

Spraying Ten Acres of Apples: Cost and Results*

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AN orchard of ten acres will contain on an average 400 trees. To operate a power outfit, the labor of three men is required—two men to handle the spraying rods and one to drive the horse. The labor of the first two at \$1.50 per day would cost \$3; the team and man, \$4.50; total, \$7.50. The capacity of a power outfit should average about 1,500 gallons daily. The cost per gallon therefore would be one-half cent.

For my first spraying, I use the commercial lime-sulphur at the strength of one to eleven. This is used just before the buds are opening. The concentrated lime-sulphur costs \$10 a barrel of forty gallons. Diluted at the strength mentioned, this would make 480 gallons of spraying mixture which would cost 2.08 cents per spraying gallon. Add this to the cost of labor per gallon and we have a total cost of 2.58 cents per gallon. The average tree will require five gallons of the mixture. At 2.58 cents a gallon, the cost per tree for the first spraying would be 12.9 cents.

For the second spraying for codling moth and fungi, which is done just as the blossoms have fallen, I use commercial lime-sulphur at the same cost per barrel but dilute it one to thirty, which makes 1,240 gallons at a cost per gallon of .83 cents. To this I add arsenate of lead which can be bought in small packages at 14 cents a pound or less. I use five pounds of this to 100 gallons of water. This makes the arsenate of lead cost .7 cents a gallon. The labor costs just the same for the second and third sprayings as for the first. For this second spraying, the total cost is 2.03 cents per gallon of spraying material. At five gallons a tree, this makes the second spraying 10.15 cents a tree.

The third spraying should be given ten days to two weeks later than the second. The cost is the same as the second, namely 10.15 cents per tree. The total cost therefore of the three sprayings per tree is 33.2 cents for the season. At this rate 400 trees on ten acres would cost for spraying \$132.80. By using four gallons per tree and eliminating the third spraying which is not necessary in all seasons, the 400 trees may be sprayed for \$73.76.

EQUIPMENT

I prefer gasoline engines for power because they are most efficient and the cheapest to operate. A gasoline engine can be operated for ten or fifteen cents a day for gasoline. The gasoline engine may be used for other purposes when not needed for spraying. I prefer a pressure of 175 pounds on the average.

High pressure is particularly necessary for the second spraying as you cannot drive the material into the calyx cups with a pressure of only sixty or seventy pounds. Use a pump of good capacity and one that will give the high pressure required. For best results use two large nozzles on each hose. Use the best quality of hose that you can buy. Spray thoroughly and use lots of material.

RESULTS

During the past season I sprayed about 100 acres of fruit, including apples, plums, pears, cherries, grapes, currants and gooseberries. The results with the currants were especially marked. The foliage was very heavy, the currants large and I marketed them at higher prices than ever before. I did not have a blistered currant in the lot. In the case of the cherries, only those that were thoroughly sprayed were worth buying. I spray cherries just before the buds swell and again just after the small cherries form. Only two applications are made. I use the same strength as for apples.

I had equally good results with apples. One orchard that I took over and which had not been sprayed, pruned, plowed or fertilized in twenty years, gave me 2,000 barrels of fine fruit, the result of one year's attention, including spraying. I controlled the fungus completely and the codling moth to the extent of about eighty per cent.

It might seem a big item of expense to spend thirty-three cents a tree for spraying, but let us see. A bushel of culls is

worth fifteen cents, and a bushel of good apples is worth fifty cents, a difference of thirty-five cents. The average tree should produce ten bushels and if you convert one bushel of culls into one bushel of good apples, you are making thirty-five cents. If you have a tree of apples bearing ten bushels and do not spray them, you will have half culls. If you convert that five bushels into good apples, you will make \$1.75 profit on that tree, or \$700 profit on 400 trees. This is over and above what you could get if you did not spray. Take the cost of spraying off and it leaves a net profit of \$567. Besides this, you will strengthen the trees and make them produce better another year.

Controlling Gooseberry Mildew

About three years ago, mention was made in THE CANADIAN HORTICULTURIST of the success of Mr. Joseph Tweddle, Fruitland, Ont., in controlling gooseberry mildew. As his method of control has been verified by later experience, it is well worth mentioning again.

The remedy used is the lime-sulphur wash prepared as for San Jose scale. One application is sufficient and this should be applied thoroughly just as the buds are swelling. The 15-20-40 formula is used in making the mixture. This is boiled vigorously with steam for one hour. Mr. Tweddle's five years experience with this remedy for gooseberry mildew should encourage all persons who desire to grow the English varieties which are susceptible to this disease.



The Power Sprayer is the Most Efficient and Economical for Large Areas

The one illustrated is manufactured by the Friend Manufacturing Co., Gasport, N.Y.

*The substance of an address on "Spraying Ten Acres of Apples: Cost, Equipment and Results," given at the last convention of the Ontario Fruit Growers' Association.