

crop, however, it was different, the turnips being good in proportion to the quantity of lime laid on. Where no lime was used, was a very poor crop; where lightly done, a fair crop; and where the land was limed heavily, the crops were very bulky. The grass also was good in proportion to the quantity of lime used; indeed I found generally, on all light moory soils, that it was not easy overliming for green crops; for white crops, on the contrary, easily overdone; and, after repeated experiments, I arrived at the conclusion that, on all soils of this description, 75 imperial bushels per acre is as much lime as can safely be used. I ought, however, to mention, that the lime I used was of a very superior description, both as regards purity and burning—indeed, better quality of lime could not be found anywhere.—*Il.*

LEAVES.—What shall I do with my Leaves? Are they good for anything? asks a correspondent. Do with them! good for anything! Why treasure them to be sure, as if they were coin of the realm; they are good for everything which a gardener has to do. They are the best of all shelter, the best of all materials for bottom-heat, the best of all soil, the best of all drainage, the best of all manure. It is true they contain little or no nitrogen, but they rot quickly, are full of saline matters, on which everything that bears the name of plant will feed gluttonously, and from their peculiar structure allow air to pass in and water to pass out with perfect freedom.

If we wish to know what leaves are good for, we have only to burn them and see what a quantity of ash they leave behind. All that ash is as much food for other plants as beef and mutton are for us. It is the material which Nature is perpetually restoring to the soil, in order to compensate for the waste which is produced by the formation of timber. In wild land, trees are annually thus manured; were it otherwise, a wood would be a roof of life overshadowing a floor of death. If we can remove the leaves from our plantations, it is only because of the artificial richness of the soil in which they grow. This sufficiently indicates the value of leaves, which are in truth hardly less important in their death than they were in their life, though in a different way.—*Gardener's Chronicle.*

MANURES.—Although it is as vain to attempt to keep a garden in good heart without manure as it is to try to preserve a good state of bodily health without a sufficiency of food, there are parties to be found every day who think the experiment worth trying. Because they keep neither horses nor pigs, they will not go to the expense of buying those substances by which the exhausted energies of the earth are restored. The starved ground, through this ungenerous treatment, is unable to repay the toil expended on it, and dwarfish and unhealthy productions are the result. Although the subject is one not very proper to be presented to ears polite, it is nevertheless of the utmost importance, and a few lines devoted to it will not be very padly spent. The question of manures may be called a national one, intimately connected with our wealth and happiness, and any one who points out the most economical modes of fertilising the land confers a benefit on his fellow-creatures. Our observations now refer to small gardens, but a principle will pervade them applicable in some degree to the largest farms. In the spirit of a Leading Article in last week's *Chronicle*, respecting the Dublin Horticultural Society, we believe that what is calculated to benefit the amateur gardener may have important bearings on the pursuits of the farmer.

The resources of an ordinary house and garden, if properly husbanded, will go far towards manuring a good-sized piece of ground. All vegetable refuse, leaves, stalks, &c., should be collected into a heap, and when thoroughly rotted, will make the very best manure for flower beds or for plants in pots.—The flower-garden will never require a dressing more powerful than good leaf-mould, some special things, Roses for instance, excepted. If the sweepings of paths and of sitting-rooms, or of the house generally, which contain a good deal of sand, are mixed with this vegetable refuse, in a year a good

compost will be ready for use. Wood ashes are highly beneficial for any purposes, but cinders are not desirable things except in heavy clayey soil. The fine soft ashes arising from coal, thoroughly burnt, may be always used with advantage.—Bones, old rags, cuttings of hair, &c., are all useful; and the amount of these things in a year from a small family is very great. Those who live in country places may often have road scrapings for the trouble of fetching, and these are great improvers of a manure heap. All these matters should be turned occasionally, and used when thoroughly rotten and incorporated.

But the cloaca is the grand source of manure when properly managed, which is not the case in one instance in ten. In most houses there is a common receptacle, into which all substances liquid and solid are thrown, becoming in the process of accumulation a great nuisance, and a still more formidable one when removal becomes necessary. Now a little management will prevent the nuisance, and turn the affair to the best account. The cloaca and the dust-hole should always be adjoining, that the dust and ashes from the house may be spread over the surface of the former every day; but odours are thus neutralised, and the whole contents are removed without any unpleasantness. One thing, however, must be sedulously attended to in connection with this arrangement: no slops must be allowed to find their way into this receptacle, or the object will be defeated. All liquids brought out of the house in the morning must be disposed of in another way. If you have no kitchen garden, or no meadow land, get rid of these slops by the common sewer. If you have a larger garden, or land, have some heaps of hungry soil always ready, and saturate them with the contents of the slop pail. By removing these heaps and placing others, everything will be saved, and a most efficient manure provided at small expense.

APPLYING DUNG TO WHEAT.—The operations of life are on the surface of the earth, and the more plausible theory of the food of plants supposes that it is derived as much from the atmosphere as from the soil. We may also infer that new elements will be produced from the manure and the air, and which may be imbibed by plants. From these grounds I have long been of opinion that the farm-yard dung, which is now laid on the bare fallows for wheat, may be more beneficially applied as a top-dressing in March on the growing plant. At that season the soft lands would not carry the carts to lay the dung on the land; but this difficulty may be removed, by laying moveable railways on the field, along which light waggons would convey the dung to be spread from them on both sides, and which would receive the dung from the carts at the end of the field. The dung being thinly and evenly spread on the land, it may lie from one to two months, and being then harrowed, it will form a top-dressing for the plants of no common value of the minute particles of dung and soil, and a bed for grass seeds of a kind that they never receive. A matrix of different substances, in a finely-reduced and comminuted state, resembles the "alluvium" of nature, in which plants so very much delight to grow.—*J. D.*

CLAY LANDS.—The most economical, and by far the simplest and most generally applicable, mode of reducing the cloddy surface of clay lands, is to lay mounds of alternate layers of the rough materials and hot lime, and to ignite the heaps by exposure to the air or by the application of water. A heap of 7 yards in length, 4 in width, and 3 feet high, and mixed with 72 bushels of hot lime, has been recommended to be reduced to ashes or nearly so, when clay may be applied as long as sufficient heat remains. The damp heat exhaled from the lime will produce a smothering effect on the clay, which is not easily attained in the open air, either with a large or small quantity of flaming combustibles; in the former case there is danger of calcination and uselessness, and in the latter, of imperfect burning and extinction of the fire from exposure, and the surrounding contact of air. The lime can be got at any time, and the process can go on in wet or dry weather; the means are more at the command of the farmer, and the work can be performed more promptly on