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Spraying Suggestions for the Apple Grower

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THE necessity of spraying with fungicides and insecticides to insure a crop of marketable apples is almost universally conceded by growers. Occasionally one is found who says he does not spray and yet his apples are as good as his neighbors'; with such as he it is of no use to argue, one can only say "Ephraim is joined to his idols, let him alone."

Admitting that spraying is a necessity to the progressive fruit grower, he is at once compelled to decide on his "poison." Two year ago when the writer of this article was called on to discuss sprays, the well-tried bordeaux mixture was the first and only thing mentioned. Learned discussions as to the merit of four-four-forty as compared with three-three-thirty could be heard in every gathering of apple men. It is often said that the farmer is slow to change his methods. With the up-to-date orchardist such is not the case. Convince him of improved methods and no man will seize the opportunity more quickly.

In the spring of 1910, ninety-five per cent. of the spray used in Nova Scotia was Bordeaux; in 1911 the same per cent. of the growers used lime-sulphur. Why this revolution in methods? Bordeaux had been fairly successful in controlling the fungus, but the tendency to russetting under certain conditions, and bordeaux injury to the foliage and fruit was often very obvious. In 1910 a few careful growers used lime-sulphur, and the results were so marked that everybody went the same way in 1911. Most of the growers used the commercial brands. Two lime-sulphur plants manufactured several thousand barrels and supplied the trade at a fair price. Small growers who want only a few gallons had better buy than to bother with boiling the mixture. However, from

practical experience we found no difficulty in making an article just as good as any commercial product. A boiling plant can be fitted up at a cost of a very few dollars, and a good stock solution that will test twenty-eight degrees to thirty degrees Beaume, can be prepared in a few hours. The commercial product costs us from twenty to twenty-five cents per gallon, while the same quality made in a small way can be turned out by the growers at less than half that price.

Some manufacturers will try to convince the farmer that boiling lime-sulphur is a very intricate process, and that the amateur will meet all kinds of difficulties. This is hardly the case, as any practical man can prepare a couple of

hundred gallons of stock solution in a day, and save fifteen or twenty dollars for his time and trouble.

GREAT IMPROVEMENTS

Nothing more strongly marks the progress of spraying than the improvement of spraying outfits. About fifteen years ago the writer bought and used his first spray pump. This was purchased on the recommendation of Prof. John Craig, then the Horticulturist at Ottawa. The pump was of cast iron, no brass fittings, had ten feet of hose, with an iron nozzle fit for a small steam engine. Extension rods were unknown, and we used a rake handle tied to the nozzle to get the elevation. One season's experience with this crude

outfit settled the question, and fungus and bugs had possession for the next few years. Then we tried several makes of hand pumps, and found with improved nozzles and bamboo extension rods that satisfactory work could be done, and fungus controlled.

Five years since, we bought a power outfit, used by the Dominion Department of Agriculture in the Annapolis Valley, for demonstration spraying. We supposed we were getting an outfit, tried and proved, as the best obtainable. Fortunately for us, there was a good wagon under the outfit and a good tank, as this is all that we got for our money save vexation and annoyance. The first season saw the pump relegated to the scrap heap; the second, the engine followed suit. People who will build a power pump with two horizontal cylinders on top of the tank, hitch it up to an engine with a chain gear, and expect it to do business, are not practical and should not be in the business.

After this unsatisfactory experience we got together the outfit shown in the illustration. When spraying in large orchards we use three



A Power Sprayer at Work in the Niagara District, Near Burlington, Ont.
—Photo courtesy Niagara Brand Spray Co., Burlington