

hausting crop, except great means of high and powerful vegetative manures are at hand. This system I have always found to facilitate the labour of the farm at a cheap rate, and the lands and crops would always bear inspection by men of business.

The powers of vegetation seem often to have escaped the observation of men of science, (so called,) which have long and much surprised me. You know, Mr. Editor, that amateur horticultural men base all their hopes of a crop upon this theme, being obliged to confine themselves to a small pot of mould for the growth of rich and splendid fruits, (without ploughing up dead clay,) to say nothing of the forbidden fruit, oranges, lemons, citrons, passion-fruit, &c. I have grown queen pine-apples, weighing 2 lbs. in a pot of earth 9 inches wide by 8 inches deep, and have seen numbers of them weigh 3 and 4 lbs. grown in pots 10 inches wide by 10 inches deep; and the mealy Providence pine-apple, grown in about a cubic foot of earth, weigh from 10 lbs. to 11½ lbs., but no dead clay in these moulds. I assure you Mr. Editor, that a near neighbour of mine here grew the finest crops of melons in the open air, finer than I ever saw in any part of England, by laying four or five layers of 2 inch thick common sod (called maiden-earth by gardeners) upon each other, bottom upwards, but no clay. Herewith I enclose some club-wheat straw, grown on land ploughed 8 inches deep, probably it would have been much better if the ground had not been ploughed at all. I have seen a field whose crop of wheat was lost by it, not far distant; that is, a good clover ley well dunged and ploughed deep, sown with spring wheat, that produced only one bushel of poor wheat per acre. Wheat is sown too often here.

I think that a fallow every fourth year, to renovate the land and clear it from weeds and grass, should be done as effective and as cheap as possible, as the expense is to be spread, as it were, over the three succeeding crops, and the wide scarifier kills grass and weeds better than the plough and produces more moulds. My scarifier—simple in its construction, all the irons wrought, and by separating the blocks, or changing them, it marks out lands for corn, potatoes, peas, &c., and will hoe these crops, about six acres per day, much cheaper and better than any other plan that I could adopt. But I have also a simple double plough, which goes with a wide share to cut up the weeds, and then a narrower share and mould-boards, to finish and earth up with the second or last time; and it strikes up or cleans out the common furrows also. The rhomboidal harrows seem best for this country also.

And now Mr. Editor, if these few lines, or any part of them, should be of any use to your agricultural friends or readers, in these hard times of free trade delusion, I shall have much pleasure in presenting them, and beg to subscribe myself,

Yours, very sincerely,

ROST. F. COOKE.

Cayuga, Feb'y 28th, 1851.

[Our Correspondent's experiments with oats and flower-pots. seem to us but very remotely connected with the question of deep ploughing. A soil taken within two or three inches of the surface, especially when that surface consists of sod, will unquestionably possess more organic matter, or in other words, more of the materials for building up the structure of plants, than soil taken at a greater depth. Experience has decided that deep cultivation upon poor wet clays requires to be accompanied by under draining; or more harm will be done than good. Upon a farm where shallow ploughing has been pursued and which has become exhausted by frequent cropping, we would recommend deeper cultivation by *degre'es*; say, ploughing an inch or two deeper every crop for five or six years. To effect this, the sub-soil plough must be brought into requisition during the close of the term. The advantages of a deep seed bed are, a larger amount of active soil in which the roots of plants find nourishment, the absorption of a larger amount of air and moisture, and consequently a much smaller risk of suffering from the effects of drought; which in a climate like ours is an object of much importance. Deep cultivation, however, without manuring and a judicious rotation of crops, will not be found in the long run successful. The specimens of straw sent us were certainly miserable enough. Some startling facts connected with deep and thorough cultivation, will be found in a separate article, in our present number. The additional cost, and the price of produce, must of course, as our correspondent observes, be regarded by practical farmers, in the solution of all questions of this nature.]—EDITOR.

STRENGTH OF VITRIFIED CLAY PIPES.—Those of three-inch bore, lately tried at the works at Glasgow, stood the pressure of a column of water 230 feet high, and those of four-inch, 140 feet, without breaking. These pipes are said to be much cheaper than lead.

THE OBJECT OF MIXING CHARCOAL DUST WITH FRESH URINE.—Ammonia is the product of the putrefaction, which soon takes place in the urine; and the propriety of adding charcoal dust to the fresh liquid depends on the advantage of retaining the volatile products of that decay from its earliest stages.