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COMPOSITION AND CULTIVATION OF CLAY LANDS.

Continued.

We are confident that the inventive genius of our countrymen could easily devise some practical application of steam power, to ditching extensive, level lands, while the surface is firm and compact, during dry weather, so as to reduce the expense perhaps below the expense in Europe; and when this is accomplished, the principal obstacle to introducing this greatest agricultural improvement of modern times, will be removed. This system is, beyond all doubt, the only one approximating perfection in the tillage of heavy clay land.

A plan for under draining has been, to some extent, adopted in England, which is done entirely by horse or ox power, by attaching a pointed iron spindle of about 3 1-2 inches diameter at the largest end, to a sharp coulter, which reaches to the required depth below the surface, say 20 to 30 inches. This requires a very strong team of 6 or 8 powerful horses, when the work is done with great facility, by simply carrying the spindle through the subsoil in a horizontal direction, attached to the lower end of the coulter.—The adhesiveness of the clay effectually closing over the drain made by the spindle, is said to leave a permanent passage for the water for years; but as this system has not been extensively adopted in England, we may conclude it will hardly justify a trial here.

Our principal object at the present moment, is to give some general directions for cultivation of clay lands, as they are usually found in this country, which are the results of long continued, skilful practice, of the best farmers. The most desirable improvement would be, to alter the texture of this description of land, by the addition of a quantity of sand and gravel, so as to modify the tenacious character of the clay. This plan, however, like that of under draining, is too expensive for this country, except in the neighbourhood of cities, where land is sufficiently valuable to justify the cost; and improvements in this way, must be confined to such lands, or small patches elsewhere, where sand is convenient for the purpose.

Another mode of improvement, which to a certain extent, is within every farmer's reach, and is one of the leglimate objects of every good farmer's system, is to add large quantities of coarse unfermented manure, and all his undecaying vegetables; which may be done on a large scale, by turning in matured crops produced upon the land. There is no danger of putting on too much manure of this kind, if buried sufficiently deep, in proportion to the quantity used. And there is as little danger of suffering any loss of the manure. It will last till exhausted by the growth of vegetation. Nor will it *burn* the land, according to the common phrase, as an excess of manure does on light and sandy soils. It is not carried away by rains, or evaporated by heat, but like coin, securely hoarded in a strong box, it is safely retained till the owner's key is applied to unlock it. The mechanical as well as chemical character of this soil, particularly adapts it to the preservation of manures; for in addition to its strong chemical affinity for ammonia, which is the fertilizing principle in all soils, its mechanical structure enables it to hold beyond the possibility of escape, all the animal and vegetable substances buried beneath it.

After doing whatever can be effected advantageously towards altering its character as above described the next process is to put the surface into the right shape. This should always have some descent, sufficient to enable the water to pass off freely. When the natural surface has not declivity enough to effect the object the land must be thrown into beds of 10 to 20 wide, with a deep double furrow between each, to conduct off the water which fall from the more elevated surface; and the water accumulated in these furrows, should be led away through some natural ravine or artificial ditch.

For all grain crops to be sown in the Spring, the land should be plowed the preceding fall. The following spring, the grain may be sown directly upon the surface, and harrowed in and rolled, without allowing the plough to touch it. By this operation, we have the bed, in which the grain is to nestle, and from which it is to draw its future support, more finely divided by the elements, and the action of frost through the winter, than can be done by any instrument whatever, and no alteration of this handiwork of nature can be made but for worse.

If corn or roots are required, the land should be *half* ploughed the previous fall: that is, a space should be left unmolested, of the width of a furrow, on which the upturned furrow is thrown. By this operation, a large dry surface is exposed to the salutary effects of air and moisture, heat and frost, and it will be in the best possible condition for early tillage and abundant crops. It will be mellow, friable, and comparatively dry, and by thorough cross ploughing, harrowing and rolling, in the spring, it will be well fitted for the reception of the seed.

Of the immense capabilities of good clay soils, we have never been more favourably impressed than during the last and present seasons. While surrounded by scorched fields and withered crops, during the excessive heat of last year, our own crops of every kind on a tenacious clay, were sufficiently supplied with moisture, and were never heavier and better. The present summer has been one of excessive rains, yet when the land was supplied with manure, and properly laid up, the yield has been peculiarly good. The long continued cold of the spring was unfavourable to many crops, yet after a thorough examination, during the summer, of those growing on every variety of soil, over an extent of several hundred miles, we have no where seen them better, or more abundant, on any land in no higher condition.

For *winter wheat* we do not think them suitable, unless prepared by thorough under draining, as the wheat is very generally winter killed, or thrown out by the frost, or drowned by excessive rains, before the sun gets sufficiently high to protect it. But with the best varieties of spring wheat, it produces largely. For the production of rye, it is totally unsuited; but of barley, oats, peas, grass and roots, when suitably prepared, no soil produces better crops. Their chief value, however, is for grass lands, and when put down in meadow, ought never to be disturbed, as with good management, they will be in an improving state, and afford the most profitable and remunerating returns.—But while in this condition, no animals should ever be suffered to graze them, and especially while the the ground is soft. Poaching is destruction to them, and no scarcity of other food, will justify the farmer in driving his cattle upon his meadows, while saturated with water. It is a common opinion by those unaccustomed to them that clay lands will not produce good clover; yet we have never seen better clover, or larger crops, than we have repeatedly raised on them.

When required for roots, corn, or other hoed crops, the soil should be well charged with manure, and the most thorough tillage will be amply repaid. 'A little land well tilled,' has a peculiar signification when applied to this kind of soil. Plaster, (sulphate of lime) has no appreciable effect on it when applied in small quantities; and lime, (carbonate of lime,) has less value than any of the lighter soils. Ashes are valuable on any land, and we believe, under all circumstances; yet we have repeatedly made the application of them on a very stiff clay, without deriving any immediate perceptible benefit. A longer time is required under certain circumstances, for them and other manures to act, but their action continues through a much longer period.

From the Connecticut Farmer's Gazette.

The Potato —As an article of profit for general cultivation, none can compare with the potato in the vicinity of large cities and navigable waters. The Farmers of the town of Greenwich, in Fairfield county, made the discovery more than 45 years ago. Since that time it has been their principal crop, gradually increasing by which they have become the most wealthy town in the State, according to its population. Bordering on the Sound, with a number of good harbors and their proximity to New York city, their facilities for transportation, and advantages for a market, were highly favourable for their pursuit.

This township is composed of several ridges ranging north and south with a considerable portion of of rough rocks, broken faces, and all furnishing stone sufficient to fence it into small lots, which the great industry and enterprise of its inhabitants has, in a great measure, accomplished. The soil is chiefly loam, with some small portion of gravel, well adapted to the use of gypsum, and the production of grass, corn, oats, potato, and other roots.

In raising potatoes, no manure has been so generally and profitably used as gypsum. Very little has beendone in the buisness of making compost. The prevailing notion that gypsum has no efficacy on the shore, does not hold true here. More of it may be necessary than in the interior, to broduce good effect. But, preceded by any alkaline substance as lime and ashes in any soil where there is any vegetable mould, there is no failure in effect, unless temporarily, from a drought. The free use of lime in this town would greatly enhance the effect of gypsum on any crop. The mode of cultivation in Greenwich had been tested by nearly half a century's experience, and may therefore be safely recommended.

Turf land is generally preferred, plowed twice or more, till well mellowed. The ground is marked with the plow into squares of about 30 inches, which barely admits a horse with a small plow to pass between the rows. One large, or two middle size, or three, or more small potatoes, are dropped in a hill, generally without cutting. A small table spoonful of gypsum is then dashed on the seed before it is covered. When the tops are mostly out of the ground, three or four inches, a plow is passed between the rows, turning the furrow from the hills. Then a light brush harrow is drawn across the furrows, which in part covers the tops, and smothers, or eradiates all young weeds. No hoe is used at this plowing.

After the second ploughing, turning the furrows towards the rows, the hoe is applied to clear around the hills, and give them a little fresh earth, where the plow has not done it. Previous to the next ploughing, (generally with one horse,) another small handful of gypsum is sometimes dashed on the hill, and perhaps more frequently sown broadcast. The plow, in good tillage, is passed between the rows often enough to subdue the weeds, previous to, or about the time the blossoms begin to put out; but the hoe is seldom used more than twice, and without much hilling up.

Where gypsum is applied, the potatoes are nearly of one size, much more so than when barn, or any compost nature is used. An average crop or any well tilled, plastered land, is about 200 bushels per acre. Farmers, with one hundred acre farms, generally raise from 800 to 2000 bushels regularly, in favourable seasons, besides corn and other grains and vegetables. We know one farmer who, ten or fifteen years ago, frequently planted from 50 to 60 acres and remember one crop of 16,000 bushels.

To Cure Sheep Skins with the Wool on.—Take a spoonful of alum and two of saltpetre pulverize and mix well together, then sprinkle the powder on the flesh side of the skin, and lay the two flesh sides together, leaving the wool outside. Then fold up the whole skin as tight as you can an