Fertilizing Sandy Soils.

Nearly all sandy soils are poor from the fact that they are destitute of vegetable or organic matter. They are composed of crystals of silica, a small portion of which are soluble, and there is frequently existing a little organic matter. Thus it is that the grain planted in such a soil sprouts, shoots up a thinly yellow stalk which can hardly support its own weight, and never yields any grain of value. Nubbins fill the cribs of farms on such soils. There are thousands of acres of land of this character scattered over the country, frequently near rivers, and there is a long belt of such soil along our whole Atlantic coast commencing with New-Jersey. A great part of this land is underlaid with marl, and at many points swamps are accessible; from these two sources may be derived the best means of fertilizing those lands. But there are many thousands of acres of sandy soils not accessible to these beds of fertilizing matter which nature has provided; to such some other means must be applied.

Sandy soils do not hold manure for a great length of time. Hence the question to be studied first is—is there a sub-soil not too deep to be ploughed up so as to mix with the sand, thus forming a soil which will hold a fertilizer? But this clay underso I may be at too great a depth to admit its being ploughed up at profitable rates; then the question must be to fertilize the upper strata of sand alone. The first point to be attained in this is to make the silica of the sand soluble, so that the stalk of the grain may have strength. This is done by the addition of an alkali, a green crop, or by any decaying vegetable matter. To say that these chemically different substances act alike in this respect may seem singular, but they all tend to make the silica soluble. The first does it by combining with the silicic acid and forming a silicate of soda, potash, or lime, as may be the alkali used. The second and third act similarly, as in the course of vegetable decay an acid known as humic acid is generated, and this acid has the ability to resolve silica. But it is always better to use an alkali in connection with a green crop, for the reason that then the alkali will act in making the silica soluble, and the humic acid of the plant will be left free to resolve itself into ammonia. Therefore, a judicious combination of an alkali and a green crop can be made the best and cheapest of fertilizers for a sandy soil.

It may be argued that the soil will not, of itself, produce a green crop. A fine sand will not, but if one adds to that sand nitrate of soda, or carbonate of potassa, and sulphate of ammonia, then a crop may be grown. This, ploughed under, will give a basis for operations the next year, when, with a further use of those chemical fertilizers, a still better green crop may be obtained for ploughing under. By such a course, with care and patience, the most barren sand may be made a fertile farm. Thus, if the sandy soil be utterly barren, there is a necessity for chemical fertilizers; but if it be capable of producing some one of the many varieties of green crops, it is only necessary to repeatedly plough them under to bring the sandy soil to a fertile state.

Of all lands, those of a sandy loam consist of sand are the most easily tilled. A farmer can plough more in a day of a soil containing a great deal of sand, and with less horse power, than of a clay or loam. Again, there are thousands of acres of such soils lying waste and held at very low rates. We know of enough such land in the South, which if properly cultivated, could double the cotton crop, and there it has near the greater portion the marl and muck to fertilize it. There are in New-England, even, thousands of such soils now almost or entirely useless, which can be brought into the highest state of fertility. Nothing has ever been created, nothing has ever been allowed to live, without some good end, without some purpose. Those sand fields, apparently barren, can be made fertile and yield a return richer for the amount of labor expended, than many lands originally called fertile. But to do this requires thought and labor. We have endeavored to indicate our belief of the best and cheapest course, which is, in brief, the growth of a green crop and ploughing it under, and in company with the green crop the use of some alkaline fertilizer, unleached ashes, containing carbonate of potash, sulphate of potash of commerce, or nitrate of soda. At the same time it must be remembered that a purely sandy soil seldom retains any special manure beyond a year, and that it is only by repeated green crops that such a soil can be made good with at least the usual permanence of soils. Yet it is possible to make such a soil equally as valuable by the course suggested, as one which nature has fertilized by the leaf droppings of repeated ages.—*N. Y. Tribune.*

Wheat Culture.

The importance of selecting pure seed should not be overlooked. The large and well-developed kernels should only be selected. Such wheat should weigh nearer sixty-five than sixty pounds when measured in an accurate-gauged half-bushel. The heavy kernels may be separated from the others by means of an improved fanning-mill; or, where one is not to be had, by taking a small hand-scoop, holding a quart perhaps, and throwing it against a strong breeze nearly to the opposite end of your threshing floor; the heaviest grains suitable for sowing will accumulate near the end from which it is thrown. No further preparation of the seed is usually desired. The following spring, as soon as the ground becomes sufficiently dry, the roller should be brought into requisition. Then in a week or ten days the field should be harrowed with a light harrow. The Thomas smoothing harrow is the best for that purpose. Then sow broadcast from fifty to 100 pounds of gypsum to the acre. To this could be added, with great benefit, double the quantity of unleached wood ashes. No farmer can afford to sell the latter for twenty-five cents per bushel.

Mr. Wm H Gibson, an enterprising young farmer in one of the best wheat-growing neighborhoods in Madison County, Illinois, in a recent address before the Farmers' Club Association in that county, made the following interesting statement: "the average price of wheat, corn and hay for twenty-two years in St. Louis has been for wheat, $1 28; corn 63 cents; and for hay $19.56 per ton." In making an estimate on the profits of wheat culture, he estimated land at $60 per acre, of which the average yield of wheat was 15 bushels; corn 45; oats 40; and of hay 1½ tons to the acre. Interest 6 per cent., or $3.60 per acre; taxes about 50 cents per acre; interest on wear and tear of machinery about 20 per cent. on first cost, which is about 70 cents per acre for reaper and mower, 40 cents for drill, and 5 cents per acre for the ploughs, &c.

Ploughing, 20 days, $1 99 per day	$38 00
Harrowing, four days, $2 10 per day	8 40
Rolling, four days, $2 10 per day	8 40
Seed, twenty-five bushels at $1 50 per bushel	37 50
Interest on seed ten months at ten per cent	3 13
Seeding and use of drill one and a half days	10 70
Rent, twenty acres, at $3 60 per acre	72 60
Taxes	10 00
Harvesting, two days	25 00
Stacking, four men, two days	20 45
Threshing	28 05
Total	$ 9 945

Or 99½ cents per bushel.

This estimate undoubtedly approximates very closely to the actual cost of the production of wheat in the older settled sections of the country. Estimates on raw prairie or the second year from the sod might show a still more profitable result. He says it must be borne in mind that the above figures provide for the payment of taxes, and a fair interest on money invested, so that what is obtained in price above the cost is actual profit. We shall be pleased to have our readers imitate the above example in estimating the actual cost of production. To this it would be well to add the yearly increase in the market value of the land.—*Colman's Rural World.*

Underdraining in Scotland.

In the British House of Lords, a request was submitted by Lord Napier that the government in collecting the agricultural statistics of Scotland would hereafter introduce into the returns a schedule of "the number of acres of land now under cultivation, which would be susceptible of remunerative improvement by underground drainage," and another of the number of acres "now classed as heath or mountain lands, susceptible of profitable reclamation and improvement in connection with underground drainage" —supporting his request in an argument of considerable length. A reply was made by the Duke of Argyle, on the part of the government, the main point of which seems to have been that the purpose of such statistics is the "collection of facts and not of opinions," and he thought even if it were possible to obtain accurate returns on the points referred to, there might be question as to their being of any great practical value. The *North British Agriculturist* remarks:

"There is no doubt that nearly the whole of the land now under cultivation would be greatly improved by a system of thorough drainage, and which, if carried out in an efficient manner, would prove highly remunerative. As regards the extent of heath and mountain land susceptible of profitable reclamation and improvement with underground drainage, opinion necessarily varies very considerably; for in connection with this question there is the important one of climate, which includes altitude and exposure. Of course, Lord Napier, familiar with the agriculture of one of the most fertile Presidencies of India, may over-estimate what capital, skill, and perseverance are capable of effecting in Scotland, but the inhabitants of the United Kingdom are under a great obligation to his lordship for bringing the matter under the notice of the government. Presumably, the subject will not be allowed to rest without being further inquired into. In the mean time we invite the attention of agriculturists to the subject, in the full expectation that it will at no distant date be earnestly taken up.—*Country Gentleman.*

Old Pastures.

That excellent farmer, George Geddes, of the State of New York, falls foul of a certain agricultural journal for insisting on the wisdom of the oft repeated injunction to *stock very light*, so that much of the grass may be left to rot on the ground. He says:—

"The truth is that this is a very great waste; and on the old pastures, besides the waste, there is irreparable injury to the best bottom fine-fibred grass, which, though ignorantly despised in America, is in reality far superior for fattening, and so much less exhausting to the soil than in English pastures, and the mowings likewise, continue centuries in the highest state of fertility. In America, the coarse, tall grasses suck the soil, and their influence altogether ruins any prospect of permanency, and misleads the public mind in all respects relative to grass lands.

The Kentucky blue grass pastures confirm the argument relative to the banishment of the plow on natural grass, but nevertheless the plow continues to devastate whole districts. There is a foolish notion that a good old pasture will not keep so many animals as a new one, the error occurring in consequence of there being no good old pasture to graze, and there never will be good pastures unless there is good grazing, viz., a gnawing down of all the coarse varieties, so that the thick-set bottom grass can hold its own; and thus thick, fine-fibred herbage will fatten better than the tall grasses, and will throw up in the course of a year more feed for stock than the thinly growing long grasses, which ought not to monopolize the soil, and to keep which the general opinion is that half of it should be left uneaten to rot and nourish the roots through winter. Gardeners, and all keepers of grass-plots and lawns, have found out the error of shade in summer, for they shear off with the mowers every week, and so far prove the mistake of the contrary custom.'

To Destroy Joint Grass.

Joint grass is often troublesome in the cultivation of corn and tobacco. The strong roots send forth new shoots each spring, and not only exhaust the soil, but overrun the crops. On a farm recently purchased which was covered with joint grass, I put sheep early in the season, soon as the grass started, after which I ploughed the land to the depth of three or four inches, as far as the fibres reached. I then thoroughly dragged the ground till the light roots covered the surface, and again the sheep were turned on the fields. In a short time every vestige of the roots were destroyed, and the sheep had enriched the land, increasing its value 1½ per cent. Pour brine upon a few of the roots once or twice if the sheep do not eat them at first. White daisies, thistles, artichokes, &c., are effectually destroyed by constant and close grazing, commencing in the early spring.—*Rural New Yorker.*