

but as very little grain had been grown on it, and a good deal of stock had been taken in to graze from the City (OF SOREL!), there was a considerable amount of plant-food in the land when the brothers bought it.

As for the mangel crop not being suited to the land, M. Séraphin must recollect that I always told him that the root-crops for the Sorel soil were *swedes* and *Belgian carrots*. I consider it to be as easy to grow 30 tons of swedes or 25 tons of carrots on that land, as 15 tons of mangels. As I have said before, I never saw such carrots in England as those I grew on the Fosbrooke farm in 1884, and for milch-cows, they are the crop.

Besides the above named crops, there are many head of cattle taken in to graze—generally, 30 to 40 cows, and a dozen, or so, horses; and a very profitable business is done in milk retailed in Sorel. Altogether, I do not think my young friends will regret having followed my advice in buying the farm.

ARTHUR R. JENNER FUST.

DE OMNIBUS REBUS.

Box 109, Upper Lachine—Dec. 30th, 1889.

What we want to know.—Now that we have an experiment-station at work in the province of Quebec, I am encouraged to hope for an answer to several questions that seem to me to be of pressing importance. Among other things I want to know is: Why is the average crop of wheat in the province about ten bushels to the acre, when I myself measured up a lot of fall-wheat on the Manor-farm at St. Hilaire which yielded thirty-six bushels to the acre? The Abbé Chartier, of the Seminary of St. Hyacinthe, attributes the bad yield of such wheat-crops to the neglect of drainage; but, that can be only a partial reason, as there is plenty of good dry land to be found on most farms.

Again; why should the singling of root crops cost one man \$2.50 an acre, when another cannot get it done for less than \$13.00?

What is the best rotation of crops for both light and heavy land in our climate?

Which is really the more profitable, a crop of fodder-corn or a crop of roots; their respective effect on the other limbs of the rotation being considered?

As to the quality of milk sold in our towns: if cows fed on hay, swedes or carrots, cake, and corn, give milk containing 13% of solids, what would be the contents of milk from the same cows fed on brewers' grains, straw, and mangels? In other words, are not milkmen often fined for adulterating, or lowering their milk with water, when the food the cows receive makes the milk poor enough without the pump being resorted to?

Do 6 lbs. of ammonia, sown broadcast on an acre of land in any crop, make any perceptible difference in the yield of that crop? According to Lawes, it takes that quantity to produce one bushel of wheat!

We constantly hear of such dressings as 40 loads of dung to the acre being applied for potatoes, corn, &c. Would it not pay better to give half the quantity to the hoed-crop, and reserve the rest for top-dressing the grass? Should not hoed-crops follow the last limb of the rotation rather than be sown on grass? Are not oats the natural successors of grass, and do not hoed-crops cost more to clean after grass than after stubble, cleaned in autumn?

Does not cotton-seed meal sometimes cause abortion in cows? Would not a mixture of linseed with that meal improve it for all purposes?

How do pease drilled 24 inches apart and 3 inches deep, harrowed after they are up, and horse-hoed, compare with pease sown broadcast and, after being harrowed in, left untouched till harvest?

Horse-beans drilled-in 24 inches apart and three inches deep, harrowed and horsehoed, answer well on the Island of Montreal, and are, indisputably, an excellent food for horses and cattle in winter. Are they not worthy of an experiment on heavy land, in good condition, in all the more forward parts of the province?

Hurdling sheep on summer-crops of vetches, rape, &c., has been proved to be a profitable system at Sorel. Could it not be tried on the Seminary farm?

Which is more profitable, as food for milch-cows, the condition of the animals to be taken into consideration, 2 lbs. crushed linseed, 6 lbs. pease, 2 bushels straw chaff, and 45 lbs. of roots; or 6 lbs. hay, 4 lbs. bran, 4 lbs. cotton-seed meal, and 35 lbs. of silage as usually made?

What is the practical manurial value of one ton of poultry dung, compared with one ton of carefully made horse-pig- and cow-dung, mixed, in a fairly decomposed condition?

Should wheat and other grains be harrowed after they are up?

Is or is not the inferior yield of our grain-crops attributable in great measure to the very slovenly way in which the harrowing is conducted?

Is it wise to manure abundantly a few acres round the farm-buildings, and to let the rest of the land lie out "en paille," for several years, until it is supposed to be fit to produce a scanty crop or two of grain, after which it is to be allowed to revert to its original condition? Would not, say, \$5.00 an acre, expended in artificial manure, produce sheep-crops, which, being fed off on such fields, might be expected to produce after-crops such as would astonish the whole neighbourhood?

Would it not pay to establish, at the station, a good-sized flock of Hampshire-down ewes, from which ram-lambs might be dispersed over the province, thereby improving, both in quality and in the valuable property of early maturity, our, at present, very inferior and very slow-growing breeds of sheep?

Do, or do not, *Black-Tartar* oats yield from 6 to 9 bushels an acre more than any other kind, all other things being equal?

If 3 bushels of oats are a sufficient seeding for an acre in the first week of May, does not the habit of that plant indicate an extra half-bushel as requisite in the first week of June?

If wheat has two sets of roots, the germinal and the coronal, does not that peculiarity indicate the propriety of the deep sowing of that grain, in order that both sets may exercise their power of supporting the stem of the plant, and preventing the crop from lodging when at or near maturity? And, in the case of autumn-sown wheat, would not the roots of the deep-sown be more likely to escape being thrown out by the frost, than if both the coronal and germinal roots were close to the surface, as in the case of ordinary broadcast-work?

The Queen's ox.—This magnificent beast, a portrait of which will be seen on page 24 of this number of the Journal, weighed, alive, 2402 pounds, and, at 70% of its live-weight, would probably yield 1680 pounds dead. It was 3 years and 8 months old when it won the Elkington Challenge shield at Birmingham, and a loyal butcher paid Her Majesty £157.10 = \$785.00 for it: as nearly as possible 46 cents a pound!!! The Red polled ox, bred and fed by Mr. Coleman, who also took 1st for steers, and 2d for heifers of the same breed, is a fair specimen of what care and skill can do in transforming stock. When I first recollect the Suffolks, as the red-polled