

June 22, 1906.

Dear Editor:

The topics covered by the bulletins to be sent you will be of great and immediate importance to your readers. Will you kindly give them space in your columns?

THE DIRECTOR.

Michigan Experiment Station

PRESS BULLETIN NO. 13.

POTATO BLIGHT AND ROT.

Hundreds of dollars are lost each year in Michigan by the blighting and rotting of potatoes. Although its destructiveness is increased by wet, muggy weather, the disease is really caused by a fungus, and the loss can be largely if not entirely prevented by thoroughly spraying the vines with blue vitriol and lime, commonly called Bordeaux mixture. It seldom attacks early varieties that ripen before August 1, but if they are injured by beetles it will often pay to spray them with Bordeaux mixture and Paris green, which will also control another fungus known as "early blight."

The more injurious form which is called "late blight," seldom appears until August, although if the weather is hot and muggy during the latter part of July it will be safest to make an application at once and before the first sign of blight appears if possible. As a rule, it will answer if the first application is made by August 1st, and others should be made at intervals of ten or fifteen days, so long as the weather remains favorable for blight, although once in fifteen days will ordinarily answer. It will be well to continue the applications up to within ten days of the time the potatoes will be ripe. If the weather continues dry during August there is not likely to be very much blight, but as it cannot be foretold, and as the applications to be effectual must be made before the blight has appeared, it will be worth while therefore to spray once or twice during the first half of August, and then continue the spraying, if the weather is favorable for blight and especially if it has appeared in unsprayed fields.

As a rule, from three to five applications will suffice, but if the weather continues wet and muggy during the months of August and September, six or seven applications will be well repaid upon late planted potatoes. If one is well equipped for spraying, the expense for labor and material will not be more than eighty cents per acre for each application, or from \$2.50 to \$3.00 for the season, in average years, and this might suffice to save the crop as without the spraying it might be lost entirely.

For small areas a hand pump on a cart or wagon, to be worked by the driver, will be fairly economical but for twenty acres or more it will pay to use a special power spraying outfit. Most of these take their power from the wheels or axle. With either kind of outfit there should be a gas-pipe at the rear long enough to cover four or five rows, and attached to the pump by means of a hose. Just over each row there should be a double Vermorel nozzle, with which a fine spray can be produced that will entirely cover the plants.

Use four pounds of blue vitriol and six pounds of lime for fifty gallons of the mixture. To prepare it take as much blue vitriol as will be needed, say twenty-five pounds, and after placing it in a coarse sack suspend it in a barrel that is half full of water, where it will dissolve in a few hours. Also slake as much lime as will be required, so as the form a thick paste. When ready to spray, take a proportionate part of the blue vitriol solution and the lime as will give four pounds of the former and six pounds of the latter. Dilute each to twenty-five gallons and pour together, stirring it carefully at the same time.

In making the application, have the nozzles adjusted so as to thoroughly cover the plants, and if dashing rains wash it off it will be well to repeat the application within a day or two, especially if the weather is muggy, as the leaves must be kept covered to keep off the blight.

Not only is the blight more troublesome in wet seasons but it does most harm in poorly drained soils, and upon heavy clay more than upon sandy soils. Under the most favorable conditions it is liable to do considerable harm this year in sections where the disease appeared in 1905 and every potato grower whose potatoes rotted last year should prepare himself at once to spray this year.

L. R. TAFT,

HORTICULTURIST.