

## HORTICULTURE

### A Few Remarks on Spraying

Col. W. H. Ptolemy, Stony Creek, Ont.

As the season is fast approaching when, on all well regulated fruit farms, it becomes necessary to make arrangements for a thorough and systematic spraying of fruit trees, in order that we may combat the destroying influences of fungous diseases and injurious insects, it behoves us to make thorough preparations for the carrying out of spraying operations. Spraying has become a necessity not only to save the trees that have already been planted, but to materially increase the production of fruit both in quantity and quality.

Spraying is essential, not only on the farm where a large variety of fruit is grown, but also on the farm where the apple orchard gives the main fruit crop. It will pay to take good care of the apple orchard no matter how small the area.

#### FOR LARGE ORCHARD USE POWER PUMP

Although the hand spray pump has been and is still a useful machine for use in small fruit orchards, the power machine has become a necessity on the larger plantations and

has come to stay. In some sections, growers club together and secure these on the co-operation principle. Many kinds are built and many different sources of power are utilized. My experience has been with a machine producing power from a gear attached to the wheel.

Three years ago, I purchased a duplex power spray of 200 American gallons capacity. This machine cost \$250, to which I immediately added improvements to the extent of \$15, including a seat for the driver, covering for the pumps, platform in rear for the operator, and a valve on main discharge pipe for straining the mixture before reaching the nozzles.

#### A HOME-MADE DEVICE

I devised, also, an arrangement for spraying large apple trees, and it works with great expediency. It is as follows: Take two pieces of inch gas pipe, each five feet long, and connect them with a half right angle coupling (a), see diagram. Have holes bored in these pieces one foot apart and short pieces of half inch pipe screwed into the holes. On these pieces, have threads cut out on which to place the nozzles, at (b). Have one nozzle pointing upward from top end (c) and have the lower end capped (d). These pieces, when coupled on as described, will form a concave shape, the top half spraying down on tree and lower half upwards on the lower half.

This pipe as a whole is then attach-

ed near the centre by two slips (e) to a pine pole about seven feet long and two and a half inches in diameter. The hose from the machine is attached to the pipe near the centre by a coupling (f). The pole should stand upright on the platform in rear of machine and be steadied or balanced by the operator with one hand, while, with the other hand, he steadies himself by holding to the machine.

Any number of nozzles may be used on this pipe at the discretion of the operator. If it is found that material is being wasted, one or more nozzles

The same arrangement may be used for spraying plum, peach and pear trees which have attained any considerable size. Any required number of nozzles may be used.

For spraying grape vines, we remove the vine from the pole and uncouple in the centre, cap the ends and hang one on each side of the machine, using about three nozzles on each pipe. This requires two lines of hose. To make fast time on vines, the work should be done on a calm day so that the near sides of two rows may be done.

For tree spraying, we prefer a strong steady wind. This will carry the spray much further and penetrate the foliage much better than can be done on a calm day.

#### KIND OF MATERIAL TO USE

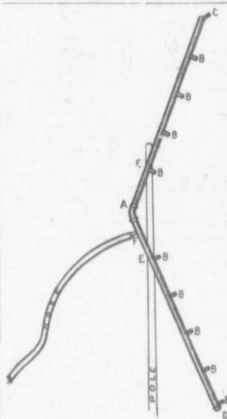
Many different materials have been used for spraying. After trying several different mixtures, we have come back to the old standard, Bordeaux mixture—four pounds lime, four pounds blue vitrol, 40 gallons water, and for poison, four ounces Paris green. This mixture is very effective and may be used with perfect safety on the most tender foliage.

Not being troubled with bark louse and San Jose scale, we have always confined our operations to fighting fungous diseases, codling moth, causer worm and curculio. When spraying is done thoroughly and at the proper seasons to successfully combat the above-mentioned pests, there is little to fear from anything else.

#### WHEN TO SPRAY

For apple trees, three sprayings usually are sufficient, one before the blossom opens, one immediately after the fruit sets, and one, two or three weeks later; for pears, one after the fruit sets and another in two weeks time; for plums, as soon as fruit sets and one, two weeks later; for peaches, one as near the opening of the leaf as possible for the prevention of curculio; for grapes, the early spraying before the bloom opens is usually sufficient to prevent the rot.

In closing we would venture to advise those who may be in doubt respecting the advisability of going to the expense of purchasing a power machine, that if their orchards are of sufficient size to warrant the expense, they will never regret the purchase. Increased results in our apple orchard of fifteen acres, paid for our machine the first year that we used it.



A Device for Spraying Large Trees

may be removed and the points covered by caps.

In using this arrangement for spraying large trees, we do not prevent to stop at each tree or even to shut off the spray between trees, but we drive straight on. Considerable material may be wasted in this way, but the advantage gained in the saving of time and in the number of trees covered in a day greatly exceeds any waste of material, while also, the power is kept up to a high pressure.

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