

THE CULTURE OF POTATOES*

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One may keep potatoes growing thriftily through a time of drought by thorough cultivation and yet neglect looking after the tops and preventing them from being destroyed by the potato beetle and by the blight and rot. Prof. Zavitz, in an experiment at Guelph, showed that in an average of two years potatoes which were allowed to be eaten by bugs only yielded 60.69 bushels per acre, while those sprayed with paris green yielded 138.20, an increase of 77.50 bushels per acre, and just in proportion to the amount of top destroyed so much will the crop be lessened. Instead of waiting until the vines begin to show very plainly the work of the young beetles the vines should be sprayed just when they are hatching, as it takes a day or two usually before the Paris green takes full effect and the vines by that time are pretty badly eaten.

Not only should we spray to kill the potato beetle, but also to prevent the blight which causes such great loss every year. If growers would only spray their potatoes with Bordeaux mixture their crops would be very much increased. In an experiment during 1904 with 15 varieties it was found that the average yield per acre of the 15 kinds where sprayed with Bordeaux mixture and Paris green was 369 bushels 21 pounds per acre, and the same varieties unsprayed 306 bushels 39 pounds per acre, or a difference in favor of spraying of 62 bushels 42 pounds per acre. Taking an average of three years, the increase has been 94 bushels 30 pounds per acre, which at 40 cents a bushel means \$37.80 per acre, the cost being about \$9 per acre at the outset for large areas, or a net gain of \$30.80.

A combination of Bordeaux mixture and Bug Death gave an increase over ordinary Bordeaux mixture and Paris green of 29 bushels 42 pounds per acre, but the cost of this was nearly twice as much as the former. There was still, however, a net difference in favor of Bug Death and Bordeaux mixture

applied together of \$3.08 per acre, estimating the price of potatoes at 40 cents a bushel. Bug Death applied alone in 1904 gave an increase of only one bushel 13 pounds per acre, taking an average of 15 varieties, although with some varieties there was a much greater difference, but on the other hand with others there was about as great a difference in favor of Paris green. It is only by averaging that we can get at fair estimates of what the results would be in field culture.

AN EXCELLENT MIXTURE.

The best mixture of those which have been tried for several years to prevent blight and rot and to kill the potato beetle is the poisoned Bordeaux mixture, the formula found best by me being: Sulphate of copper, 6 pounds; lime, 4 pounds; Paris green, 8 ounces; water, 40 gallons.

Although the blight does not usually appear until after the middle of July I prefer using the Bordeaux mixture at the time when the first spraying is made to destroy the young beetles and keeping the vines covered with the mixture from then until September. In 1904 it took five sprayings to do this. If the vines are not kept covered it may happen that the blight will come unexpectedly when spraying is needed. Hence the work should be done thoroughly or not at all.

The first spraying we give is not considered necessary for the prevention of the late blight, but it does, we believe, protect the foliage from other enemies. Five sprayings should not cost more than \$9 per acre for time and materials if one has a good spray pump. The Bordeaux-Bug Death mixture which was tried this year for the first time gave better results than Bordeaux mixture and Paris green, but several seasons' tests are necessary in order to show whether it will average better than the Bordeaux mixture and Paris green.