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Spraying Potatoes

New York Agricultural Experiment Station
Geneva, N. Y.

1917

**What
Spraying
does.**

Spraying prevents late blight and reduces the loss from rot; checks early blight, somewhat; greatly reduces the ravages of flea beetles; prevents paris green injury; assists in the control of bugs; partially controls tip burn; stimulates the plants; and increases the yield.

**Spraying
is
profitable**

Numerous experiments made by, or under the direction of, the New York Agricultural Experiment Station show that it pays to spray potatoes in New York. At Geneva, the average gain during ten consecutive years was 69 bu. per acre from three sprayings and 97.5 bu. per acre from five to seven sprayings. In similar experiments at Riverhead, N. Y., the average gain from three sprayings was 25 bu. per acre and from five to seven sprayings 45.7 bu.

In a total of 114 farmers' business experiments conducted in various parts of the State during nine consecutive years the average increase in yield due to spraying was 36.1 bu. per acre and the average net profit, \$14.43 per acre. These experiments were made by farmers under actual farm conditions on fields of four to sixty acres. In the different experiments several kinds of sprayers were used and the number of sprayings varied from 2 to 17. The average total expense of spraying was \$4.74 per acre.

Further evidence of the profitableness of spraying potatoes is found in the reports of vol-

unteer experimenters. In 205 volunteer experiments reported to the Station during seven consecutive years the average increase in yield due to spraying was 54.3 bu. per acre.

**Kind
of
sprayer**

For fields of an acre or less use a four gallon compressed-air sprayer [\$6 to \$10] or knapsack sprayer [\$10 to \$18]. On fields of a few acres one may use a spray pump mounted in a barrel which is drawn thru the field in a light wagon. The pump should be supplied with two long leads of hose. A man standing in the wagon pumps and drives while two other men, walking, direct the spray nozzles covering several rows at each passage thru the field. Such an outfit [exclusive of the wagon] costs from \$25 to \$40. For fields of ten acres or more a power sprayer of some kind is required. There are several good kinds of horse power sprayers costing from \$60 to \$130. Four-row sprayers are usually operated with one horse and six row sprayers with two horses.

Bordeaux mixture Use bordeaux mixture prepared as follows:

FORMULA FOR BORDEAUX MIXTURE:

Copper sulphate [blue vitriol] 4 lbs.

Quicklime [unslacked] 4 lbs.

Water 50 gals.

Dissolve the copper sulphate in one barrel and slack the lime in another. Dilute each to 25 gallons, then mix. Before using, strain thru fine brass-wire strainer. None of the ready-made bordeaux mixtures on the market are as good as

the home-made bordeaux. Neither can lime-sulphur solution be profitably substituted for bordeaux in spraying potatoes.

Commence when the plants are 6 to 8 inches high and repeat at intervals of 10 to 14 days thruout the season, making in all 5 to 7 applications. With horse power sprayers use one nozzle per row [applying 30 to 50 gals per acre] in the early sprayings and two nozzles per row [60 to 90 gals. per acre] in the later ones. With a knapsack or barrel sprayer 100 to 200 gals of bordeaux per acre will be required at each application. The more thoroly the spraying is done the better. There is no danger of injuring the plants.

Poison for bugs. When bugs or flea beetles are plentiful add poison to the bordeaux. Usually, this is necessary only in the first two applications. With each 50 gallons of bordeaux use one to two pounds of paris green, three to five pounds of arsenate of lead or two quarts of arsenate of soda solution.

FORMULA FOR ARSENITE OF SODA SOLUTION.

White arsenic	1 pound
Sal soda [washing soda]	4 pounds
Water	1 gallon

Boil until the arsenic is all dissolved—15 or 20 minutes.

The bulletins on potato spraying and any other bulletins published by the Station, so far as available, will be sent upon request. Address: NEW YORK AGRICULTURAL EXPERIMENT STATION GENEVA, N. Y.