The Field.

Storing Roots.

A few words on the subject of storing roots, in addition to the hints already given in the article on the month, may not be unacceptable to young Canadian farmers. With regard to the modes of harvesting the various root crops, it is not always possible, for want of sufficient help, to do this in the best manner. The necessity of using the most expeditious means is sometimes more pressing than the desirableness of employing the most approved plan. Pulling by hand, topping, and tailing, are no doubt the cleanest and altogether thriftiest processes; but with a number of acres to gather and a very few hands to do the work in but a short time, this tidy method is not always practicable. The implement adverted to in the foregoing article, will be found to effect a great saving of time in harvesting turnips. If the work is still more pressing, it may be expeditiously and not badly done with a plough. It is sometimes necessary to use the harrow; but these rough methods are objectionable, as they tend to wound and bruise the roots, and so render them more liable to decay. The less they are knocked about the better.

It is the practice with some good farmers to pile the turnips in heaps in the field, and cover them over with leaves, and let them remain for some days to "sweat" before hauling them to the root-house or pit. It is contended that the after heating in the bulk is thereby diminished.

The root-house is no doubt the most convenient receptacle for storing roots. It should be located near the stables, so as to diminish as much as possible the labours of carrying food to the animals during the winter. Experience will soon teach the farmer the importance of attending to these apparently trifling details. A few minutes saved in operations that recur frequently during each day, will amount in the aggregate to a very considerable item. It is not well, however, to build root-houses under the main portion of barns; for the steam and moisture from turnips especially, will speedily rot the timbers in the roof of the apartment in which they are stored; and when these support the floor of the barn or stables above, they have soon to be replaced, and perhaps at considerable inconvenience and outlay.

Great attention should be paid to thorough ventilation, a moderately cool temperature should be secured, and free egress allowed for the steam and vapor to escape. Generally speaking, the door and other apertures of a root-house where turnips are stored should be kept open during a large portion of the time till Christmas or thereabouts; and even afterwards, whenever there is any considerable rise in temperature, the access of external air and a thorough draught should be permitted, due caution, of course, being exercised to guard against freezing. Potatoes are not so liable to heat as turnips, nor indeed are mangolds; and both these roots, mangolds and potatos, are more delicate, more liable to be injured by frost than turnips. Some practical inconvenience therefore occasionally arises from storing the different kinds of roots together. This may be partly guarded against by partitions in the root-house, and by setting apart the warmest portions of the space for the more tender roots.

Where the farmer has not the convenience of a suitable building, or where such accommodation is insufficient for the whole crop, roots may be kept with perfect safety in well-constructed pits. These need be but little dug below the surface; though sometimes they are stored in pretty deep trenches. We prefer a shallow excavation, such as can be made by loosening the soil with a plough, and using a shovel afterwards. A slope of ground should be selected to facilitate drainage, and the length of the pit should correspond to the inclination of the ground. Regard must, however, be had to the aspect. It is not well to have one side facing south and the other north. One will have the full force of the sun, and the other always the shadow, and exposed to the keenest winds, would be doubly cold. The floor of the pit should be so graded that no water can lodge in it, and trenches should surround it outside in such a way as to carry off all melting snow or rain-fall.

The inexperienced are sometimes apt to make these pits too wide, by which the danger of heating is greatly increased. Five or six feet is quite wide enough. The length is a matter of less consequence. The turnips should be piled up to a ridge. If boards are handy they will be found serviceable to place next the roots, in such a way as to prevent the dirt falling in when the roots are removed from beneath. A good covering of straw should next be packed evenly over the whole. Use plenty of straw. Then cover all with a coat of soil well pressed and beaten down. A thorough ventilation should be secured by chimneys near each end and at regular distances between. These pipes can be conveniently made out of inch fence boards, six inches and four inches wide. Two opposite sides should be about six inches longer than the others, and over the longer a short board can be nailed. This will cover in the top and keep out rain and snow, while a sufficient opening will be left at the sides for ventilation. Sometimes it is desirable at first to leave the ends of the pits open for a time to keep down the temperature, and allow a readier escape of vapor. After a while more earth should be piled on, and before the winter fairly sets in, a pretty thick coating of earth should be packed upon the straw. Some persons are afraid of covering too deeply for fear of keeping the turnips too warm, but there will be no fear of this if due attention is paid to the ventilation. Potatoes require a warmer covering and less ventilation than other roots, and should, if possible, be stored away dry. In very cold weather, all openings should be stopped up with straw, which may be removed again when the weather moderates.

Experiments in Wheat Culture.—Drilling and Horse-Hoeing.

The Secretary of the Goodhue Farmers' Club, of Minnesota, communicates to the *American Agriculturist* the following interesting statement in regard to some experiments in wheat culture, made by one of the members of the club.

Field No. 1.—Two bushels to the acre was sown with the broadcast sower and cultivator combined, and the seed was planted at all depths, from the surface to three or four inches deep.

Field No. 2.—Was sown with a common wheat drill, east and west, one and a quarter bushels being used to the acre, planted about two and a half inches deep.

Field No. 3.—Three pecks of seed were drilled in, east and west, two and a half inches deep, and eighteen inches apart. It was cultivated but once, when about a foot high, with a five-toothed walking cultivator, at an expense of $1 per acre.

The results are thus stated: "No. 1 was good wheat, not damaged by heat, head medium in length, well filled, stood thick upon the ground. Was unequal, some straws five and six feet in length, and some only two feet. Some heads were very green, while others were ripe. The yield is estimated at from twenty to twenty-five bushels per acre. No. 2 was of a better color during growth than No. 1. Very even in straw and degree of ripeness. Heads about even, of extra length. Bundles very heavy, and the yield is estimated at thirty bushels per acre. No. 3 was extra at all times. Its unusual deep green colour and broad leaves attracted much attention. No one supposed it the same kind of grain as lots 1 and 2. It stooled out much more than either No. 1 or 2. It was uniform in length of straw and degree of ripeness. The heads would average one-third larger than No. 1, and the largest and heaviest wheat we ever saw. Strangers here picked for the smallest heads, and then shelled from sixty to eighty kernels from each head. Our binders, and we had some from other States who had had much experience, said they never saw such large heads or such heavy wheat of this kind, namely, China Tea. The yield is estimated at thirty-five or forty bushels per acre."

The Club arrives at the conclusion that they have been in the habit of using too much seed for spring wheat; that wheat needs cultivating; that if half a bushel of seed were used per acre, and sowed in drills fifteen inches apart, and thoroughly cultivated, the average crop of Wisconsin might be doubled. They recommend, moreover, the expenditure of the price of the seed saved in giving the land a more thorough harrowing In this they are wise; there is nothing to which wheat so quickly responds as thorough tillage, and it may be a question whether this should be done previous to sowing or after the grain is up. There are other interesting subjects for investigation before any one can speak with authority. The exact amount of seed per acre, though depending in a measure upon the kind of wheat and the character of the soil, may be nearly approximated. The distance apart of the drills is another subject for experiment; twenty inches has been recommended. It is difficult to cultivate between those which are much nearer, and no doubt the roots will fill the ground between them at this distance.

The Product of one Weed.

Desiring to know what might be the influence of a single weed upon the agriculture of a field or garden, I selected a plant of purslane (pusley or pursley, as called by some), and carefully counted its number of pods. It was a large, but not the largest sized plant, from a rich spot of ground. The number of its seed pods was 4,613. I then took fourteen of the pods, seven small ones, four medium, and three of the largest, and counted the seed in them. The result gave me as an *average* ninety seeds to the pod. Thus in this single plant we have the enormous number of 415,170 seeds. If these were spread over a plot of ground and should all germinate, and a man should attempt to cut them with a hoe, and should average six plants at every blow, and make thirty strokes of his hoe per minute, it would take him thirty-eight hours and twenty-three minutes to cut them out. Or, if these seeds were equally disseminated at the rate of four to the square foot, they would cover over two and a third acres of ground. Again, allowing only one-third of these seeds to germinate, and that the product shall only be one-half as rich in seed as this plant, yet they will produce the astonishing number of 28,727,688,150 seeds, enough to cover broad fields with weeds the third year, from one seed. Do not these figures show the immense importance of cutting and destroying every weed before it goes to seed? There is no doubt that many other weeds are as fully or more prolific than this. The purslane is a difficult weed to kill. I have known it in wet weather to grow and mature its seed long after it had been entirely severed from the root.—*Cor. Journal of Agriculture.*

Utilization of Sewage.—Our English exchanges give interesting accounts of the very satisfactory experiments made in the neighbourhood of London, on the Lodge farm, to test the fertilizing power of the sewage of the city. A company was formed some time ago to reclaim some of the poor, waste land in the County of Essex, by means of the sewage of the metropolis, and it is from the last yearly report of this company that the following results are given. One-fourth of the acreage under cultivation raised rye-grass, for which there is a greater demand than can be met. As a proof of the fattening power of sewage-grown grass, it is stated that two young steers fed exclusively on it had, from the 18th of May to the 7th of August, gained weight to the following extent: one, 1¾ cwt., and the other 2 cwt. Land of the poorest and most sterile description, with no other manure than sewage, is found to yield prolific crops, not only of grass, but of wheat, rye, mangold, cabbage, turnips, potatoes, &c. By this means six or seven crops of grass are raised in a season, each very heavy. With two dressings or floodings of sewage, a crop of mangold of fifty or sixty tons per acre has been produced where not more than twenty or twenty-five could be had when farm-yard dung was used for manure. In the same way, without this manure, the crop of wheat was about twenty-eight bushels per acre; with it, something like forty-four. Could we not also utilize the waste of our cities?