

Agriculture.

Sewage Farming.

Many a plausible theory has been found to be words—mere words—when tested by experiment. Even from stubborn facts theories are sometimes deduced that have been proved to be theories only, and have sometimes misled even practical men. For some time the value of sewage as a manure was a prominent subject in every agricultural paper. There can be no doubt of its great fertilizing properties, but they were magnified egregiously; and now that the experiments from which so much had been expected have been fully tried, its intrinsic value is better known. Enormous expenses have been incurred on sewage farms, and extravagant rents have been undertaken, so much so that the produce, though heavy, has fallen far short of the outlay. It is a matter of absolute necessity that the sewage be removed from towns, however it may be disposed of, and it is also an established fact that it possesses very great fertilizing properties, but in the use of fertilizers, as in other matters, we may "pay too much for our whistle." Mr. J. C. Morton, in an able contribution on this subject to the *Journal of the Royal Agricultural Society*, in which he details the results of his personal experience in sewage farming, and reviews the operations on half a dozen various farms, says:—

"Meanwhile it may be held as certain that the agricultural remedy for the sewage nuisance is alone trustworthy. None of the chemical methods having to deal with a putrescible liquid can send it from them in a non-putrescible condition. The agricultural remedy alone is perfectly efficient. A putrescible liquid passing through the aerated soil—and over that incalculable quantity of surface within it to which the superficies of all its particles amounts—meets with the oxygen of the air under circumstances which promote, hasten, and produce the chemical transformation which it requires in order to its perfect defecation. Its organic matters are thus oxidised and transmitted in a condition in which they are no longer capable of creating a nuisance. This is the explanation of ordinary agricultural experience on a sewage farm, to which Dr. Frankland's laboratory experiments, conducted with admirable insight into the conditions of the problem, have directed him. It is the explanation of the perfect efficiency of his method of downward intermittent filtration—a sufficient depth of soil and subsoil being filled alternately with sewage and with air—which is just an extensive form of the ordinary agricultural experience on a well-managed sewage-farm. And whether on the extensive or inextensive scale, this, whatever be the expense of it, is the only process capable of dealing efficiently with a liquid in which the mischievous organic ingredients, filthy as they may be, are, nevertheless, in such extremely dilute solution as they are in town sewage. From this method alone, moreover, on the extensive or agricultural scale, is there any hope of extracting a produce which will contribute in any sensible degree to the expense of the process."

Our English contemporary the *Farmer*, in a judicious article on sewage farming, writes as follows:—

"So remunerative were sewage farms to be that in some of the earlier experiments the towns eagerly bought land at an exorbitant price, the engineering work was done in the most costly manner, and whether the sewage had to be lifted one hundred feet or gravitated with a fall of fifty, did not appear to matter greatly. Outlays were made on the most extravagant scale, regardless of expense, in full and certain faith that a sewage farm, however obtained, was in the end sure to pay."

"By this time experience has ruthlessly undeceived even the theorist, and it is with difficulty that many sewage farms are able to pay the labor bill and the rent. Some towns have gone to such an enormous expense in the purchase of land, litigation, and engineering expenses, that it is impossible the money thus expended can be repaid by the sewage farms, which have only just been able, hitherto, to pay for labor employed in addition to such a sum as would be equivalent to a fair rental—that rental being by no means the £20 per acre, or more, which, at one time, was thought to be but a fair equivalent for an almost unlimited quantity of sloppy sewage. Not only have we learnt that the estimate formerly made of the value of town sewage was too high, but other matters in the practical management of sewage farms have

had to undergo modification. In reviewing the whole question, there are three lessons distinctly taught us. The first lesson is that sewage is a poor and weak manure, and will not bear a heavy cost of distribution, even after it is delivered free on the farm. Plow-made furrows should be enough to regulate the flow where sufficient slope naturally exists, and the surface should be so arranged that a single man may be able to distribute a large quantity, say about 5,000 tons of sewage daily. The second lesson which agricultural experience with town sewage teaches is that such plants must be chosen for cultivation as can prosper under the enormous quantities of water contained in sewage. Italian ryegrass must be the principal resource, but cabbage, mangold wurtzel, garden crops, and all other succulent growths are suitable. Furthermore, the third lesson is the need of confining the cultivation of even such a succulent plant as Italian ryegrass to that period of its life and growth during which it retains its full vigor, namely, for one year only."

English Agriculture as Seen by an American.

At a recent State Fair of New Hampshire the Hon. J. B. Walker delivered an address on the "Peculiarities of English Farming," which we give below, slightly abridged, from the *Western Farm Journal*. His observations are, in general, accurate and free from prejudice.

I saw cattle and sheep getting a pretty good living out of doors in January. While visiting a farm eighteen miles from London, on the seventh day of October, I found the farmer setting out cabbage plants, and he said they would be fit to eat about Christmas.

The annual rain-fall in England is not very large, but the showers are very frequent; you are never safe to go abroad without an umbrella. There is much moisture in the air, and this gives the country a verdant appearance. They suffer little from drouth, and can raise cattle better than we. England is a finished country; everywhere it appears as though there was nothing to do but settle down.

The best soil they have is a soil we would do nothing with; I mean the clay soil. Without under-draining, England would be able to do nothing at farming. There are no forests in England. Land is worth too much to raise wood on except in some of the mountains east of Scotland.

We find no wooden buildings there. The Englishman cannot afford to buy any lumber, so he lays brick and stone, and builds of them. Their architecture is better than ours, and some of the poorest cottages, which are hardly as good as barns, have a very picturesque appearance.

The house of a small farmer is of stone, small, though comfortable, and not as good as those of New Hampshire farmers. There are no barns in England except horse barns. They have haystacks.

Once on going out West I got left in a town where there were banks, churches, hotels and school-houses, and on asking how old the town was, was told "eight months." Ask the same question in a town in England and the answer will probably be, eight hundred years.

The land tenure in England comes down from the old feudal system. There are rare sections where a man may buy a farm as here, but not many. As a rule, no farmer owns his farm. The land is owned by landlords; twelve of them own half of Scotland. There land owners are the aristocracy, and the grandest aristocracy on earth. If any man has a right to be an aristocrat, it is he who owns the soil. The tenant farmer hires the land of the landlord, generally from 200 to 1000 acres. This gives a large system, and large operations, and better management.

A third class of men dependent upon farming is the laborer who does the work. He generally has little ambition to better his condition. He does his work, takes his pay and spends it, and does not expect to ever do anything else.

The rent of land depends wholly upon the section it is in. It ranges in Ireland from a shilling to ninety pounds per year, per acre. The average is about ten dollars per acre per year. This price could not be obtained here, but there it is readily, and there are more tenants than land. This arrangement seems satisfactory to landlord and tenants. The tenant don't want to own the land, because he wants to put all his capital into his farming operations, and he cannot afford to own land. The landlord does not want to sell the land, because his importance depends upon his land. Without it he could not hold his position in life.

Mr. Mecchi, the famous English farmer, told him that he ought to have \$100 per year per acre to farm with. The English never hesitate to put into their farming all the money that will pay. It would be better if it were more so here. Half the money in our savings banks should be invested in our farming operations. They have the same trouble about scarcity and poorness of labor that we have here. Many of their best laborers come to America. The average English farm laborer gets about two shillings per day for ordinary farm work. In harvest they get more. Fifty pounds per year is pretty good pay.

Deep Soil.

Our opinions in favor of deep cultivated soil are not unknown to the readers of the *Advocate*. What Pennsylvania agriculturists think of the value of deep soil generally will be seen by the following extract from the *Germanstown Telegraph*:

"Among the peculiar features of the exhibit of Iowa at the Centennial, is a sample of her soils. She has long glass cylinders over a foot in width and many feet in length, and in this is placed earth, just as it exists. On the top is the black prairie soil, then the subsoil, and so on deep down to 'hard pan,' 'solid bottom,' or whatever the end is called. This enables the stranger to see how deep is the rich black soil, and is very attractive to visitors. There is a glass pillar for each county, and the soil of each county, just as it is, is represented each by itself. There is no doubt it is one of the very best methods of showing how deep is the soil of Iowa, and that the fact will have at least its due weight to those who are seeking homes in the West."

"But after all, we must remember that it is not alone deep soil that is to make good farm land. Though black rich soil is a hundred feet deep, it is only the first foot or so that is of any material value to a good crop. Some roots go deep, but the chief feeding roots are near the surface, and in time they will exhaust the soil, and, unless the lower strata are brought to the surface, at some expense, the crops will be poor. This has been found the case in Ohio. Here was deep rich soil, as deep as anyone could wish, but in a quarter of a century it gave out, and many a wheat-field has been laid down again to grass, and cattle now graze over land which was once the grain-raiser's pride. The subsoil might be brought up to the top, but that is too expensive. No way is like the old way in many things, and no way of keeping up the fertility of the soil is like the old way of feeding it annually with manure. Soil may be as deep as one chooses, and laughter and 'pity' may be bestowed on our Western journals and Eastern farmers who talk about manuring, but the richest Western soils are no exception, and the time will be when these deep Iowa soils, as represented in these Centennial glass collections, will have to be annually manured like all the rest."

"Even the deep plowing, the turning up of this rich subsoil, is not always the best plan, even when the expense of turning it up is not so great an object, for, notwithstanding the advice of the great farmer of Chappaqua to 'plow deep,' prairie-men never appreciated it. The universal testimony is, that in breaking prairie for cultivation the shallow plowed land yields the best crops. There is reason for it, but we need not give it here, where only the undoubted fact is of consequence."

In the name of good farming we must point out that for permanent and genuine agriculture in is of little account. The English have no virgin soil, no deep black bottoms to their land, but by judicious and cheap management it yields to-day crops of which the black lands of Iowa might feel proud.

Fancy Farmers.

However much we might wish to change the term *fancy*, the *fancy farmers* are more than *fancy*, they are enterprising, far-seeing men, who have generally been in advance of their time, and to whom we are indebted for many of the improvements and much of the progress of modern agriculture.

No class of men have been ridiculed so much and none have done so much good as those who are denominated fancy farmers. They have been in all times and countries the benefactors of the men who have treated them with derision. They have been to farmers what inventors have been to manufacturers. They have experimented, for the good of the world, while others have simply worked for their own gain. They tested theories, while others

have raised dignity and never had 1

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