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SPRAYING POTATOES.

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Spraying potatoes against fungous diseases has made slow progress in this State. The reasons for this slow progress are three fold: the potato is not a main crop, on which farmers depend for their chief income; there are few very large growers who can be depended on to set the pace; and last, late blight, the chief reason for spraying, does not cause wide-spread loss every year. However, each year sees more Connecticut farmers growing potatoes on a commercial scale, and these men are, almost without exception, spraying thoroughly and with profit.

Long continued experiments in New York, New Jersey and Connecticut prove beyond doubt that thorough, consistent spraying pays, every year, especially on late potatoes. Aside from protection from late blight, spraying with a fungicide helps in a minor way to lessen loss from early blight and tip-burn, and, when combined with insecticides, gives adequate protection against the Colorado beetle and leaf hopper, and moderate control of the flea beetle and aphis.

In this state late blight rarely if ever appears before the middle of July, so that spraying would not need to start before that time were it not for the fact that this is a little late for the control of the insect pests and the early blight, and for the further fact that when started this late it is usually impossible to coat thoroughly the lower parts because of the heavy growth of the vines at this time. For these reasons we advocate the starting of the spraying when the plants are six to ten inches high.

For a small acreage, a barrel pump may be mounted in a wagon. A boom is easily attached or the spray may be applied with lines of hose. Commercial growers find it much more profitable to use traction or power sprayers specially designed for potatoes and similar crops. When the vines are small, one nozzle will cover a row but for later sprayings, three nozzles are essential. Several satisfactory traction sprayers are now on the market.

Low pressure is often a cause of poor spraying. The gauge should never drop below 150 lbs. for good results, and 200 lbs. is better still. Successful potato spraying depends not only on beginning early, but also on thoroughness. Keep the foliage coated. A single nozzle per row will not cover, and lines of hose, while effective, make the labor cost too great. The high pressure machine with three nozzles per row is the only satisfactory rig for large areas.

Spraying should be repeated every ten days to three weeks according to the weather conditions and rapidity of growth of the foliage. Keep the foliage coated at all times, and especially see that it is particularly well coated before a rain. If one can spray and have the spray dry on just before a rain, this is particularly desirable. Under these conditions it will take from five to seven sprayings with a traction sprayer to thoroughly protect a field of late potatoes during the season. Ridging the rows early in the season helps to make driving through the field easier and with less injury to the vines. It makes for better coating of the foliage, favors more rapid evaporation of moisture from the vines, and protects the tubers more thoroughly from infection by burying them deeper in the soil.

We recommend only home-made 5–5–50 Bordeaux mixture for potato spraying. To this can be added 3 lbs. of lead arsenate paste, or 1½ lbs. of the dry form, for the first two or three treatments as needed for the control of insects. Farmers are reluctant to make their own Bordeaux mixture despite the fact that it is cheaper and more efficient than the commercial forms. However, where the home-made mixture is impossible, use the commercial forms at the strength recommended. Some growers in other states have had good results with dusting, but our results so far here are much less satisfactory than with spraying.

Home-made Bordeaux can be made as follows:

5 lbs. Copper Sulphate (Blue Vitriol).
6 lbs. Fresh Lime.
50 gallons Water.

Note—Low magnesia lime leaves less sediment and does not wear out the discs so rapidly as high magnesia.

For small acreage. Dissolve the copper sulphate in hot water. Slake the lime and strain through coarse cheese-cloth. Dilute each separately to 25 gallons. Pour together slowly through a strainer into the spray barrel.

For large acreage. Made stock solutions of copper sulphate and lime as follows: Dissolve 50 lbs. of copper sulphate in 50 gallons of water, by suspending in a grain sack. One gallon of stock solution thus contains one pound of copper sulphate. Slake 60 lbs. of lime, strain into a barrel and make up to 50 gallons. The excess takes care of waste in slaking. Put two 50-gallon dilution barrels on a platform so that the sprayer can be backed under them. For a 100-gallon sprayer put 10 gallons of stock lime solution into the lime barrel and 10 gallons of stock copper sulphate solution into the copper sulphate barrel. Dilute each to 50 gallons. By using a molasses spigot for each barrel, the two streams may be run together through a trough into the sprayer. A large fine wire strainer should be set in the sprayer opening. Lead arsenate, Paris green, or nicotine solution may be added if needed. Hydrated lime is handy to use, but Bordeaux made with it is said by some not to adhere so well.

Some growers get good results with the following method: Start filling the sprayer with water, washing in at same time 10 gallons of the stock lime solution through the strainer. When half full, add the 10 gallons of stock copper sulphate solution with the remaining water, stirring meanwhile. When short handed this method saves time. Half of these amounts are used for a 50-gallon sprayer.