

Potato Cultivation and Spraying.

In planting potatoes get the rows started straight, and keep them so, as much better work can be done, both in cultivating and spraying. The cultivator should be started as soon as the planting is finished, using a riding spring-tooth double cultivator, as not only can the work be done twice as fast, but it can be much better done in all ways, especially if there is any twitch grass. Cultivate at least once a week, and twice if there is time, running as near the rows as possible, and if this work is properly done, you will find that there will not be a weed or any couch grass between the rows by the time the potatoes are breaking ground, but all clean, loose dirt, the weeds being along the top of the row on a strip not over six or eight inches wide.

Now, when the potatoes are breaking ground, no matter if some of them are two or three inches high, take the horse hoe or shovel plow and bury them right up, not too deep, but deep enough to cover any little weeds and a good part of the twitch grass. This will leave the field just as free from weeds as when planted, and will hardly check the potatoes. A potato or thistle will readily force its way up again through a few inches of loose earth, but all small weeds and a good portion of the couch grass will be killed. Keep the cultivator going until the potatoes are from fifteen to eighteen inches high. When from six to eight inches high, spade or hoe them up, throwing the dirt so that it will meet along the top of the rows. If this work has been properly done, there will not need to be any work with a hand hoe, unless there are thistles in the field, which will have to be cut out by that method from between the hills, but little expensive hand hoeing is necessary.

SPRAYING.

I am often asked, "At what time do you begin to spray?" Usually when the vines are from six to eight inches high, but always as soon as I can find a single tiny slug hatched out, and I believe, one year with another, that this is soon enough. The first three sprayings should not be over a week or ten days apart at the most, as this is the period of the vines' most rapid growth, and insecticides should be used at each of these first three applications, especially if bugs are plenty. These should be followed by one or two more applications at periods of two weeks apart, of the Bordeaux mixture; but if there are any slugs, if only a few, an insecticide should be used.

Do not try to save money by not using Bordeaux mixture at all sprayings, as it will be mistaken economy, and go over and back on the same rows. In this way only can you be sure that you have reached both sides and all parts of the hills. This is especially important at the first three sprayings. The few minutes extra it will take per acre, will be many times repaid in the yield of tubers, and in this way we are sure that we shall not lose our crop by rot.

No farmer who has an acre or more of potatoes can afford to get along without the use of a four-rowed horse sprayer. I want to give a word of warning against getting a low-pressure or cheap machine. A poor sprayer is one of the meanest implements a man ever owned. Spraying, to be effective, must be done thoroughly, and it cannot be done thoroughly with a low-pressure sprayer. As perhaps some of you do not understand the principle of spraying for blight, I will try to illustrate. If you could take a hill of potatoes and dip it into Bordeaux mixture four or five times during its growing period, that hill would never be struck by blight, or its tubers by rot, as you would have coated leaf, stem and stalk with the Bordeaux. Now, we cannot hope to do as good work as this with a sprayer, but we must come as near to it as we can; and we cannot begin to do this with a low-pressure machine; but if we have a high-pressure machine, of say sixty pounds, and use a fine nozzle, we will get our spray like a jet of steam from a boiler, forced among the leaves of the plants, coating the stems and stalks, and to a large extent the under side of the leaves. A barrel of mixture with a high pressure will go farther and do better work than in a low-pressure machine. The hand-pump machines will do good work if you have a good man on the pump, but it is hard work to keep the pressure up to where it ought to be, and the power machines are much more satisfactory. Do not buy any sprayer without first looking at the agitator, as this is one of the most important parts, and be sure that it extends across the barrel, or nearly so, whether the barrel is upright or on its side, and that it plays close to the bottom. In no other manner can the mixture be kept perfectly stirred, and even work insured with Bordeaux mixture.

Bordeaux mixture is the proper mingling of two mineral substances, viz., copper sulphate, or blue vitriol, and common lime.

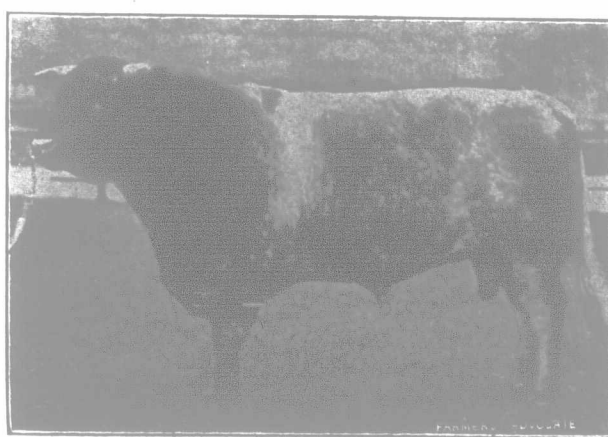
I will give my method of preparing the mixture for potatoes, the user remembering that for plants of tender foliage the strength must be reduced. Get two strong barrels, holding fifty gallons each, oil barrels being the best, as they won't dry out as quickly when exposed to sun and wind. Dissolve in one of them fifty pounds copper sulphate; this will give one pound of copper sulphate to each gallon of water; pour into the other barrel about three pails water, and then turn in fifty pounds of good unslacked lime, having at hand a stout paddle for stirring. Watch carefully when this begins to boil, and stir constantly, adding more water as it slacks to keep it from burning, the object being to cook the lime without burning; and when this is properly slacked, the barrel will be about half full of lime which will be about the consistency of mush. If not desired for immediate use, it is well to let this

set in this state a few hours before filling the barrel up with water, as cooking dissolves the lime better, there being less coarse material to strain out. Before using, fill the barrel up with water, and stir. This gives one pound of lime to each gallon of water; this also will keep indefinitely.

If your sprayer tank holds fifty gallons, pour five gallons of the copper sulphate solution into the tank, and add clear water enough to fill about half full; then add Bug Death or Paris Green—about fifteen pounds of the former, or about four ounces of the latter—mixed in water enough to run easily in a pail. Now put in five gallons of the lime solution, stir thoroughly, and fill the barrel up with water. Mixed in this way, the copper solution will not curdle the lime and clog the strainer over the feed pipe. You now have a mixture that is not only the most deadly to bugs, but the best fungicide known.

Brunswick, Maine, U. S. A.

E. A. RODGERS.



Collynie Conqueror (78609).

Four-year-old Shorthorn bull, bred by Wm Duthie, Scotland. First prize and sweepstakes at Royal Dublin Show, 1904.

From the Hired Man.

At the present time, when the necessities of the country are requiring the importation of farm help, and the farmer in Canada is coming into more general contact with experienced farm help and others from abroad, of all degrees of intelligence, it may not be amiss to some of your readers to learn something of the feelings of one who, some 15 years ago, became a hired man on a Canadian farm.

In Scotland, I never had anything to do with farming, and had lived in a large city nearly all my lifetime. This may be the case with some who, coming direct from Britain this spring, will hire out on farms.

On looking back, what comes first to mind is the dreadful homesickness. None can understand the feeling but those who undergo it. If you farmers find your Old Country help very quiet and reserved, and perhaps cross, just put yourselves in his place, mentally. Your help has severed himself from all his old associations. Things trifling in their way, but very dear to him, are occupying his mind. All his surroundings are new and strange, and he feels quite odd. A little consideration of his feelings now and again, and a little sympathy shown him, will make him an interested workman. I remember one man I worked for used to come once in a while to me in the field, and after a "Weel, Aleck, are ye lonesome," he would wait and tell me about Canada, and the ways of the neighborhood, and chat about the homeland, though he had never been out of Canada. I could have worked for that man night and day after these little chats, they were so encouraging. Another man I was with in those lonesome days used to wake me between 4 a. m. and 5 a. m., be the weather wet or dry. After a few chores, we had breakfast, which was more like a scamper over the table. Then, when there was no work to do on the clearing, he would send me away alone to the back end of the lot to clear up the slash and fire stumps, if fine, or work about the barn if wet. It was awful to be away at that "back end" alone, for one's thoughts are not of the cheeriest during homesickness. The farm was in a lonely spot at the best, but had he only chatted with me once in a while, I would not have felt so lonesome. It was sacrilege, too, to stop working while daylight lasted.

Writing of breakfast, brings to my mind one farm, where at 6 a. m. I had porridge, bread and butter and tea for breakfast. By 10 a. m. I was almost too hungry to crawl; while by dinner-time I was past enjoying food, and what I did eat made me drowsy and next to useless all the afternoon. This style of dieting, I must say, I found an exception to the rule. A young man fresh from a sea voyage and out in the open air all day needs substantial meals if hard work is expected of him.

At home, I had been accustomed to a bath two or three times a week. On my first farm I found such a matter was of no consideration at all. I got over the difficulty after a while by rising very early on Sunday mornings, and taking two wooden pails of water to the barn, I had my bath before anyone was up. This proceeding somewhat astonished the household. On another farm, I was encouraged to bathe regularly, and all through a severe winter I had my weekly bath. My experience is, however, that the bath is not the common institution it ought to be on the farm.

One farmer I was with showed some irritation when he saw me reading. I am fond of reading, and at dinner-time, when resting, I liked to have a book with me. I never got more than a few minutes at it, though, for that farmer seemed to think I was wasting time, and usually found some chores for me to do. Then, in the summer time, we were never done with work till dark. On another farm, the day's work was done by 6.30 or 7 p. m., except a few evenings at haying or harvest.

A man is, of course, hired to work, and during work hours he has no right to do anything but what he is required to do. Outside of work hours, though, if the man shows himself able to appreciate some little attention to his comfort, then it is a mutual advantage to take an interest in him, and make him feel that he is something more than a farm tool.

ALICK.

Application of Farmyard Manure.

Should manure be applied fresh or rotted? The answer to this question must be that it depends upon conditions. It is true, as a rule, that the fresher we can get the manure to the field the less is the loss of plant-food. It is difficult so to keep manures and so to control fermentation that there shall be no loss. Recognizing this fact, many advocate taking manures to the field about as fast as they are made. It may be further urged in favor of this practice, first, that fresh manure carries more humus to the soil than that which has been rotted, as in the process of rotting a portion of the organic matter is destroyed; second, most of the manure made upon the farm is produced during the winter months. On the majority of the farms the amount of work at that season is comparatively little. In the spring, on the other hand, work is much more pressing. It is a great practical advantage, therefore, and may be a considerable source of economy in the cost of getting out the manure, to do the work about as fast as the manure is made during the winter. The question will doubtless be asked, however, if manure is spread during the winter, does it not suffer serious loss through lying upon the surface? In considering this question, it is important to remember that the proportion of soluble constituents in fresh manure is less than in rotted. It is further important to remember that fresh manure does not contain any considerable amount of ammonia, while rotted manure may. If manure is spread during the winter months, before the nitrogen of the urine or dung is converted into ammonia by the process of decomposition, there is nothing of value in the manure which can escape into air; and ammonia will not form to any considerable extent at the low temperatures prevailing in winter in the manure which lies upon the surface. The only source of loss, then, would appear to be through the washing out and escape over the surface of a portion of the soluble constituents of the fresh manure. This loss may in some situations be serious. If, however, the field is fairly flat, or if on a moderate slope it has been cross-plowed with a rough furrow late in the fall, the amount of wash over the surface will not be great. If the winter is open and the rains and thaws are frequent, the manure as it lies upon the surface will, of course, be leached, but if the water which flows through the manure soaks into the soil, this does not involve any loss. It doubtless would be a mistake to apply manure on grass land or on steep slopes in late fall or winter, when it must be allowed to remain upon the surface, but it should be remembered that this loss is likely to be less with fresh manure than with rotted. It is doubtless to be expected that when any fresh manure is spread during the fall or winter there must be some loss of manurial value, but in many cases it appears to be true that the saving in the cost of the application is sufficient to more than offset such loss as is likely to occur. Whether the manure should be applied fresh or first rotted must be determined in part by the nature of the soil and by the crop.

For cold, heavy soils, coarse, quick-fermenting manures are to be preferred. They increase the porosity of such soils, and their decay in the soil improves its mechanical condition. For the lighter soils the finely-rotted or cold manures should be preferred. Market-garden crops must usually be manured with fine, well-rotted, quick-acting manures, while for crops like grass and corn the slower acting manures may be selected. There appears to be much need of further light on the general question of the expediency of spreading fresh manure on fields in winter. Many good farmers follow this practice, but there are also many who believe it to be a mistake. The comparative results of the two systems will, undoubtedly, vary to a considerable extent in accordance with the variations in seasons. It is believed that during many winters the loss of manurial value would be exceedingly small, but we doubtless have occasional winters, such as a winter when there are heavy rains and thaws, in which the loss in the wash over the surface would be large. Only a careful series of experiments extending over a number of years can be expected to solve this question.

FARMER.

Perth Co., Ont.