

should be continued at intervals as long as is possible to get through between the rows. Last year, as an experiment, we put the "hillers" on our double cultivator (Gale) and went through just as they were coming through the ground. It worked splendidly. It stirred the soil, thus killing all weeds that had started, and covered those in the row, which answered the same purpose, and did not harm the beans in the least.

Harvesting.—As soon as the beans have assumed a yellowish color, pulling commences and is rapidly performed by the various bean-pulling attachments supplied with several makes of double cultivators. Morning and evening is the best time to pull, as the pods are damp and are less liable to break open when struck by the horse's feet. When pulled, they are forked into windrows composed of four single rows, left to season a couple of days, then turned, and two or three days afterwards, if the weather is favorable, they are fit to mow away. When turning them we place them in bunches, each containing a small forkful. In loading them, a wide-tined fork is used, running the fork under the bunch, not through it as in loading hay. This reduces the loss from shelling, which is very great if they are carelessly handled.

If the land has been properly worked before and after planting, it will be in the best possible condition for seeding to wheat without much further working, and thus in a measure enables us to compete with the more cheaply grown Northwest product.

Potato Culture.

Seldom does it happen that the whole Continent is so abundantly supplied with potatoes as has been the case this past year. Almost everywhere an increasing area had been year by year devoted to this crop, culminating in the spring of 1895, when a tremendous acreage was planted in potatoes (for instance, many of the big wheat farmers of Manitoba and Dakota planted whole sections of land with potatoes). The season was favorable and the crop enormous, with the very natural sequence that the price was ruinously low, many acres being left undug in some parts of the country.

A reaction is almost sure to follow, and comparatively few potatoes will be planted this spring. The lateness of the spring will also tend to diminish the area, by keeping farmers longer at the main crops, leaving little time for attending to the planting of a crop so recently unprofitable as potatoes. Again, it is unlikely this season will be so universally favorable to the production of big yields of this crop. Therefore we believe it will pay to have a fair-sized potato patch. Even if the market price is not high, many from the experience gained this year, have learned the value of potatoes as a stock food.

A few hints on cultivation, etc., will not be out of place at this time. A large yield tends to reduce the cost of production. While the average production of this country is probably not much over 100 bushels per acre, 500 bushels per acre can be raised. Aim high!

While potatoes will grow in almost all kinds of soil, the best on the farm is none too good. A rich, sandy loam, naturally well drained, is perhaps the best. Manure will benefit almost any soil, but raw manure should not be so applied as to come in direct contact with the tubers.

Give deep and thorough cultivation. If soil is light and season likely to be dry, plant the sets deep, say four or five inches, using potatoes of fair size, uniform and smooth, cutting in halves or quarters; plant in rows three feet apart, dropping seed pieces eight to twelve inches in rows. Harrow frequently until plants are well up, which will kill many weeds and fine the soil.

Potatoes require plenty of moisture. Surface cultivation conserves moisture by forming a mulch, thus hindering evaporation. Cultivation should be frequent to keep down weeds, and should always be shallow. Deep cultivation injures the roots of the plants and decreases the yield of tubers. Potatoes should not be ridged up, but cultivated nearly level, except, perhaps, on cold, wet land. The potato ground should be set out in rows long enough to permit the use of a horse-hoe, which can do all the cultivating after the plants are too big for harrowing.

Potatoes should be kept in a dark place at a low temperature (32° is said not to be too low). To allow seed potatoes to get warm and sprout, and then rub off the sprouts, weakens the vitality of the seed and tends to decrease the probable yield.

Potatoes should not be grown more than twice in succession on the same land, particularly if any disease gets among them. Potatoes affected with scab should be treated with corrosive sublimate, if it is necessary to use such for seed. For the benefit of new readers we reproduce the directions for treating potatoes, as published in these columns last spring:—

Procure an ordinary barrel, and fit into the base a common wooden faucet. Purchase of a druggist two ounces of finely pulverized corrosive sublimate (*mercuric bichloride*). Empty this all into two gallons of hot water, and allow it to stand over night, or until apparently all dissolved. Place in the barrel thirteen gallons of water, then pour in the two-gallon solution. Allow this solution to stand in the barrel four or five hours, during which time it is several times thoroughly agitated to insure equality of solution before using. Select as fair seed potatoes as possible, wash off all the old dirt, and immerse as many as

you can or wish to treat at one time in the solution one hour and a quarter. At the end of that time turn off the solution into another vessel. The same solution may thus be used a number of times if wished. After drying, the potatoes may be cut and planted as usual. Plant upon ground that has not previously borne the disease. Remember this chemical is a deadly poison, so exercise becoming caution. The solution should not be put in metallic vessels.

We have observed some potatoes, grown on low spots in the Red River Valley, with brown streaks through the center. This "internal brown rot," as it is called, is reported as being prevalent one year in Manitoba, disappearing the following year. Such potatoes should certainly not be used for seed.

As to varieties, the old sorts, Beauty of Hebron and Early Rose, when they have not run out, seem to hold their own against new comers for general croppers. Morning Star, Crown Jewel, Rosedale, Freeman, and Burpee's Extra Early are all well spoken of by our crop correspondents.

Salt on the Land.

SIR,—I notice an inquiry and answer, on page 120 of the *ADVOCATE*, as to whether salt that has been used for curing pork is of any use to sow on crops. I may say that your answer corresponds very closely with my experience. Some 27 years ago I tried salt on a small scale, using half a pail of refuse that my wife had packed eggs in. I had been trying various other things, such as lime, ashes, plaster, etc., applying each at the time of sowing on different pieces of spring wheat, but none seemed to give as good results as the salt, which caused the grain to head out several days earlier than in any other part of the field. The straw was stiffer and brighter and the grain better. This so encouraged me that the next spring I sowed four tons of refuse salt got at the pork factories, in Ingersoll, that had been used in dry packing or curing pork. I sowed this on both spring wheat and oats, leaving one land unsalted. The difference was very noticeable. I sowed about 300 pounds to the acre, but I now sow 200, or perhaps a little over that amount. I never think of sowing spring wheat without it, and I sow more or less every year; and the last two years it was better than my fall wheat. I once sowed a seven-acre field of gravelly loam with spring wheat, sowing a barrel of salt per acre, and leaving a land unsown with salt. At harvest time this land of wheat was quite inferior. The next year this field was sown with oats. The same difference was seen in the oat crop. It therefore shows that it influences more than one crop. It stiffens the straw and renders it less liable to rust, and also seems to draw moisture from the atmosphere at night. I like to sow it on oats and barley. I also think it is good for root crop, especially mangolds. It is good for potatoes if put on the ground and worked in before planting; but it should not come in contact with the potato seed direct, else it will cause injury. I also put wood ashes on my potato ground and worked them in before planting. I have found them to pay me at the rate of 25 cents per bushel in first crop when potatoes sold at 50 cents per bushel or 75 cents per bag. I like to salt at the time I sow the grain, if I can, and cross harrow the drilling and roll immediately if the ground is dry. I have sown salt on fall wheat both in the fall and in spring, but never could see any benefit from it.

Oxford Co., Ont.

JOSHUA BOBBER.

How Thickly Should Corn be Planted?

It seems almost impossible to convince some men that corn for fodder, especially where no silo is to be used, should be planted in rows well apart and thinly in the rows. The article upon "Corn for the Silo," by E. D. Tilson, in our March 16th issue, should be convincing enough; but some cling with such death-like tenacity to their old ways that more yet is needed to convince some that big, leafy stalks bearing good ears are better than fine, watery stalks that have little in them but water, but are easily masticated by the animals. Now, it is just possible to starve a cow to death on this watery, fine, easily-masticated corn, grown from seedling about two bushels or more of seed per acre. (Many of our best corn growers consider one-half a bushel, sown with a drill, too much.) Just think for a moment how the fine, early rhubarb boils down until one can suck it through a straw. Now, soft, fine corn would boil down much the same if it were tried.

In order to get a substantial flesh and milk-producing corn crop we must give the plants plenty of room. If we crowd or shade them we are depriving them of a proper amount of sunshine, rain and dew, and by refusing nature a chance to perform her kindly offices we get spindling specimens of corn plants, without any ears. Must we blame nature or man for the failure? A little thinner planting will produce stalks which bear nubbins of ears, which are somewhat better than the earless crop. The real value of corn depends upon the size, quality of stalk and leaf, and maturity of the ear. A well-developed ear of a strong-growing sort is equal in food value to the stalk upon which it grows, and when these are well cured and cut up (when a man has no silo) they produce the very best results in cattle feeding that corn is capable of when fed in the dried or cured condition. While planting with the corn planter, in hills, we may get the best results, yet, if it be sown with an ordinary grain drill, in rows at least three feet

apart, and stalks from six to twelve inches apart, we will be pleased with the results, if the land be in proper shape, proper cultivation given throughout the season, and the crop harvested and cured as it should be. Plant about two inches deep and follow the suggestions in our article on "Corn Cultivation."

Corn Cultivation.

BY E. D. TILSON, NORFOLK CO., ONT.

I had by this time (as recorded in the *ADVOCATE* for March 16th) arrived at the most satisfactory thickness to plant the crop, but the expense of giving sufficient cultivation by means of the hand hoe and horse scuffer ranged from \$1.50 to \$2.00 per ton. Two years ago I heard of the Breed weeder. It is very similar to a sulky horse-rake, with three sets of spring teeth. This machine is made in different widths. The one I like best for all purposes is the walking weeder, eight feet wide. With it a man and one horse can do fifteen acres a day.

We have our land, which is a light soil, well prepared before planting—cultivated, harrowed, and rolled several times. Three or four days after planting we start the weeder, before the weeds have time to get a start. We go over the field every four or five days, cultivating with the rows and also across them. This not only keeps down the weeds, but it keeps the soil moist. The weeder does not go deeper than about an inch, and, therefore, does not interfere with the corn roots. The common cultivator cuts the roots very badly, which does a great injury to the crop. Neither will these weeders tear up the corn by running over it up to the time it is two feet high, and even at three feet high it can be gone over without injury. If desired, the weeder can be narrowed to go between two rows, but this is unnecessary if the weeds have been completely subdued until the corn is three feet high. Mine was sandy land.

[NOTE.—A good plan is to start a wide sweeping harrow, just as the corn is coming up, crosswise. In about a week go over the field again the other way, and in a few days a third time. This may seem harsh treatment, but the corn will thrive under it. Members of our staff have used the harrow in this way with splendid results in the shape of crops. Weeds are exterminated and moisture conserved. When the corn gets up too high for the harrow, a one-horse scuffer or two-horse riding cultivator, like that made by the Detroit Harrow Co., which is also used as a grain seeder and general field cultivator, is started, doing two drills or both sides of one row of corn at a time. A boy and a smart team can cultivate easily a very large field in a day, and do it well. Once going through with the hoe may be necessary to pick out any thistles or weeds that may have started up in the hills or rows of stalks, as the case may be. The Canadian corn area this year will be larger than ever before, and if correspondingly large crops are to be secured we must have proper soil preparation, manuring, seed selection, judicious planting or sowing, and thorough subsequent cultivation.—EDITOR.]

Gleanings from Farmers' Institutes -- Division No. 9.

Specialties.—Joseph Haycock, M. P. P., Frontenac, thinks that a profitable income might be obtained by attention to branches that are often neglected. In the neighborhood of towns and cities, poultry forced along so as to be ready for the market early always commands high prices, and winter eggs always are in demand and can be produced profitably if care is taken. Gooseberries and currants are very profitable crops and bring good prices. They are also good shipping fruits. Any good corn land will bear these fruits. Do not plant the English varieties of gooseberries, as they mildew. Plant far enough apart to cultivate and harrow with horses. Keep the ground clean and well fertilized. Do not trim the bushes when they show signs of failing—set out another plantation. Ordinarily a plantation will last eight years.

Balanced Rations for Man.—Miss Millar, of the Ottawa School of Cookery, drew attention to the fact that farmers now are paying very much attention to feeding animals balanced rations. If it is important to feed animals a scientifically constructed ration, how much more important to properly feed the highest of all animals—man. If the human race were fed foods properly prepared and selected, there would be less disease, better teeth, bones, hair, etc.

Feeding Dairy Cows.—Alvin Gilroy, of Glen Buell, in a paper on "Care and Food of Dairy Cattle," emphasized the necessity of warmth, ventilation, regularity, cleanliness, and pure water in the production of cheap milk. Mr. Gilroy got very satisfactory results this winter from feeding well-matured ensilage, cut cornstalks, small quantity of hay, and five pounds provender daily.

The Corn Plant.—The subject that drew the most lively discussion was the growth and preservation of the corn plant. As to varieties, the general opinion was that the largest growing variety that would give the most grain per acre and ripen in the locality was the most profitable. As to preservation, the great bulk of opinion was that the silo is the most satisfactory way, not only as to monetary value per acre, but also as to cheapness of handling. Allowing corn to become too dry before putting in the silo was given as a common cause of mouldy spots in the ensilage. Where, through various causes, corn becomes too