

Spray Potatoes for Fungus as Well as Bugs.

Although, since the advent of the unwelcome potato beetle, spraying potatoes with poisons has become common, it is only of recent years that very much attention has been given to spraying for blight and rot. There is, nevertheless, abundant evidence to prove that the use of Bordeaux mixture in conjunction with Paris green is highly profitable in sections where the above troubles occur.

Like all fungous diseases, blight and rot, must be combated by preventive measures. Bugs may be poisoned and their ravages checked after they have appeared in some numbers. Not so with fungi, which, having once gained entrance into the plant, cannot be checked, although spraying may still be of some service in preventing the infestation of one plant from another. It should be borne in mind that the mycelial threads of the fungus permeate the plant before any blight or rot is apparent; hence, if we wait for signs to appear, a surprisingly large proportion of hills may have been infected. The only way in which spraying can be of use in combating fungus is in keeping the vines coated with the spray mixture, so as to kill the spores before they have a chance to enter the plant tissues. It may be noted here that late blight and rot are both caused by the same fungus, acting in one case upon the leaves, in the other upon the tubers. Spores ripen upon the leaves, fall upon the ground, and are washed through the soil upon the tubers by rains. Hence spraying for late blight ordinarily prevents any but slight damage from rot.

No one need point out the loss caused by rot, but a word may be in place on the damage done by blight, which stops the growth of vines prematurely, and thus reduces not only the yield, but the quality of the tubers. In some tests at Geneva, N. Y., it was noticed that the growth of unsprayed potatoes was checked very early, and was practically ended by the first of September. As might be expected, these immature tubers were of inferior quality. This was shown by chemical analyses, and by a cooking test. Fifty consecutive hills on a row sprayed five times with Bordeaux were dug separately, and the same number were taken from an adjoining unsprayed row. In the fifty sprayed hills there were 265 tubers, in the unsprayed ones only 221, and the potatoes from the sprayed hills weighed almost twice as much, on the average, as those from unsprayed hills, weights being 6 1-3 and 3 1-2 ozs., respectively. Chemical analysis showed about one-sixteenth more dry matter per pound in the sprayed potatoes, and one-ninth more starch. In cooking tests, the sprayed potatoes were found noticeably more mealy than the others, and they were pronounced of much better quality by all who ate both.

But the most convincing argument for spraying will be found in some figures on yield, obtained from the popular edition of Bulletin 264, of the New York Experiment Station, on "Potato Spraying Experiments" in 1904. Under direction of the Station authorities, a number of "Farmers' business experiments" were conducted last year. Fourteen potato-growers who were intending to spray co-operated with the Station in the work, and carried out the tests. The growers furnished apparatus and material, and did the work as best suited their own plans. Each experimenter was required to leave a few rows unsprayed in a representative portion of the field. The Station merely gave advice when asked to do so, and supervised the harvesting sufficiently to obtain an accurate measure of the effect of spraying. A row or more in the untreated part was compared with a similar row or rows in the sprayed section. The tests were all on a large scale, 2-3 acres being the smallest area sprayed, and the fields were scattered all over the State. In thirteen out of the fourteen experiments there was a gain from spraying, the average being 62 1/2 bushels per acre. Note these facts:

Average increase in yield per acre.....	62 1/2 bush.
Average cost of spraying per acre	\$ 4 98
Average cost per acre for each spraying.....	98
Average net profit per acre	24 86

The number of applications ranged from three to ten, and they were made with apparatus varying in power and efficiency from a five-gallon compressed-air sprayer carried by the operator, to a power sprayer treating six rows at a time and covering fifteen acres a day. The essential features are a fine spray and a proper mixture.

Since spraying for bugs is necessary anyway, it should require no argument to convince growers of the advantage of combining with it the bluestone and lime, especially seeing that the lime makes the Paris green adhere better to the vines, and also prevents injury to the foliage. Bordeaux and Paris green have given the best results of any mixture tried at the New York Station. Directions for preparing have been often given in this paper, and may be found in issue of March 30th. The formula is: Bluestone 5 pounds, quicklime 5 pounds, Paris green 4 ounces, water 40 gallons. Slake the lime and

dissolve the bluestone in separate vessels; mix the Paris green with water to a thin, soupy paste, and stir into the barrel into which has been previously put the milk of lime, the bluestone solution, and water enough to make 40 gallons.

When the potato beetles first appear, spray with this mixture, and repeat every ten days or two weeks thereafter, so as to keep the foliage coated with the spray mixture as long as the plants remain green. The Paris green, of course, may be omitted after the bugs cease to be troublesome. If rain comes before any application is dry on the vines, the treatment should be repeated, but spraying should not be stopped just because it "looks like rain." Just after a warm rain, followed by muggy weather, blight spreads fastest, and the plants most need protection. It requires but a short time for the mixture to dry on the vines, and then it takes a heavy rain to wash it off. Every effort should be made, therefore, to complete the spraying before the rain comes. The man who sprays with Paris green only is not half doing the job.

Maine Experiments with Vegetables.

Bulletin 113 of the Maine Agricultural Experiment Station gives a summary of some of the results of the horticultural work of that Station.

It is shown that the earliness and productiveness of tomatoes is in direct ratio with the earliness of setting in the field; that trimming the plants after a part of the fruit has set, increased the yield more than one-third; and that transplanting the young plants at least twice before removal to the field is advisable.

Studies of the cabbage showed that frequent transplanting before removal to the field increased the average size of heads; that handling the young plants in pots gave better results than handling them in boxes; that depth of setting had very little influence on the size of the heads; and that trimming the plants at time of setting is not specially important.

APIARY.

June in the Apiary.

Keep up with your bees, especially in June, for there is no time when a little delay may bring about such loss as when the bees are in the clover. Don't let them get ahead of you, or you may lose a large part of what you have been working for. June is the month when spring work, such as getting the bees and appliances into shape for the honey harvest, gives place to the hiving of swarms and the putting on of the supers. And happy is the bee man who has his hives fairly boiling over with bees and a great big stack of nice white extracting combs ready to pile on top of them when he sees the fields of clover begin to show white and the tops of the combs in his hives to do likewise. For each colony of bees a man should have two, or even better, three, supers of extracting combs, in order that the first honey stored may have plenty of time to ripen before it has to be extracted to make room for what is to follow. The time, to put on the first super is when the bees begin to show signs of crowding below by bulging the tops of their combs and depositing wax on the sides of the top bars of the frames. If the putting on of supers is delayed beyond this time, excessive swarming is liable to result. The time to put on the second super is when the bees have got well started sealing the first. Set the second under the first, and the bees will hustle in both. If the lower super be filled before the first is nearly all sealed, a third is necessary, as in no case should the honey be extracted until it is at least three-quarters sealed. If it is all sealed, so much the better. Space the frames wide apart by putting only seven in an eight-frame super, or eight in a ten-frame one. The bees then draw the combs out very thick, and it is not unusual to get from eight to ten pounds from one comb. If there are not sufficient combs to go around, use full sheets of foundation instead, and never think of putting on an extracting super without a queen-excluder between it and the brood nest. There is nothing it pays a beekeeper better to have than a big stock of extracting combs—more than he thinks he will need—for when the bees get a big run of honey from basswood, as they sometimes do, it will surprise anyone who has never seen it before how fast they will fill up the supers. The basswood flow only lasts about a week or ten days, but there is nothing that is more worth while being ready for when it comes; and if you are not ready it won't wait.

I have taken the "Farmer's Advocate and Home Magazine" for several years, and have received a great deal of benefit from it. J. E. RINCH. Durham Co., Ont.

NEWS OF THE DAY.

Canadian.

A rich discovery of gold-bearing quartz has been reported from the north of Frontenac Co., Ont.

Hon. David McCurdy, for 24 years member of the Nova Scotia Legislative Assembly, died June 10th of pneumonia, at Baddeck, N. S. He was 95 years of age.

Mrs. Leonidas Hubbard, wife of the explorer who perished in the interior of Labrador last year, has arrived at Halifax, on her way to Sillisport, where she will organize a party and take up the work at the point where her husband gave up his life.

This is the last year in which the military camp will be held at Niagara, where the 400 acres set apart for the purpose are entirely inadequate. The next camp for the district will probably be in Northern Ontario, where the Government has reserved 25,000 acres as a military training ground.

British and Foreign.

The torpedo mines carried by the sunken Russian warships are now coming afloat, and rendering navigation very dangerous in the Sea of Japan.

Lieut. Peary will make another attempt to reach the North Pole. His expedition will set out from New York on the Steamer Roosevelt on July 4th.

Russia has agreed to Washington as the point at which negotiations between Russia and Japan are to take place.

The Danish Imperial family has refused the crown of Norway for one of its Princes. In Norway the Norwegian tricolor has in all places been hoisted instead of the union flag.

In commemoration of Togo's victory, a lighthouse whose light will be visible for 80 miles, covering nearly the whole scene of battle, will be erected on Okino Island, Japan.

Germany has addressed a note to the Powers, proposing an international conference on the Moroccan question, qualifying the step by the assertion that it has been authorized by Morocco. Germany's action in the matter is looked upon as the beginning of a possible European crisis.

Theodore P. Delyannis, the popular Premier of Greece, was assassinated recently while on the way to the Chamber of Deputies at Athens. The assassin, a professional gambler, stated that he did the deed in revenge for the Premier's order that all the gambling houses in Greece be closed.

THE FARM BULLETIN

The Argentine exporters of live stock to Great Britain, in order to avoid the prohibition of the importation of live animals, now send 1,500 live sheep weekly to Antwerp, where they are slaughtered, and the fresh mutton is sent across to England. The enhanced price received for the Argentine-Antwerp mutton encourages this circuitous mode of trading.

One cause of the dearth of apples in Great Britain at the present time is the comparative scarcity of Australian apples. Last year nearly 700,000 cases were brought to the British market, but this year's aggregate is not expected to reach over 400,000 cases. This probably explains why from four pence to six pence a pound is being asked for Australian apples.

Wm. Rennie writes: "We beg to call your attention to the article on 'The Clover Midge,' June 8th 'Farmer's Advocate,' page 850. In the third last sentence it should read, 'While the red clover is fertilized by the bumblebees, which are not developed in time for the FIRST crop,' instead of second crop as it appeared."

What of the Round Cement Silo?

A good many round cement-concrete silos have been in use in Canada for several years, and a correspondent who is about to build wishes several readers of the "Farmer's Advocate" to send us for publication the result of their experience, stating: 1st, dimensions and thickness of walls; 2nd, how constructed, materials used, how finished, and cost; 3rd, how has the silage kept in them, compared with the tub silo; 4th, what kind of hoops were used, and where obtained? All this information can be put in a very short letter which we trust our readers will send by an early mail.

Temiscaming Farmers' Institute Meetings

Supt. Putnam has arranged Farmers' Institute meetings in the Temiscaming District as follows: Hanleybury, July 5th; New Liskeard, July 6th; Hillview, July 7th; Milberta, July 8th; Uno Park, July 10th; Hanbury, July 11th; Earleton, July 12th; Headship Corners, July 13th; Hilliardtown, July 14th; Judge, July 15th.

The speakers will be Prof. C. A. Zavitz and Prof. J. B. Reynolds, Ontario Agricultural College, Guelph, who will discuss a wide range of practical subjects in relation to crops, seed grain and cultivation.