OUR EXPERIENCE IN RAISING POTATOES.

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Mr. Wurtz.

Within the limits of a short paper it is impossible for me to do justice to, or thoroughly explain this subject, as I dare say, of all the crops which we raise there is none that needs closer attention than the potato crop to make it a success to the average farmer. As we principally have a mixed farming in this State, it is necessary for us to follow a rotation of crops; therefore it would be very unwise for us to adopt or rely only on one crop where we have opportunities above the large portion of our farm country. For that reason I would urge upon you that not a crop that can be raised in this State is valueless enough to be overlooked, whether we raise it to any extent or not. And let us be master of what we raise. I think it would be unwise to try and raise twenty-five acres of potatoes where we are so situated that we can only take care of five acres properly.

Now, the question that stands before us is how to properly take care of them, and how to get the best results, or, in other words, how to get the most dollars out of them, as the latter is the principal thing we are really after. I will simply give our experience as we have found it year after year, and leave it with the audience to decide what is best for them after the discussion is ended.

Preparation of Soil.

In preparing the ground where we have no sandy soil we must get it as near sandy-like and as mellow as possible. Therefore, if we have tough sod we plow it shallow in the fall previous to our planting; in the spring we cultivate and harrow thoroughly, cover it well with manure, and then replop it from seven to eight inches deep. We take the greatest pains in plowing as level as possible, so as to prevent the use of more tools on the ground than is necessary after it is plowed, especially when the ground is wet. I will have to repeat that we keep the ground as mellow as possible, as this is one of the most important points. Where we plow the ground twice we seldom go over it more than once with the drag harrow, and once with the smear; we never use a roller, as it packs the ground too hard. After that we mark it in checks two and a half feet one way and three feet the other. We prefer checks, as we can cultivate them more thoroughly.

Planting.

We are now ready to plant. In the first place I should like to advise you not to cut your seed potatoes too long before planting time, as they will dry too much. We plant by hand. We mean to plant about three inches deep. Where the ground is in the condition that we wish to have it we simply throw the potato in the mark, step on them and cover them with the hoe.
By so doing, we leave the potato solid in its place, where it will soon sprout, and the loose ground on the top will soon allow the potato to come up and get a vigorous growth, providing the seed has been well selected and has had proper care. This is a point that is so often overlooked by so many of our farmers, and then they wonder why they cannot make a success in raising potatoes.

If possible we pick out our seed potatoes in the field while digging in the fall, as this is the best place. We never choose a potato that varies in any

way from its proper kind; we choose a smooth, middle-sized potato, with as few and shallow eyes as possible. Care must also be taken for the so-called "sports." If you will watch your crop closely, you will find that even if you take the best care you will find different-colored potatoes in one variety, and if you are not careful you will soon run out your potatoes, and you may not know why. During the winter we keep our seed potatoes dark and as near to the freezing point as possible, so as to prevent them from sprouting, until about ten days before planting, when we carry them up in the barn, where they will soon begin to sprout. We can easily see those which are not thrifty enough, and those we throw out. It is also much better to get your potatoes started from the first sprouts, as they are much stronger.

Cultivation.

The first cultivation we give our potatoes after planting is to run through with the weeder just before the sprouts come out of the ground, unless we should have a heavy rain before those potatoes get so far along. In that case we should prefer to go through with the weeder or drag harrow, as soon as we see fit to do so. After that we use the Planet Junior one-horse cultivator, and keep them thoroughly cultivated until they are fit to hill. We hill them with an old-style hilling plow and after this we never apply another tool to them un-
DISCUSSION.

Mr. Culbertson—Why do you take a potato of medium size?

Mr. Wurtz—We have had better results from taking a potato of medium size, because they have the better quality, and they are about the size that we wish to have them.

Supt. McKerrow—What do you mean by medium size? About the size that commands the best price in the market?

Mr. Wurtz—Yes; I would call them table size. We have an Empire State which grows quite large.

Mr. Culbertson—Is the planting of very large potatoes likely to injure the quality of the following stock?

Mr. Wurtz—Well, I won't say that it would be injured, but there would be too much waste; for instance, the Rural New Yorkers, which grow very large, I would not take the largest ones because they grow too large, as a rule. Such large potatoes would not be as marketable as a smaller variety.

Supt. McKerrow—If you had a smaller variety, would you plant the largest of them?

Mr. Wurtz—Yes, I would.

Mr. Furbek—How fine do you cut your potatoes—how many eyes?

Mr. Wurtz—We cut them down from two to four eyes. This potato I hold in my hand has too many eyes right on the point, and we cannot get good satisfaction, unless we cut the seed end off from it. If we leave all those eyes on the end when we cut the top in two, it will leave too many eyes, and it gives too much of a top, and the result is that there are a good many small ones in the hill, so we cut off that top part. There are two eyes in this piece and that will bring good results. We mean to cut our potatoes from the top downward, generally. By holding them up to the light you can see that the roots run downward, and when we cut the wrong way we get more of the part that forms in the root in the potato.

Mr. Matteson—How many pieces do you put in a hill?

Mr. Wurtz—One in a hill; there are four eyes there, but one would not amount to a great deal, because it is too thin, and there are two eyes in each of the other pieces.

Mr. Scott—Have you carried on an experiment with reference to the seed end?

Mr. Wurtz—We throw them out entirely. We have left the seed end on, and in some varieties it makes a pile of difference, because we have too much of the growth of the top and then they are all small potatoes in the hill.

Mr. Scott—is that in contradiction of the experiments at Madison and at the Ohio Station? I understand they carried on three years' experiments to determine this fact at Madison, and what little difference there was, was in favor of the retention of the seed end, and like results were reached at Ohio.

Mr. Wurtz—It was not so with us. I am telling you our experience along that line.

A Member—Do you think you get better results by cutting the potatoes or planting them whole?

Mr. Wurtz—I think it would be a great waste to plant the potatoes whole. On small potatoes there are generally more eyes than on the larger ones, and, of course, I would not advocate planting small potatoes then.

Mr. Gillingham—You do not think the small potatoes so productive?

Mr. Wurtz—No, sir; in time your potatoes would run out—grow small by and by. Probably one year would not make much difference, but if you followed out that rule for some time I
think you would find that your potatoes would run out.

Mr. Scott—I would like to ask Mr. Gillingham about this.

Mr. Gillingham—The experiments at the Station show that they have had practically as good results by cutting down the seed end. I know there are farmers throughout the country who have that opinion, but I think they carry this opinion for the reason that there are a good many sprouts, of course, if they plant that end of the potato. Perhaps there is not plant food enough for that number of plants, but if that potato is cut down through the end I think there is no object in cutting it off, for the reason that we get our strongest plant from the end of the potato. That is my idea.

Mr. Cook—How about the blight; do you have any trouble with it?

Mr. Wurtz—We do to some extent, but we have not done anything to guard against it.

Supt. McKeWern—You have not used the Bordeaux mixture for it?

Mr. Wurtz—No, sir; but I think even land plaster is a good thing to guard against it partly. A year ago we plastered about one-third of our potatoes on a piece of about six acres, and those that we plastered were a great sight better, and they did not show blight as much as those we did not plaster.

Mr. Culbertson—What is your object in covering potatoes with the hoe?

Mr. Wurtz—Simply because we think we can get the proper amount of ground on top of the potato that it requires. In covering with a horse power, we find that we get them down deeper, some of them, than we wish to have them, and on our soil we have to be very careful not to get them down too deep.

Mr. Scott—What is the proper amount of ground?

Mr. Wurtz—We aim to plant about three inches.

Mr. Arnold—I think the gentleman made a good point when he said that he treads down the potato, and has it firm in the ground. I think too many of us plant our potatoes and leave the ground loose around them; then when dry weather comes on, they don’t grow as they should, on account of having only loose soil on top of them. That is the trouble with a machine. There is a pressure of earth on the potato when you tread it that way. Then, again, he says, take a medium-sized potato and in that way prolong the life of the potato. If you get it too large there is waste, and if you get it too small it will run out. It seems to me there is a good deal of sense in that.

Mr. Everett—Do you cut your seed from the seed end or the stem end of the potato, Mr. Culbertson?

Mr. Culbertson—I cut my potatoes with a little tool or instrument made for that purpose, which does not count eyes, and we get just as good results, and we can do the labor in one-third the time. These tools are becoming very common with us. When I cut a potato by hand, I begin on the opposite end from this gentleman. I have been taken to task for doing so, but I begin at that end for the reason that I want a potato split, and I want all of the eyes left on.

Mr. Scott—Would you prefer to have the pieces long and slim, or in as chunky a form as possible?

Mr. Culbertson—The object of using this little machine is that it cuts in a very chunky, compact form, and it is my idea that it ought to be in better condition to stand unfavorable conditions than a long, slim piece, or a thin, slabby piece.

Mr. Wurtz—That is my idea, and experience, too.

Mr. Cook—What about bugs, do you have any?

Mr. Wurtz—We do. We use land plaster and Paris green; about a tablespoonful of Paris green to about three quarts of land plaster, and apply it by hand. We find better results than where we apply the Paris green with water.

Mr. Cook—In our State we are finding a great deal of damage from this Paris green burning the foliage, and very much of the trouble that has been laid to the potato beetle and to the fungus has been found to be due to Paris green, and many of our potato growers are coming to put lime with the Paris green, which neutralizes the caustic effect of the Paris green, just the same as you put lime in the Bordeaux mixture to neutralize the effect of the copper.
Mr. Culbertson—Please give the formula.
Mr. Cook—Just enough to cover it; there is no formula.
Mr. Culbertson—One pound of lime to one pound of Paris green, half and half?
Mr. Cook—Yes, that will do, being sure that the lime is dissolved so it will be free from lumps.
Mr. Wurtz—Would it not do something against the blight also?
Mr. Cook—In a measure it would.
Mr. Arnold—I don’t think anybody would criticise your remarks as to the manner of preparing the ground, but under those conditions, what do you call a good crop?
Mr. Wurtz—An average crop we call about 200 bushels, but we have raised as high as 250 and 260 bushels to the acre, and we have raised less, but I think never less than 175 bushels.
Mr. Arnold—And did not plant the seed end, either?
Mr. Wurtz—No, sir; we didn’t.
Mr. Scott—What kind of soil have you, Mr. Wurtz?
Mr. Wurtz—A heavy clay.
Mr. Scott—if we all had a sand farm, like Mr. Arnold’s, it might be all right, but I am quite convinced that compacting your soil upon heavy clays is not the thing. If the soil has been prepared so as to conserve moisture, I am of the opinion that it is much better to keep that soil as mellow as possible, on all sides of the potato.
Mr. Arnold—I will agree with Mr. Scott in that proposition, but the potato is nothing but a root, and you have to have the soil come into close contact with it in order to encourage its growth, and a certain amount of compactness is absolutely necessary for any kind of plant life.
Mr. Scott—That is not a parallel case. In the first place, we don’t want as many seed ends on our potatoes as usually have been on the roots of trees. Any properly prepared soil will furnish food for plant life.
Mr. Thayer—I must take issue with Friend Scott and side with Mr. Arnold. I believe the proper way is to roll and then harrow any kind of soil.
Mr. Wurtz—For my part I wouldn’t advocate it on any soil whatever.
Mr. Culbertson—This gentleman uses a good tough sod, it wouldn’t be hard, and I think he is right.