fertilizers upon land that would not grow anything that is profitable. Most all of you may have a few knolls on your farm, and I have seen places in southern Wisconsin that I thought would be improved by the use of some class of commercial fertilizers, perhaps the very same that Mr. van Loon has used. We could thus bring those spots up to something that is valuable, instead of being waste places. This talk was put in here to start us thinking, not to prescribe for the prairie soils of southern Wisconsin.

THE PLANTING AND CULTIVATION OF POTATOES.

D. T. MOSELEY, Warrens, Wis.

Mr. Chairman, Ladies and Gentlemen:—There are a number of things to be considered before venturing out into potato raising as a livelihood. If you are raising for your family use it does not matter so much, but if you are to make potato growing your business, you should scan the horizon, look your irrigation carefully over, and then ask yourself these questions: Am I well located, being near to station or market (as distance in hauling to market cuts a big figure)? Have I suitable land for the production of a first class crop, and if I do my duty will I be able to meet in successful competition, not only the potato growers of my own town, county, and state, but of the whole potato world in general? If you can answer these questions fairly, then all right.

Modern Methods.

To be successful in this line in these days, a man must be progressive and up-to-date. It will require his best thoughts and efforts along this line. He must not be traveling in the ruts of his forefathers. He must have improved seed that is up-to-date and standard, that under favorable conditions will prove strong growers, good producers, and good lookers. He can no longer plant with a hoe and dig with the same, as his father used to, nor can he plant the kind has father raised when he was a boy. They were in the front rank then, but they are back numbers now. As this is a world of progression, the man who doesn't keep up with the times, no matter what his calling, will have to side track for those that are up-to-date.

My experience in potato growing on a large scale, or in car lots, dates back to the season of 1886, the year following the Farmers' Institute which was held in Sparta, the winter of 1885 and 1886, in which T. B. Terry took part. It was there I first conceived the idea of raising potatoes in car lots.

One Failure I Made.

Mr. Terry advocated the one-eye plan of cutting the seed, which I at once adopted, and which I have followed with fair success. I have scored many victories in the production of the crop, and have never met with but one failure, and then I did not have one plant come up on a tract of eight acres. This was in the season of 1887, and I attributed it to the way the seed was planted. In the first place, the ground was furrowed out with the hiller by taking off the wings. The furrow became dry, the seed was cut to the one eye piece and it was dry, the seed was covered with dry earth by going bias across the rows with a boater or leveller, and the weather following was dry. The result was that not a plant came up,

whereas, if the weather had been favorable, the result would have been satisfactory, or if the seed had been planted whole, the result would have been satisfactory. Whole or uncut seed will stand the test in either extreme wet or extreme dry weather, but with the aid of the Aspinwall planter you can plant whole or cut seed and have the result satisfactory.

Planting time is the most critical period in the life of the crop, for if you conduct the seed cutting and planting other than the right way, you will have a poor stand, and with a poor stand you are no better off than a renter, you only get a share.

In fitting the ground and preparing the seed, do it for all there is in it. Do not be content with half a crop, for when you get a poor stand you lose all interest, and do the best you can, you have only a share. Once a good or perfect stand is secured, the battle is half won, and with proper care and favorable weather a good crop is certain.

Land for Potatoes.

The land I have been raising potatoes on is the heaviest kind of white oak and hazel brush land. You that have raised potatoes know that when land is new it contains properties that it does not contain when it gets to be old, and when new it will produce a superior tuber to what it will when old. To get the best results you should restore it to its normal condition as nearly as possible, and to do this I have resorted to clover as first agent, and timothy as second, for they both contain fiber and give life to the land, which is necessary to the growth of the plants and tubers. Clover sod may be turned down in the spring and worked with a disc harrow; timothy sod should be turned down in the fall before planting in the spring, as this gives it time to rot. Then work it up in the spring, the same as with clover. Be very thorough in fitting. As the hot rays of the sun and a drought is the greatest fear we have in the production of a crop, I plant my crop in rows, in one way only, thereby saving the hill from the rays of the sun on two sides, as planting in rows close together makes a solid row and the earth around the tubers is protected from the hot rays of the sun on two sides.

As to potatoes following potatoes, I have never obtained good results by planting potatoes upon land where potatoes were grown the season before, as the tubers are mostly undersized and scabby, and I did not know what to attribute it to, unless the fiber was worked out of the land, to a great extent, and the surroundings were not favorable for the production of a good, first class crop.

Plant in Rows.

Distance apart of the rows, and distance in the row varies as to varieties. Early Rose, Hebrons, Ohio, or any of this family might be planted on my soil, with rows three feet apart, and in the row twelve to fourteen inches. The late varieties, like Green Mountain, Rural New Yorker, and others of that family should have the rows three and a half feet apart and from sixteen to twenty inches in the row.

Planting Time.

As to the time of planting, Mr. Terry advocated late planting, that is, the last week in May or the first week in June. I have followed his time of planting, as near as convenient, with good results. The early planted potatoes receive the most attention from the bugs and that is not necessary at this time, and the late planted potatoes escape the drought which so often comes about setting time, and a drought at this time is detrimental to the growth of the crop. Late varieties planted at the time mentioned will, under favorable conditions, begin setting about the 10th to the 20th of July, and then the drought, if there is one, is generally broken by rains that begin coming about this time. The object in having them set at this time

is to have them make a steady growth from setting time to maturity, that one may get perfect shaped tubers, of good size, and lots of them.

My Treatment for Bugs.

I have never lost a crop on account of bugs. When I have to fight them, I have generally used a ten quart sprinkler filled with water to which is added one teaspoonful of Paris green. If this is honestly applied when the bugs begin to hatch, forty-eight hours ahead of a rain storm, it has always been sufficient with me, but oftener I have not had to make a fight at all.

The Potato Planter.

A potato raiser who has not an Aspinwall planter ought to have one, as the cost is within reach of all, and it is almost a necessity in his business. Potatoes planted with a planter can be tended with half the labor, to say nothing of what it saves in planting. The reverse arms on the planter leave the row, or where the planter are to come up, high shaped, like two furrows thrown close together, or high like what we term a "back furrow," the rows being like this all through the field. When the plants begin to break through the ridge or row, then take your level drag, slant the teeth back, and go crosswise of the rows by lapping half. By so doing the land is dragged twice over. At this time the little weeds have been making their appearance, and by double dragging on a favorable day, their little roots are exposed to the hot rays of the sun by being torn from between and around the potatoes, leaving the row free from little weeds, and death to the weeds at this time is sure. This being done, the work of finishing the balance of the weeds is easy. The work of dragging should be crowded along at this time, as the time to kill weeds is when the sun shines, and if you have a large tract or field, you should double your force and drag it twice over on that day, for fear of rain.

DISCUSSION.

Mr. Wheeler—Do your potatoes get ripe when planted so late?

Mr. Moseley—Part of my crop was lost by freezing, in 1896, because of not getting ripe so that I could start my digger sooner, but to guard against another loss I began planting May 13, in 1897, and on the 27th day of September they were all ripe, and I began digging on that day. Should frost come before potatoes are fairly ripe or skin tight, the appearance will be greatly improved by standing a few days.

Mr. Culbertson—Are potatoes ripened after the frost, as good quality as those ripened naturally?

Mr. Moseley—They look just as well.

Mr. Wheeler—My experience has been that in some soils potatoes will be of just as good quality if they ripen after the frost kills the vines, as when they ripened naturally. My experience is that if we plant our potatoes early the hot sun spoils the vines and spoils the crop, and then the bugs bother us. I plant late and I haven't used two pounds of Paris green in five years; I plant about the first of June, and usually the late potatoes are caught by the frost, and they are good quality, too.

Mr. Arnold—How do you keep your potatoes from sprouting as late as the fore part of June?

Mr. Moseley—We have a storage place, and the late potatoes are always the last ones to sprout. We sometimes have sprouts, especially if we keep the door closed and if it is extremely close when the warm weather comes. I never have done anything but to keep them ventilated.

Mr. Culbertson—What is your idea of preventing the earth flake or rust?

Mr. Moseley—That is a thing I cannot answer, nor do I believe there is a man in America that can answer it.

Mr. Scott—Why do you advocate the use of land plaster on the cut seed?

Mr. Moseley—The land plaster will

adhere to the freshly cut potatoes and keep them solid. If you are going to plant tomorrow or next day, it won't make any difference, but if you are going on and cutting two or three hundred bushels, they need something of that kind. I generally spread mine out upon the barn floor and sprinkle land plaster over them, turning them over two or three times with a shovel so that it may adhere to all sides, and then if they have to stay a week or ten days after they are cut, it won't hurt them. I got this idea from Dr. Kyle, in Tomah, whom I noticed had good results, and I have thought that I had better results since.

Mr. Scott—The experiments at Madison show conclusively that there is no benefit from the use of land plaster. How do you cut your seed?

Mr. Moseley—I would rather have a small potato and plant it whole, because I think that the whole potato will stand either extreme wet or dry weather and germinate all right.

Mr. West—I have used air slacked lime in place of land plaster with good success.

Mr. Scott—Mr. Terry has recommended cutting down to one eye, and Mr. Moseley recommends using whole potatoes; now, why not use the happy medium and cut to one or two strong eyes in a piece?

Mr. Moseley—The biggest crop of potatoes I ever raised was by cutting down to one eye, but the next spring I hadn't a potato in eight acres, and I believe I should have had if I had used whole potatoes.

Mr. Scott—What depth was that seed planted?

Mr. Moseley—About three inches.

Mr. Scott—What has been your experience with deeper planting?

Mr. Moseley—My experience in deeper planting is that you might not have to hill so much.

Mr. Scott—So far as the roughness of the potato is concerned, what was it?

Mr. Moseley—It never cut any figure with me; that is, if I have an irregularly shaped potato I do not leave it for seed. Some varieties will give more irregular shapes than others. Such potatoes as the Ironclad will have more knobs than oblong potatoes.

Mr. Scott—How often have you changed your seed?

Mr. Moseley—Every two or three years it becomes necessary in potato growing, as well as in everything else; though I hate to turn away old friends, I have to do it.

HARVESTING AND MARKETING POTATOES.

KENNEDY SCOTT, Rio, Wis.

Mr. Chairman, Ladies and Gentlemen:—This harvesting of potatoes can only be done on two plans, that is, either with an ordinary potato fork or with a potato digger. It will never pay the farmer who raises only two to five acres to purchase an expensive digger, as the interest on the investment, and the care and housing same, will be too expensive for the returns that can be gotten from the same. Then the best thing for such a farmer to do is to dig with the fork, while the farmer who has a large acreage, can afford to purchase a good potato digger, and will be well paid for his investment.

How We Harvest.

We prefer using a digger and picking up the potatoes in boxes made of