

able importance; for, it was an absolute necessity that a new class of compounds was formed in the soil immediately the manure reached it, and it seemed to follow that those compounds furnished the elements of nutrition to plants; consequently we should seek to produce them by every means in our power. Liquid manuring, wherever practicable, was an effectual way of securing this distribution. In the case of artificial manures—that is to say, manures composed of chemical salts—much simplicity was introduced by the new discovery. Henceforth we must regard the different salts (those of ammonia, for instance) as of value in relation to the price of the ammonia, or other base contained in them, since they are all alike when incorporated with the soil.

In liquid manuring it had been usual to think that the application must be made to grass, or to land bearing some crop; but now it was known that the land, not the plant, retains the manure, no theoretical difficulty could arise in the use of liquid manure for arable land.

In irrigation the principle now illustrated must certainly be of great importance, if, as there is but little doubt the chemical characters of the water are of consequence, and that the soil is the means by which the salts and organic matters are separated for vegetation; then it will be obvious that the water should be made to flow *through* rather than *over* the soil. This reasoning is consistent with the observation, that to produce the full effect irrigated land should be well drained.

The application of water to land not at the time being a crop, would be clearly admissible under this view, and is indeed practised extensively in Germany and some parts of Italy. Mr. Way also pointed out that the proper depth for drainage must be materially influenced by this property of soils to absorb manure. Without asserting that this or that depth was the most advisable, he thought it would be admitted that the water of drainage should pass through a depth of soil regulated, amongst other circumstances, by its particular power of detaining the manures placed upon it.

To the question of the application of sewer refuse from towns these experiments brought much light, and they clearly proved that the sewer water might be applied in an intermittent way, provided that a due relation was maintained between the capacities of retention of the soil, the quantity of manure applied, and the amount of crop taken in a given period. The great obstacle to the use of sewer manure, based upon the belief that it must be applied to the plant in actual growth, or it would otherwise escape in the drains, is thus removed. Lastly, after adverting to the probability that the power of soils to remove carbonate of lime, and thus soften water, might be turned to account for the

supply of towns with pure water; Mr. Way said that he had great hope that with the clue he now possessed, some material progress might be made in the elucidation of the action of lime itself upon soils, which he had reason to believe was closely connected with the phenomenon which he had that day had the pleasure of explaining.

On the motion of Mr. Fisher Hobbs, seconded by Mr. Paine, the best thanks of the meeting were voted to Professor Way, for his kindness in delivering another lecture before the members, and for the newly discovered and important agencies of the soil, in reference to manure, which he had so ably explained to them on that occasion.

THE MAKING OF COMPOSTS.

I have come to the method by which I increase my stock of manure—partly from experiments of my own, partly through the reading of Agricultural journals, and partly through the suggestions of some friends. At any rate I have found that method highly successful; and I am most willing to give a full account of the way I proceed, hoping that other farmers may benefit by it, as I have done.

First of all, I have tanks, tubs, &c., in which I collect all the urines, the liquid manure, and the rain-water—the more the better, as long practice has taught me that nothing is better; and to the farmer it is a real treasure, which increases in value the longer it is kept. This liquid manure is required for the making of solid manure. However, should it be difficult to collect liquid manure, a mixture may be made which might replace it. In that case, rain water should be collected in tanks, the surface of which should be large, whilst their depth is small, so that the sun and air may act the sooner upon it, and hasten its corruption. In this water I throw weeds, useless roots, green plants, rubbish of all kinds. I would especially recommend for that purpose euphorbia, tamarisks, and all lactiferous plants. In winter, when such plants cannot be procured, I replace them with the leaves of evergreens, such as pine, fir-tree, box, ivy, moss, etc. To the mixture thus prepared I add quick-lime and sal-ammoniac, in the proportion of 10 lb. of quick-lime and 5 ounces of sal-ammoniac, to about 200 gallons of liquid. Although I mention these proportions as those I have made use of, yet what I say must not be taken as an absolute or general rule: each man must act according to his own resources, and his own wants. What I wish to show is merely the principles for the application I have made of it may often; be far from being the best. I will further remark that the tanks should not be too deep—about four feet is quite enough; and the several reservoirs constructed should be placed a little elevated