

trulizing the acid of the peat, though, as Dr. D. observes, "the solubility of genio (vogue-able mould,) is wonderfully increased by the action of alkalies."

Of the alkalies to be used, Dr. Dana gives the preference to wood ashes, soda, (or white ash,) and potash; and the proportions in which he recommends these substances to be used, are—for a cord of peat, 16 to 20 bushels common house ashes, or 92 lbs. of pot or pearl ash, or 61 pounds of soda. The alkalies to be dissolved, and the solution applied to the peat in layers, as the heap is being made up.

Leached or spent ashes may be used instead of the articles above named, but the quantity must be proportionably greater. Dr. Dana refers to Geo. Robbins, of Watertown, Mass., who used for four years no other manure than one part of barilla spent ashes to three of peat, mixed together. The peat was dug in the fall and mixed in the spring. Mr. R. kept eleven horses, four cows, and one hundred hogs, but sold all their manure, and used only the compost on his land, which was a sandy loam. The effects are said to have been excellent, Mr. R.'s crops being equal or superior to any grown round him.

The "salt lye" from soap-boiling establishments, and soap boilers' waste of every description, can be used with great advantage in the preparation of peat.

Dr. Dana greatly prefers ashes, or the articles above named, to lime. He does not, he says, "go for lime, but for soluble alkali. Carbonate of lime alone is not expected to produce immediate results, and seldom has, nor can be expected to produce visible effects in the first year of its application. * * * * Alkalies and peat or swamp muck, are within the command of almost every farmer. Lime is not [always] within reach, and besides, requires no small skill in its management."

Dr. D., however, recommends that experiments be made with what he calls a "soluble salt of lime," which is prepared by mixing lime with salt. He advises the manufacture of a compost as follows:

"Take one bushel of salt and one cask (four bushels) of unshelled lime; slack the lime with the brine made by dissolving the salt in water sufficient to make a stiff paste with the lime, which will not be quite sufficient to dissolve all the salt. Mix all the materials then well together, and let them remain together in a heap for ten days, and then be well mixed with three cords of peat; shovel well over for about six weeks, and it will be fit for use."

Twice turning the heap over would probably be sufficient. The cost of this compost,—reckoning the peat at fifty cents per cord in the bog, and charging one dollar per cord for digging and carting it, the salt at sixty cents per bushel, the lime at one dollar and twenty cents per cask—would be \$3.80 for three cords, or \$2.10 per cord. In general, how-

ever, the peat would be of trifling value before it was dug, which would make the cost of the compost less.

3. The mixture of peat with animal bodies, where they can be obtained, forms a compost of the most powerful kind.—In some instances, slaughter-house offal, fish, the carcasses of horses, and other animals, may be obtained with little or no expense. They should be at once surrounded by peat, if that substance can be had—if not, vegetable refuse and earth will absorb the gases which are disengaged in putrefaction. Dr. Dana says, "it has been actually proved that a dead horse can convert twenty tons of peat into manure more lasting than stable dung." Without vouching for the absolute correctness of this rule, the writer can say that his own experience has convinced him of the great value of animal matters in preparing peat for manure.

4. When the substances above named cannot be obtained to advantage, *charring* peat has been found a useful process. Peat and peat rubbish, such as tussocks, and turf mixed with the roots of bushes, may be either burnt, and the ashes spread on land, or they may be only partially reduced by fire, so as to admit of their being used for manure. Clear peat may be charred in large quantities at a small expense. The peat should be first partially dried; then a fire may be kindled, and the lumps of peat gradually placed round. When the fire is fairly kindled, it should be kept in a smothered state, because if it breaks out in a blaze, it will reduce the peat to ashes, instead of leaving it in a charred or half-burnt state. Two hundred bushels of this peat charcoal per acre, is considered equal to a dressing of ten to fifteen tons of yard manure. This, however, no doubt depends much on the quality of the peat. The heat which the peat goes through, dissipates its acid, and reduces it to a pulverized state, in which it benefits vegetation immediately.

From Bell's Weekly Messenger.

FARM-YARD MANURE.

The improvement in the quantity and quality of the manure of the farm-yard is an object of too much importance to the cultivator, to render any apology necessary for our again recurring to the subject, and we can hardly select a better period than this, when, at the commencement of the farmer's year, his yards will speedily be again filling with straw.—This great agent of all the farmer's success has, there is no doubt, for a long period been generally improving in the farm-yards of England, both in bulk and value. This was a necessary result, as soon as the introduction of turnips and other green crops enabled the farmer to keep, during all periods of the year, a much larger live stock than was possible with the husbandman of the olden time, who was compelled, for want of winter green food, to kill off at the close of autumn a large proportion of his live stock;

and what he did preserve of these, from the poverty of their food, yielded to him a manure of very inferior value. The introduction of the practice of feeding stock on corn and on linseedcake, was another great advance in the improvement of the value of ordinary manure. It was long, however, before the farmer was enabled to reason with useful accuracy upon this subject, and to see the true principles so clearly laid down by the German chemist Sprengel, when he remarks on this head (Jour. R.A.S., vol. i., p. 458):—

"When animals are so badly kept that they daily lose flesh, their excrements also become lower in quality in the same proportion, since the body in such case not only expels fewer of its own worn out particles, but the food itself becomes more powerfully exhausted by the digestive organs. If, on the contrary, the animals are kept on abundant and nourishing food, their excrements also are very strong in quality, but these will not only contain much refuse animal matter, but the food itself is also less exhausted. Hence the manure of fattening stock is best. Animals immoderately fed give, indeed, for reasons which do not require explanation, the most powerful manure, with the disadvantage, however, that the food has undergone a proper change. Accordingly, the more nutritious in general the food is, the better the excrements resulting from it, supposing the animals to obtain so much of it, as to gain instead of losing flesh and fat; for the excrements resulting under these circumstances are abundant in phosphorus, sulphur, soda, potash, chlorine, lime, magnesia, and nitrogen. Fattening stock, as we learn by experience, yield very strong manure when they are allowed the free use of salt. It is likewise maintained that the excrements of oxen fed on scalded fodder are of superior quality to those of stock fed in the ordinary manner: this, however is scarcely possible; they must, on the contrary, with equal quantity and quality of food, be inferior, for by the process of scalding, the materials are so prepared for the digestive organs as more easily to yield their best portions. For this reason we give cows a less quantity of the scalded fodder, than of that which has not been so prepared. The excrements of oxen fed on scalded food come sooner into effective operation, since the woody fibre and the hardened vegetable portions of the food are softened by the process of scalding, and, consequently, when in the state of excrement, are decomposed more rapidly. On account of this quicker effect, the excrement of cattle fed on scalded food is supposed to be the best, though it is not really so."

We have added what Sprengel says about the imaginary alteration in the riches of the manure by previous boiling the food of the stock; and this may be true, provided the same food is given in both cases; but we are not to confound this state of things with the result; pro-