

society to the cases of minerals on their tables, which had attracted much attention during the day, and many inquiries. These minerals, said the President, are the fruits of study, bestowed by a young and hard working farmer upon his profession. He had watched the planting, sowing, growth and maturity of seeds: he had helped to manure and turn the earth, when an intelligent, inquiring mind led him to ask, what is soil? what are its elements? why are some naturally fertile, others naturally barren—and why the difference of manures used in farming? how does yard manure produce certain results, and plaster of Paris certain other results? To ascertain these facts, he picked up stones, examined them, and compared them with the soil; he sought information from books, which he considered as the store-house of ideas and facts gathered, and treasured up by wiser men: and thus he has arrived at truths, which must make his path, as a farmer, more easy and certain in results for the remainder of his life. If he is present, in this room, he can explain the nature of the minerals you have examined, and we may all gather useful knowledge from the investigations of our laboring fellow-farmer.

The young farmer's name is Mr. Alexander Kirkwood, who was a laborer by the month on Mr. D's farm. He came forward, and by request, explained the study he had pursued, in a manner that would have done honor to a scholar, who has made the sciences alone, his study and pursuit. We regret that we cannot find place for his valuable address. This is the right direction for the young men on our farms. When they shall generally, be thus instructed, the pursuit will be one of intellectual pleasure as well as a healthful and profitable adventure.

### ON DEEP PLOUGHING, &c.

To the Editor of the Canadian Agriculturist.

SIR,—As there is so much difference of opinion upon almost every subject, in these days of theory and much learning, permit me to address you with the few following lines upon farming, or cultivating what are here called clay lands, or the loamy lands of this part of Canada; as I know of no business more honorable than agriculture, although free traders will not allow its occupants either *sugar to their tea or plums to make a Christmas pudding with*, or indeed any other luxury; they are so anti-christian and selfish.

Theory says, plough your land very deep; the sound practice of by-gone days, for ages past, did not say so; indeed I have seen the most luxurious crops of grain and clover grown in England, from 1790 to 1834, without it. But after many years experience in agriculture and horticulture, I beg leave to give you the experiments of last summer. I took some clay from a furrow ploughed up about 8 inches deep at a cost of about \$23 per acre, instead of \$14 for ordinary depth. I put it into garden pots 4½ inches deep by 4½ inches wide,

the plants, oats planted 26th June, grew weakly, and produced from 6 to 9 kernals each, at the same time I took some common earth the 3rd and 4th inches (rejecting the first 2 inches of sod) and in the same size pots, side by side, placed on a board to keep the roots from touching any other ground, these plants were fair and healthy, and produced 24 kernals on each of good grain and fine straw, I also tried some in moderate cucumber mould, 1 part dung, 2 parts common earth, and 1 part sand, as drainage; these were still finer with 29 kernals each; but, Mr. Editor, I have not seen a field of cucumber mould to sow oats upon in Canada, at present. Thus it seems that ploughing deep is not necessary, as it is double the expense, creates great labour for man, team and ploughs, &c., even down to the water-furrowing and hoeing, &c.; in a wet season in England, I should have required an extra horse for every team in harvest-time to haul the grain off the land; these lands with moderate ploughing, say 4½ to 5 inches deep (uniform) kept clean of weeds, and dunged every fourth year for peas and clover, would seem to produce fair crops at moderate expense on an average of years. I saw a piece of land (new) ploughed deep last spring produce near 14 bush. of oats per acre, and land at no great distance produce over 40 bushels per acre. When the lands are laid up too high by deep ploughing with but few moulds, the great heat of this country dries them up and spoils the crop; but where the lands are ploughed up only a moderate depth in autumn and sown and scarified in the spring to make moulds and destroy weeds, or, drilled, which is much better, I have always seen good crops; indeed out of 3,000 acres, I had not one that failed.

Professor Johnston seems to have misled many by saying that clay has produced great crops of wheat *without any vegetable matter*, but he should have stated what were the *great powers of vegetation contained therein*. Professor Way says that 3 tons of clay require 2 tons of sand to pulverise it, and make it porous, and he might have added 1 ton of good rotten dung and 2 bushels of lime, as these would not have hurt it. But, I think with the present *low free-trade price of grain*, it would be well for the farmers of this country to pursue the plain system of farming adopted in England, from 1795 to 1830, as the surest and cheapest way of cultivating the clay lands of this country. That is to say, a fallow twice ploughed, 3 or 4 times scarified with a good set such as I have by me, which will do 6 or 7 acres per day at a cost of 2 or 3s. per acre York Cur'y, with one or two harrowings; to be sown with oats the next spring, (this straw and crop being the best,) followed by half clover and half peas, these to be manured for fall wheat, to be sown after the peas, and spring wheat after the clover, but not ploughed deep after peas or clover, or at any other time, as I have seen the wheat crop lost by so doing; and I could alway grow more grain with 3 or 4 inches of moulds, with a little manure and clear of weeds, than I could by any other means. Fallow or rest the land after the wheat, that being the great ex-