

ground twice, the work will be more perfectly done. If grass seeds be sown with the clover, then another sowing will be necessary with the same tool set for grass seeds. It is covered in by a light harrowing with either the bush or web harrow, or light seed harrows of the common kind, and rolled. Of the seeds sown at this season we have—1. Trefoil, sown 14 to 16 lbs. per acre alone in some districts, as one of the earliest foods for ewes and lambs in spring. It is ploughed up after a first folding, and a crop of turnips may be taken. 2. Red Clover or Cow Grass, sown often by itself as affording a heavy first cut later in the summer for forage for stalls or stables—coming in after *Trifolium incarnatum*. 3. Various mixtures of clovers, i. e. 10 lbs. of red clover, 4 lbs. of white, 4 lbs. of Trefoil. The red clover is a large seed, the white much smaller, so that 4 lbs. of it contain as many seeds as 10 lbs. of the other; the yellow blossomed Trefoil is the largest seed of the three. This will yield a first, second, and third cut during summer—the latter cuts containing more of the white and yellow clovers. Alsike clover is coming into use partly as a substitute for white; it is equally perennial, and has a larger habit of growth.

Visit to a Farm.—Turnips.

Our investigation now turned towards the farm and stock, and Mr. Johnson showed me his ten acre turnip field, prepared last fall for turnips. Lately, this early preparation has been his custom. The seed was now just about to be sown, and was of the Purple-top Swede variety.

The land had been well and deeply ploughed the previous September, out of wheat stubble, immediately after wheat sowing was done, and was well manured, but, unlike ordinary fall ploughing, it was what we call in England ridge and furrow. The manure was first spread evenly over the land, and a deep furrow drawn, and another of at least twelve inches wide, thrown against it, leaving nearly two feet unmoved. The plough was again passed deeply into the furrow it had just drawn, but the team travelled back in the same place, and a deep trench was thus formed, and, of course, beside it there was a corresponding ridge, with all the manure buried underneath.

Early in the spring these ridges were split, and well harrowed repeatedly, so that when planting time came, all weed seed had been destroyed. The turnips were drilled in on the level land. Mr. Johnson is satisfied that to sow turnips in ridges is bad, at all events, in his land; for if dry weather came in June or July, the crop was much more injured by it on account of the ridge being higher, and consequently drier, than if the seed had been planted on the level.

The quantity of seed sown was to be two pounds to the acre, and the drill be usually

used was one that formed a row of seed about six inches wide, and a little rake and roller arrangement, following, entirely covered all seed. I asked the meaning of this, and was told that the land was greatly infested with black grubs, which took an immense number of the young plants, when far too large for the fly to affect them, and the large number of extra plants afforded sufficient for grub and fly, and a crop besides, if only quick growth could be effected, and pure seed, that would grow and could be relied on, obtained; and the turnip plants grew stronger if scattered over a space, instead of being huddled together.

Mr. Johnson always procured his seed early, and on warranty that if not found good, it should be returned. One hundred seeds were tested in moistened earth under favourable auspices, and if found good, and not more than five or ten out of the lot failed to grow, the seed was retained. If it did not come up to this standard it was sent back, or enough extra sowed to allow for the adulteration.

I thought this an excellent way to serve the vendors of inferior seed. The English papers have for some years teemed with accounts of investigations of the different adulterations of seeds, and at length Parliament has interfered, and the law will probably prevent the adulteration complained of in future; but for years a regular business in killed cheap seed (resembling those sorts wanted, but probably furnished at half-price) has been carried on, and the competition in price had gradually deteriorated the quality of seed, until it was impossible to obtain it pure, except from known houses of credit and respectability, and then, of course, at double price. The plan of trying the germinating powers of the seed some time before sowing was, I thought, simple, and within reach of all.

The last time I visited the farm I had advised the trial of some transplanted Swede turnips, and Mr. Johnson was only waiting for a wet time to try the experiment. The plants had been grown in a sand bed, made very rich with rotted cow manure—the soil, in fact, being about half manure. The seed was sown very early, and quite thick, and had been protected from the fly by every means that could be devised, and certainly the plants were very fine.

The idea was to allow the plant to attain at the bulb about the size of the first joint of the little finger, and then to draw and plant them as fast as possible, so as to leave the roots out of the earth only about an hour; and, as they were grown in sand, the roots were very large and fibrous. Previous to drawing the bed was deluged with water. The tops were all cut off just to avoid the heart, say usually to about two and a half to three inches high. This course, I was told, was necessary, as the demand on the root from such large leaves (if all were left on) would

often exhaust the moisture of the plant itself and cause certain failure.

The land to plant in was ready, and had been prepared the same as for the other turnips, on the plan already described. This course left all the manure still buried underneath the ridges, and as the weeds were thoroughly exterminated (at least all such as were under the influence of the air and, would grow), it was believed that the effort would be a signal success. The land, of course, lay rolling, with little hills and dales caused by the ridges, notwithstanding the frequent harrowing, as this operation was always performed lengthwise, not, on any account, across; and this peculiar preparation was believed to be the best in practice, as the manure was all well rotted and buried since last fall, and all laid just under the turnips. Had it been ploughed in this spring it would have lain light and dry, and the plants would probably have suffered. When about to plant, after wet weather, there was a small furrow drawn, with a little wooden plough made for the purpose, down the centre of each ridge, and the plants were dropped and at once planted eighteen inches apart, and the rows two feet from ridge to ridge. I once saw a great improvement on this plan. A farmer at home caused a sort of wheelbarrow to be made, without any felloes to the wheel, and with tapering ends to the spokes. A man wheeled this along the centre of the ridge, loading it so as to work, and it left a regular succession of holes about three inches deep and fourteen inches apart, and one boy dropped the plants, one at each hole, and another rapidly set them, and pressed the fresh earth tightly about the root with his toes. Each turnip (Mr. Johnson's) was expected to occupy at least six or seven inches, so there would be only about eight inches of space intervening between each turnip in the rows, and the rows between the bulbs would be about eighteen inches apart, measuring from turnip to turnip. It will be recollected that the ridges contained a double quantity of manure.

When in England, I have often grown Swede turnips on this principle. In a friend's garden, by some mistake, a turnip plant was set out in the latter part of June, among some cabbage plants, and when the frost came, it certainly was grown to be a monster, and weighed about seventeen pounds. We used to grow them in England of this weight, when planted early, without any difficulty, but in Canada this could not be done from seed, as the season here is too short to allow of its growth, unless sown in a seed bed; as if planted from seed in the field, the fly will surely destroy the crop, unless we wait until the middle of June before sowing.

I was next shown a draining machine, and as it was not in use that day, I was promised that I should see it worked on the following, so I may as well relate our draining experience at some future time.