

It was therefore the first day of July before the plants could be seen in rows. They were hoed once, and now (Aug. 13th) they entirely cover the ground, and are twenty inches high; nothing is visible but a mass of green leaves—no doubt entirely calculated as a green crop for ploughing under. I am quite convinced that such a quantity of green leaves and fibrous roots ploughed under would afford an immense mass of the very best manure. There would not be any serious difficulty in ploughing them under although so much in quantity, as a furrow drawn deeper than usual between the rows would form a trench quite sufficient to receive the mass of green stuff, and the one following would entirely cover it all in.

Chemical analysis shows the leaves of all the beet tribe to possess the power of extracting large quantities of potash from the soil, and when in its turn it is again returned to the earth in a form that the following crop can at once assimilate, a most excellent yield may safely be relied on.

There is one great advantage in growing the Silver Beet over many others, as no fly or worm has yet shown any inclination to attack it, and the young and tender plant is allowed to grow in peace. When we come to consider that about six weeks have sufficed for the growth of a mass of green stuff, so abundant that there is some difficulty in burying it, we can hardly over-estimate the advantage it is likely to possess as a green manure crop.

In raising seed for another year, nothing more is required than to take up a few of the roots in the fall, and keep them in a dry place, or packed in dry sand quite free from frost, and plant again about the latter end of April, when a most abundant crop of seed will be the result. For many years in England I was accustomed to grow mangels as a crop to precede wheat, and although we rarely succeeded in getting the wheat sown, (after the removal of the mangels), before the very last of October, and sometimes the beginning of November, we never failed in having forty bushels of good wheat per acre. The great crop was entirely attributed to the mangel leaves being ploughed under at wheat sowing; the land was, however, of good quality. No leaves were allowed to be eaten by cattle, and thus carried off the land. All were ploughed well under after the removal of the roots. I find the roots are fibrous, not bulbs as in mangels, and are consequently not fit for food.

C.

The *Michigan Farmer* says the economy of hay caps has been demonstrated at the Michigan Agricultural College Farm this season. They are made of cotton, are four and a half feet square. Even when there was no rain it was found that hay cured under them was superior in quality to that exposed to the light and sun. They are also used on wheat.

Barn-yard Manure.

To the farmer there is no manure so valuable for general use as that made in the barn-yard, because such contains every kind of plant food which has during the previous year been removed from the soil. There is no form of investing money so profitable to him, both in the quickness of return, and the high rate of interest received, as that upon manure. It is certain that the constant application of manure will directly double his returns from his land, and the benefits of such application will be carried on from year to year, in the superior richness of that portion of each crop which will again and again be used for the nourishment of his fields.

Let the farmer beware how he runs into debt to the grocer and the tailor, how he invests his hard-earned means in shares and stocks, but he need never be afraid even to become indebted for manure. Returns from such an investment are rapid, and the rate of interest high. Let us loan our money thus to nature, and she will repay us with generosity and without fail.

The principle that the best manure is that made under cover is now generally endorsed by the most intelligent of our farmers—indeed, of agriculturists all over the civilized world.

The following table, being the result of experiments made in England, giving the composition in pounds weight of a heap of manure at four different periods, will convey to the reader an idea of the changes which took place in the composition of manure from exposure:—

	Put up. November 3rd.	After 5 months. April 30th.	After 9 months. August 29th.	After 12 months. November 1st.
Weight of manures in lbs	2858	2035	1994	1974
Water	1877.9	1336.1	1505.3	1166.5
Dry matter....	960.1	698.9	488.7	507.5
Soluble organic matters...	70.38	86.51	58.83	54.01
Soluble inorganic matters...	43.71	57.88	39.16	36.89
Insoluble organic matters	731.07	389.74	213.22	211.92
Insoluble inorganic matters	114.94	155.77	147.49	201.65
Total nitrogen	15.23	18.14	13.14	13.03
Equal to ammonia	22.14	22.02	15.96	15.75

I have heard many farmers speak of the fear they had of giving their land too much barn yard manure. No doubt, this is an error that may be committed, but from my experience, I cannot say that the fault of the Canadian farmer is often that of overfeeding, either to his land or to his stock.

I have often seen crops of wheat heavy in the straw, but light in the head, and I have in most cases traced the deficiency in the fulness of grain to the general fault of inferior seed, without perceiving that the abundance of straw was any greater than should be borne by a fair crop of wheat.

The feeding of cattle upon the farm, therefore, makes the most useful of manure, for the solid and liquid excrements that are sopped up by straw, &c., contain all those fertilizing elements that have been extracted from the actual plant, and that are in a state in which they may be returned with maximum advantage to the growing crops.

A most important point in the case of barn-yard manure is the prevention, as far as possible, of the transmission of noxious weeds to the field.

It is a great mistake to throw seeds away by themselves, for the birds pick them up, and again distribute them over the fields.

The manure heap may be made a means of destroying such weeds.

Let seeds be thrown in with the manure in such a manner that when the piles are made the seeds shall be well covered, the heat of manure heaps will destroy the germinating power of nearly all, and if any seeds do escape death by this process, after growing in the richness of manure they are weak and spindling, and far more easily killed than such as have been carried directly to the fields by birds.

The richer the food, the richer the manures, and this should be carefully considered in applying to different crops or to different soils.

Manure is to land what food is to the animal, and the application should be carefully regulated to suit the requirements of land under many different circumstances.

The subject of intermixing clay, peat, and such substances, with barn-yard manures, has been so well handled in your columns of late, that it would be superfluous to revive the subject. I would only say that a succession of layers of clay and a coating of clay outside the manure heap, act very beneficially, not only in preventing the escape of valuable gases, but also of that heat which will accelerate the necessary chemical combinations, will destroy the germinating power of many noxious weeds, and will hasten the reduction of the manure to that state in which it will most readily be taken up by the land to which it shall be applied.

C. E. W.

From South Australia the accounts of the crops are very favourable. The principle of a great measure of land reform has also been settled, which permits land at £1 per acre being paid for in yearly instalments of 2s. each, with favourable conditions of settlement, cultivation, and improvement. This measure is regarded as most favourable to the future interests of South Australia, placing it in a position to attract settlers equally with the other colonies.