

and the whole expense of transporting the earth did not exceed 4l. 16s. When the work was complete, he levelled the surface of the heap, in a line with the mouth of the sewer, which conducted the urine from the interior of the building, on purpose that it might be distributed with regularity, and might saturate the whole from top to bottom. The quantity conveyed to it, he estimates at about 800 gallons; but as this calculation was founded partly on conjecture, for he measured not the liquor, it will be better and more instructive to furnish and proceed on DATA, that are certain and incontrovertible. The urine was supplied by 14 cattle, weighing about 34 stone each, and kept there for five months on fudder and turnips.—The contents of the pit produced 284 loads, allowing 2 cubic yards to be taken out in 3 carts; and he spread 40 of these on each acre, so that this urine in five months, and from 14 cattle, produced a compost sufficient for the fertilization of seven acres of land. He states further, that he had tried this experiment for ten years, and had indiscriminately used in the same field either the rotten cow-dung, or the saturated earth; and in all the stages of the crop, he had never been able to discover any perceptible difference. But what is still more wonderful, he found that his compost lasted in its effects as many years as his best putrescent manure; and he therefore boldly avers, that a load of each is of equivalent value.—Conclusions of vast importance are deducible from this statement: and I cannot resist the feeling, of placing them in a strong and advantageous light. They speak a volume of instruction; and if we are willing to learn, they must lead to a very material alteration in the construction of our barns. It appears, then, that in five months, each cow discharges urine which, when absorbed by loam, furnishes manure of the richest quality, and most durable effects, for half an acre of ground. The dung pit, which contained all the excrementitious matter of the 14 cattle, as well as the litter employed in bedding them, and which was kept separate for the purpose of the experiment, only furnished during the same period 240 loads, and these, at the same rate, could only manure 6 acres. The aggregate value of the urine therefore, when compared with that of the dung, was in the ratio of 7 to 6; so that we are borne out by these promises in this extraordinary inference, that the putrescible liquor which in this province, and under the management of our farmers, is wasted and annihilated as far as regards any useful purpose, is intrinsically worth more than the dung, as an efficacious and permanent dressing: and if we take into consideration, that this latter manure is not treated with any skill and judgment, it will not seem surprising, that the culture of white crops has never been carried here to any extent, since we have despised and neglected the only means of creating them.

These defects call aloud for amendment. No country is entitled to be stiled agricultural, where the fundamental maxims of the science are so outrageously violated, and where the prevailing practices set at nought the simplest rules of the art. Grazing draws forth no energies of the mind; it is compatible with indolence, stupidity, and a gross ignorance of all principle; the Arab in the desert can tend his flocks and herds, and leave their multiplication to the instinctive appetites of nature; it is only the first step from the savage life, and in place of hunting for the prey which he devours, man tames and domesticates the lower animals, but leaves their increase, their subsistence, their diseases, to the unguided agency of natural causes. 'Tis the plough, which awakens his dormant faculties, and stimulates to industry. Like the Sovereign of the creation, he commands, and is obeyed; he speaks, and it is done. The weeds, which are the natural inmates of the soil, disappear at his bidding; the grasses spring up, and form a carpet for his feet; the corns are subjected to his power, and wave their loaded ears around his dwelling; the forest gives up its fruit trees, to load his table with their luscious products; and the features of a rugged and forbidding territory are transmuted into the beautiful and sublime, and soften under the influence of his transforming smile. This province is still in a rude and unsubdued state; and its husbandry partakes of its general character.—For this, it is not difficult to account. Emigrants of all trades, of all habits, and of all ranks of society, land on this foreign strand in quest of subsistence. Manufactures are the offspring of civilization, and of the accumulation of wealth; and cannot find their way but into an old country, abounding with resources and population. Here we have none, and cannot have them for a century. The unfortunate stranger, driven from the only stay on which his hope rested, seeks refuge from despair by plunging into the forest, and cultivating the soil to answer the cravings of indignant nature. Without

skill, without capital, without the benefit of instruction, he becomes a self-taught farmer, ready to run into every blunder which ignorance has invented, and to which the vicious culture of the country has lent the sanction of authority. His hut, his barn, his implements of husbandry, his seed, his stock, are all chosen without knowledge, and continued in use without the least exercise of the understanding. He has no landlord to exact a rent, no government to levy taxes, no rival to animate industry. He soon finds above want; the spontaneous productions of the soil yield him scanty subsistence; the luxuries of life are seen only at a distant and indistinct distance; and his faculties, thus lulled asleep by surrounding circumstances, fall into a state of torpid lethargy. It must be stirred up, aroused, and forced into action. This is the province of superior and exalted characters, who, from their elevated rank in society, preside over his destiny. To them a rich reward of gratitude is due; and their memory shall descend to posterity, embalm'd by the blessings of a present generation. We are approaching an eventful epoch: the public attention is excited; we are preparing to count over the catalogue of our past errors; we are panting after knowledge; and a new age—full of promise and pregnant with improvement—is arising on our desolate and forlorn prospects.

During this state of public feeling, the evils, which I have pointed out in our treatment of decomposable manures, cannot long remain without correction. The remedies are not only simple, but accessible to every farmer of moderate capital; and the whole expense of the improvement will be compensated by the first, or at most, the second year's saving.

1st. With respect to the formation of a dung pit, I would recommend that a place be chosen near the barn, which should be dug about three feet deep, and of a size proportionate to the stock of cattle usually kept by the farmer. It is not necessary, that it should be built round with a wall, or have a perpendicular descent, as it may slope gently inwards, and deepen gradually towards the centre. After it is thus hollowed out, the texture of the bottom should be examined, and if found firm, impervious, and capable of containing the juices, no further trouble is requisite, and the work is complete: but, if open and porous, it should be coated with clay, and lined with large and coarse flags. Into this pit, earth from some neighboring field, should be first brought, and strewn over the bottom and sloping sides, to the thickness of from 9 to 12 inches. Thus a safe depository will be prepared, for the cleavings of the barn, for waste straw and weeds, for the sweepings of the kitchen, for the stems of peas, beans, cabbages, potatoes, and, in short, all vegetable matter of woody fibre, as well as for the dunnage of the feeding cattle. After a complete layer of putrescible matter has been spread all over, and when the symptoms of an active fermentation have become visible, the earth, which was thrown out of the excavation, may be slowly returned, and scattered on the surface of the heap, to catch the exhalations which are ascending. Hither, too, the urine should either be conducted by a drain, or carried by buckets; for it is an unpardonable waste to lose the benefit of this rich and invigorating manure. The earth which lies at the bottom will greedily drink up the urine and the vegetable juices, and thus gain a large accession of nutriment and value. So soon as the pit is filled up in the manner herein described, it should be emptied of all its contents; and these should be carted to the field where they are meant to be afterwards applied, and there laid down in some convenient corner, to be mixed up and sorted into profitable compost. The pit—adjoining the barn—may be again lined with mould, and the former operations repeated in procuring and augmenting its contents.

According to this plan every farmer, at the first opening of new spring, should cart out his dung, and form it at once into a composite pile, which, if skillfully managed, will gather heat, and undergo the process of fermentation before it will be needed in seed time. He should then instantly set about the digging of his pit, and the other alterations on the barn, which are indispensable to the successful collection and preservation of his future manure. During summer, this pit should be emptied twice or thrice according to circumstances; and its fermentable and earthy materials transported to the ground which they are destined to fertilize, and there subjected to a new process. Towards the fall, which by its length and mildness makes amends for the advantages of more favoured regions, all those compost heaps as well as the dung about the barn-yard, should be spread on the land, which is meant to be immediately ploughed. In the mean while, an additional stratum of mould