

cannot be too strongly impressed on the mind of every cultivator. Various means may be adopted to reduce manure to a fine condition. If coarse or composed largely of straw it must be rotted, by placing it in large heaps to remain several months, cutting down the outsides with a hay-knife after the lapse of a few weeks, and throwing the trimmings on the top. If there is not enough straw to retain the volatile portions, then thin layers of loam, turf, muck, or peat, must be placed with the manure—thus forming an excellent compost heap,—the amount of loam or other absorbent to be regulated by the quantity of straw which the manure may already contain. If the fresh manure is nearly clear dung, it should have one-half of its own bulk to retain the volatile parts; but this again must vary with the amount of clays it contains—a heavy loam being a better retainer than a light one. A dry material, as loam or peat, is also a much better absorbent than a wet one. All these different things are to be taken into account, and the judgment properly exercised in determining how much of absorbing material is to be placed in mixture with the manure.

Where straw is largely used, it would obviously require much less rotting down if the straw could be run through a straw-cutter and chopped short before used as litter. Cornstalks are especially troublesome when mixed with manure; the straw-cutter therefore becomes particularly useful in chopping them up before spreading them over the yard.

We know a very successful commercial gardener who keeps one of his many hands constantly employed, year in and year out, in mixing and working down fine composts; and the eminent success in all parts of the establishment proves the wisdom of the practice. Farmers cannot, however, especially at these times, mix and break down their compost heap by hand; they should therefore make them in the form of long and low parallelograms, on which a yoke of oxen may be used for several days in plowing, harrowing, and commingling all the parts until they are nearly as fine as flour. After the manure is spread upon the soil, and before plowing in, great benefit is derived by thorough harrowing with the top soil, thus breaking finely both the manure and the soil, and mixing them well together. Another way for the perfect diffusion of the manure among the particles of earth, is to spread the manure in autumn

so that all the rains of this season may dissolve the soluble portions and carry them down among the particles, where they are absorbed and retained for the growing crop.

In experiments which we have witnessed where the manure for the corn was thus applied in autumn, it has afforded a yield of about seventy bushels per acre, when the same amount applied in spring gave only fifty bushels. A thin coating of manure applied to winter wheat at the time of manure applied to winter wheat at the time of sowing, and well harrowed in, has increased the crop from seven to ten bushels per acre—and in addition to this, by the stronger growth it has caused, as well as by the protection it has afforded to the surface, it has not unfrequently saved the crop from partial or total winter-killing.

In cases when it is necessary to apply coarse manure at once, much may be done, in lessening the evils of coarseness by artificially grinding it into the soil. The instrument called the drag-roller,—which is like a common roller set stiff, so as not to revolve,—has been used to great advantage for this purpose, by passing it over the surface in connection with the harrow. We have known this treatment to effect a thorough intermixture, and to more than double the crop obtained by common manangement with coarse manure.

LIME SINKS IN THE SOIL.

A correspondent of the *Germantown Telegraph* says: "Lime acts upon the soil in two ways: one mechanical, and the other chemical. Its specific gravity being greater than that of common salt, it has a tendency to sink until it finds a soil of its own specific gravity. This generally takes place when it reaches the subsoil; hence the benefit sometimes derived from increasing the depth of the surface soil—the lime which during the previous cultivation had sunk to what was then the subsoil is again brought up and mixed with the surface soil. This mechanical action may be more readily explained than the chemical action; the lime by sinking loosens the soil, and admits of a more free passage of air and moisture."

THE BEST TIME TO SOW GRASS-SEED.

I have an impression that experimental knowledge is the most valuable for the farmer. For more than half a century I have been experimenting to find the best time to sow grass seed. For more than 30 of the first years of my farming, I did as