preventing the application of the spray when most needed.*

The gas sprayer which is a new competitor in the field, using carbonic acid gas for power, relieves the team of the heavy draft, in the case of the wheel-



A Well Tried-Machine

One of the spraying outfits used by the Department of Agriculture last year in Ontario was a Niagara Gas Sprayer. It gave excellent satisfaction. This shows it when it was being dismantled at the close of the season, last fall.

*A number of growers who have been using wheel-gear horse-power sprayers have reported to THE HORTICULTURIST that they have never had trouble on this score. Mr. W. H. Dempsey, of Trenton, states that his team of light horses have little difficulty operating his machine under almost any conditions.