

knowledge of this process that we may lay down the following rules in relation to it:

1st. The ground selected for the deposition of stable manure should be even, in order to permit the equal distribution of the manure on it, and thus secure to the heap uniformity in thickness. Only in this case the process of putrefaction will proceed regularly in every part of the heap, and its body will prove to be of a homogeneous character.

2d. The manure should be protected against the direct rays of the sun, in order to prevent the too rapid advance of the putrefactive process, and a consequent generation of heat which will incur a considerable loss of ammonia. Practical experiments made with equal weights of stable manure exposed to the sun, and with that under cover, show the effect of the latter to be, within a certain time, about twenty-five per cent. greater than the former.

3d. The manure heap should be kept moderately moist; if it be too dry, the degree of heat then produced will volatilize ammonia; if too wet, an acid humus will be formed which, being soluble in water, acts very injuriously on vegetation. In order best to attain this end the ground should be slightly inclined, and all the fluid that runs from the heap be collected in a pit, from which it may from time to time be scattered over the heap.

If the above rules are strictly observed, and the necessary arrangements which they require to be made, fairly provided for, no other precautions need to be taken for securing the highest possible effect of this manure. The practice of applying plaster of Paris, copperas, or sulphuric acid, for the purpose of fixing the volatile ammonia, is then unnecessary and may best be entirely dispensed with. Indeed, the sulphate of lime, whether directly added in the form of plaster of Paris, or subsequently produced in it by the application of the other two substances, will be of good service only in the case that enough of water is present to favor the formation of sulphate of ammonia (a fixed ammoniacal salt) on one side, and of carbonate of lime on the other. If, on the contrary, the heap should happen to remain dry for some time, the effect produced by such applications will be quite the reverse. Carbonate of ammonia is then evolved and sulphate of lime regenerated; and a neglect of attendance to this condition, therefore, much harder felt than when no applications of this sort have been made to the heap at all.

We have thus far, exclusively treated of the organic part of stable manure, particularly of its composition and the changes to which it is subject by the process of putrefaction.