

fields, much of which matter, properly collected, being of very great value; for decayed weeds, grass, stubble, leaves, ditch and pond scourings, sawdust, ashes, matter having once had life, become the material for producing future life.

The animal matters, such as flesh-blood, and house sewage, are extremely rich in nitrogen, and carbonic acid; and the scourings of ditches and ponds usually contain some decayed or decaying matter, or have some portion in them of the inorganic constituents of plants, such as salts, or other mineral substance, rendering them valuable as absorbents of manure, or for mixing with substances which are either apt to ferment too rapidly, or are too powerful in their action upon plants to be used without being mixed with substances of a less stimulating nature. In short, there is no refuse matter on the farm, however contemptible it may appear to the un-instructed eye, that does not contain the elements of future vegetable life, and which is therefore as capable of being made into as valuable a compost as that which is yielded by the immediate farmyard, if subjected to the proper process.

And here the use of Gypsum, or Plaster of Paris, or, in its absence, Lime or Chalk (articles but too scarce in this locality), is strongly recommended, in order to fix the ammonia, which usually escapes from manures, whether solid or liquid, into the atmosphere, producing the effluvium of the farmyard, or other places where manure lies, such as fowlsheds, pigsties, &c., which is so offensive and so injurious to human health, and even to the health of the animals that inhale it. For even a slight sprinkling of gypsum, lime, or chalk, acts as an absorbent of the valuable ammonia, and takes it away, or rather prevents it from entering into the atmosphere, so that whenever an offensive smell is found in or near the farmyard, the fact seems as a notice that the valuable ammonia is escaping, and with it is departing more or less hard cash from the farmer's pocket; for such must be the result of the damaging process through which the manure is going whenever it gives rise to offensive odors. There is no necessity that any department of the farmyard, cowshed, stable, fowlhouse, pigstye, or manure heap, should give forth an odor offensive to the most delicate sense of smell; on the contrary, a sweet and grateful effluvium—or at least an inoffensive smell—should pervade the farmyard.

Gypsum, chalk, and even lime, being out of the reach of many farmers, it may be well to notice some of the artificial deodorizers which form substitutes for the natural absorbents of ammonia.

One pound of green copperas, dissolved in one gallon of water, and sprinkled with a watering pot over stables, cowsheds, &c., affords a deodorizer of great power. Sulphuric acid is mentioned as not being so cheap as this solution, but nothing is said of the mode of using this acid.

From what has been said it will be obvious,

1st. That the drainage of the farmyard should be to its centre, so that none of the fluid oozing from the manure, whether generated in it, or descending on it from the spouts, or in rain, should be suffered to escape;

2ndly. That the dwelling house sewage be conveyed in pipes to this common receptacle of every kind of fertilizing matter created by the deposit of both animal and vegetable substances;

3rdly. That gypsum, lime, or chalk, or some of the artificial absorbents of ammonia, and consequently preventives of bad smells, be sprinkled on dung heaps, and in the sleeping houses of the animals, for by such means alone can the escape of the very essence of manures be prevented. It may now be added that when liquid manure is seen to accumulate so as to form pools, it should at once be drawn off, and conveyed to the land as speedily as possible.

The practice of using liquid manure is advancing rapidly in England. The following passage from a modern work on husbandry shows the light in which this plan is now viewed by authorities:

“I have no doubt whatever but that fifty years hence nearly all artificial manures will be applied in a liquid form, as I think it will be found that, in point of economy of material, cheapness of conveyance, and the rapidity with which it will act, the system of using manure in liquid will be found superior to all other modes.”

It is obvious that manure, in a fluid state, sinks at once into the ground, and, coming in contact with the roots and their sponges, is at once taken up by the plants—at once becomes their food; whereas masses of solid manure, even when fully decayed, lie long on the surface, when not ploughed in, lose much of their value by evaporation, and often are scattered about and wasted. I cannot conclude this part of my subject without pointing out the importance of attending to the question of time, in relation to the retention of manure, whether