

capacity to continue growing, at the same time attaining an unexampled ripeness of condition at an early age, has excited the wonder and obtained the approbation of every looker-on not blinded by prejudice."

Many persons maintain that the Teeswaters are large consumers of food. In some instances this may have been true; but on an average I do not believe they are: there is no other breed that will make such good use of what they consume, and in so little time.

As milkers they are above an average; and some particular herds are celebrated for this property. I have been connected with breeding these animals all my life, but never considered them the best dairy cows.

It must be admitted that the Teeswaters are rather tender animals, and require much attention and care. (but none pay better for the extra trouble.) How should this be otherwise? They are the handiwork of nature's journeymen; and as dame nature never produced anything of the kind herself, she has left the management of their productions to those that formed them. They require warmth and dry layers; at the same time, when their artificial character is taken into consideration, few breeds suffer less from disease than the Teeswaters.

This breed are universal intruders on all other breeds of cattle, and are fast treading on the heels of the far-famed Herefords. They are in universal estimation, and found in almost every county in Britain; much sought after by our continental neighbours; and to my surprise, during my travels in Australia and New Zealand in 1836-7, I discovered them there and duly appreciated.

A SUBSTITUTE DUNG-HEAP.

But while such effects are produced, as farmers will hardly believe, by a good proportion of green crops and economising the essence of manure, instead of allowing it to run waste and be washed out by the rain: still dung is heavy carriage; and there are out-lying distant fields, hilly and rough roads, and a variety of other cases, where it would be convenient to the farmer to have a cheap compost made on the spot capable of answering the purposes of the dung-heap, without the charge of carting from the homestead; and of helping it out where deficient. 1. The basis of such a compost must of course be vegetables collected on the ground; but as vegetables ferment sour, there must be lime to correct the acid; and as there will be roots and seeds of weeds, they must be killed by the salt. 2. Sods and turf, from hedges, ditches, and headlands, will also carry in vermin; but they and their eggs will be killed by the salt and lime. 3. The potass and salts required for vegetable growth will be well supplied in the vegetable matter; but the phosphates, for encouraging seeding and bulbing, will be defi-

cient, and must be supplied by bones, either in the compost or at the time of sowing. 4. And while the substance of the heap is constructed of these materials, ammonia, or nitrogen in some form is necessary, to give it the activity of good dung; and the great point is to effect this by the cheapest and readiest means.

1. Of the vegetable matters, to form the basis, it may not be altogether superfluous to remind the farmer of roots harrowed up, hedge clippings, fallen leaves, weeds, fern, heath, moss, rushes, vegetables growing in and on the banks of pools and streams, and sea-weed when at hand; in fine, every sort of vegetable substance, leaves, stalks or roots, burning none, except in extraordinary cases.

2. Then seeds and turf from hedges, ditches, and headlands, and paring of the soil; sawdust, spent bark from the tan pit, peat turf and bog earth, mud from ponds, ditches, cess-pools, rivers, or the sea, and even way soil where at hand; coal tar in small quantity (say 3 or 4 gallons to the ton), has been found useful in vegetable compost; and may be mixed with coal ashes or sawdust, for loose cartage (where not too far), or carried out in tar barrels, and mixed with sawdust, leaves, spent bark, or any of the ingredients on the spot, or even with earth to disperse it through the heap, and prevent its clotting together.

3. When there is plenty of fish the phosphates will be sufficient without bone; but whenever bone is required it will generally be better applied to the soil, at the time of sowing.

4. If refuse fish is to be had cheap (say 1s to 2s. per ton), it is the cheapest and readiest supply of ammonia; and carrion, or any animal offal, is little inferior. Or if a gas work is at hand, the gas liquor is excellent for the purpose, and may be carried in casks, or loose, absorbed in sawdust and next to these are woollen rags, which are light carriage; but work slowly unless steeped in urine or night-soil. And if ammonia is still deficient, it may be made up at any time by sulphate of ammonia or nitrate of soda, dissolved and sprinkled in when turning over the heap.

The compost should be made in a part of the ground the most sheltered, by trees or walls from both rain and sun; and a bed of earth, a foot or more deep, laid down; upon this a layer of green vegetables and sea-weed (1), dusted with slaked lime (say $\frac{1}{2}$ cwt. to a ton), then a layer of stalks, roots, spent bark, sawdust, sods, turf, and mud (2), with salt (also about $\frac{1}{2}$ cwt. to the ton, less rather than more): and so on limed vegetables, and salted stalks, roots, sods, &c., until as high as convenient, say 4 or 5 feet.

The heap can be made up by degrees as the materials are procurable; and the thickness of the layers must depend, more or less upon the abundance of each kind, perhaps 6 to 9 inches for the green layer, and 3 to 5 inches for that of roots, turf, and mud, &c., would be about the best for