

the fruits of the earth, to be a manure; and which may be classed under either of the following heads: viz., Animal, Vegetable, or Mineral.

Animal manures are chiefly those that consist of the excrements of an animal.

Vegetable, that which is made by decomposing the vegetable productions of the earth; and

Mineral, those substances taken from the earth which by the action of fire or otherwise are made to stimulate the dormant particles of the soil with which they come in contact so as to put forth their fructifying effects for the good of the husbandman, such as gypsum, or plaster, lime, marl-ashes, &c.

I am, however, unable to give these their proper value, not being able to lay them before you in an analyzed state; but will proceed to take a plain practical view of them; and will commence with the most common manure to be found, but not on that account the less valuable, viz. Farm-yard dung.

It is, in general, a compound of both animal and vegetable matters, and one which I consider has more of those nutritious qualities necessary for the growth of plants, than any other description classed under the foregoing heads.

But, Mr President, manure must first be collected before it can, properly speaking, be made or applied; and here I would ask permission to glance at the arrangement of a farm steading, so that its construction may be most advantageous for the purpose of collecting manure.

Where such has been properly laid out, a cattle-yard, straw-yard, or dung-hill (whichever name it may be known by), will form a principal feature in its arrangement; and although there are many different plans adopted, yet that which seemed to be the most suitable for such a purpose was to place the premises in such a position that the dung hill would be so situate as easily to drain the wash from the stable and cow-sheds; but not in my opinion as some have supposed, that it should be in a hole, so as to retain all the moisture, unless it at the same time was roofed in, and guarded around the outside with a water-table, so as to prevent the heavy dashes of rain which occasionally fall, from running into it, and destroying many of its essential qualities. Such a practice, however, I do not approve of; and I would rather place it in a situation where the superfluous moisture might drain off, but which at the same time, would not be allowed to go to waste, (for I consider the wash richer than the soil.) A reservoir should be constructed at the lowest point, so as to collect all that might run off, with a pump and place in it, so that it might be again distributed over the heap, should the dung-hill or yard not be necessary, as what was voided by the cattle during the winter (which was the general practice adopted in my native country), then it would not be necessary, as what was voided by the cattle would be sufficient to keep it in a moist state. What has found its way into the reservoir could then be diluted with water, and used as top dressing—the advantages of which are surprising. I have no doubt some of you saw in the *Guelph Herald*, I think it was, quoted the other day from a Scotch paper, that an acre of Italian Rye-grass had yielded twenty tons of hay during the season, having been cut ten times, and after each cutting it got a top dressing of liquid manure. The comparative value of liquid manure to solids, I will glance at presently.

Many other methods were adopted, so as to apply the superfluous wash; some of these were to fill the reservoir with dry straw, so as to absorb the liquid,

covering it over with peat or other porous earth, so as to determine the ammonia and prevent its escaping; and mixing such with other manures, for applying it by itself. At other times it was found beneficial in stopping too great a fermentation, from being poured over the dung-heap. Now, having collected the solid portions into a dung-heap, and the liquid into a reservoir, I will next endeavour to show what I conceive to be necessary to prepare it for use. But, Mr. President, before proceeding to this part of the subject, allow me a few minutes to contrast the system generally practised in this country, to that adopted at home, as previously explained; and I think you will agree with me that the system pursued here, in general, is a most injurious one to the farmer's stock, as well as to the manure.

Very little care apparently is taken to keep the droppings of the cattle together, or have it mixed with vegetable matter, so as to preserve as much as possible the valuable portions of it from escaping by the air, or being washed away by the snows and rains of Spring. Often you find the cattle at liberty to range over a field or lane, of acres in extent, which is covered over with their droppings, exposed to all the changes of the seasons; which practice must appear, on the slightest reflection, ruinous to the farmer. I look upon it as so much money lost; as what ever reduces the quality makes the article inferior, and consequently of less value.

But to proceed to the preparation of manures.

The fermenting of vegetable manures is a process I consider absolutely necessary, in any country, but more especially in Canada; not only on account of its being necessary in producing immediate effects on the crops to which it is applied, but the ease with which it can be ploughed down; yet how often do we see farmers driving it out in its rough unmade state, immediately on the opening of the spring, or before the last ploughing for wheat, in the summer; and spreading it on the land, and ploughing it in. The first objection I would advance, would be the open state in which it leaves the land, which, if a hot season sets in after the seed is sown, must necessarily retard vegetation. But, sir, if it was considered essential to have it well fermented in Britain, before applying it, how much more so is it necessary to be done here, when we take into consideration, the quantity of noxious weeds to be met with, growing along every road and wood side, whose seeds when ripe are carried by the winds over the whole neighbourhood which spring up along with the crops, and are gathered in harvest along with the grain, and consequently find their way into the cattle-yards, and which, if not destroyed by fermentation, will come up stronger each year, being well saturated with the strength of the manure.

I have heard it argued that by applying it to land early in spring, which was intended for summer fallowing, preparatory to sowing with wheat, that they would spring up, and by using the cultivator they would be destroyed. Such a system might answer a good purpose with light annual seeds; but with those increased in pods, which frequently lie dormant for years, until the moisture and action of the air destroys their covering, when they germinate and make their appearance, much to the annoyance of the farmer, it convinces me still of the necessity of having the manure well fermented before applying it.

The simplest way to effect which I have found to be to carry the manure, out to the field in the early part of the spring, in which it is intended to be used, and thus thrown by into a heap, which, if required for immediate use, the looser it is up the better, so