

expenses as the same quality of lands (stiff, heavy, adhesive, collapsing as they are) do in England with her *fourfold outgoings*. I shall only go back to 1801, before the powerful stimulants of Chemistry now in use were known, either by agricultural or horticultural men, and only a single block scarifier, with 5 A hogs, which produced 48 to 60 bushels of barley per acre, was used; but the lands herein described were well farmed, being kept *clean from weeds and not recropped*, and no machinery in use except in the mining districts. But great crops were generally grown by men of steady attentive habits. I have known 40 to 60 bushels of wheat, 40 bushels of beans, 40 of peas, 48 to 60 of barley, and 80 to 100 bushels of oats per acre of 160 rods, and 2½ tons or more of clover hay grown. Great changes have taken place in England in the last 45 years; a generation of good agricultural men swept away, paucity and taxation quadrupled, with other outgoings great, so that with all the machinery, powerful stimulants, &c., the average produce per acre available for the whole empire, does not seem to exceed £3 15s.; instead of £5; so that I fear the poor farmers have not a comfortable fireside as formerly. But, Mr. Editor, what is the clay land of Canada to come to? poverty struck garden, or land of thistles, bear grass, purse weed, rag weed, crotch weed, smart weed, &c., all for the want of a regular good four course system of farming, such as used to be done in England in this and the last century. I warrant this plan would do well here. If not, let Jethro Tull's plan of one crop and fallow alternately be practised, as I know plenty of land that cannot be cleared of weeds and well fertilized without it. My plan would be to plough the half of such lands not very deep, say 4½ to 5 inches, early in the fall, to stop the roots spreading; then in the spring, as soon as the thistles are fairly up, take a good scarifier, with say three inch wide tines or hogs, to break the ground, or pulverise it 3 or 3½ inches deep, and shortly after (say one or two weeks later, *when the thistles are up*;) fill the second hand block with good A hogs 9 inches wide, and scarify it again. This cutting them *under ground* will set them bleeding or running their sap to waste, more than twice or thrice mowing them down, for in this dry climate the wounds dry up immediately, and some of them will soon be in flower and ripen the seed, which the winds spread in all directions. When they get fairly above ground, scarify it again, (the cost may be 1 or 2 York shillings per acre), it is much better and cheaper than turning the furrows up and down with bad ploughs, thus leaving the weeds bound up in the clods for future years, the burning the fertility out of the soil, and not half the weeds *missed by five or six inch* furrows, used with bad ploughs to turn furrows 10 and 12 inches wide, and 7 to 10 inches deep, on which I never saw half a crop of grain

grow yet. It promotes mildew, and I know no one here who could spend so large a sum of money, and so many years of doubled hard labor as it would require to pulverize and fertilize such lands to make them yield any profit. I prefer the *cultivating well of 600 tons of soil per acre for grain*, to 10 or 1200 tons, as the former has produced always good crops for me, but the latter never did. It does very well to raise oak timber, I found; and the Commissioners of Crown Lands in England proved this in the last century by cutting the tap roots off the young trees to make the roots grow horizontally, and in 18 years they were as large as those planted with their tap roots left on to grow perpendicularly down into the subsoil in 45 years. The arable land of Mr. Beetson in England, which he cultivated entirely with a good scarifier, and only drew a single furrow to mark out the stetches 7 feet wide, to carry off the surplus rain water that fell upon it *after the grain was sown and harrowed in*, produced him, on this new system, a clear profit of *three hundred and sixty pounds sterling a year*, (and he only cultivated 110 acres) being three times as much profit as he had received before. I cannot understand why so many farmers are so desirous of ploughing these clay lands so deep, as I know none that will require it, and very, very few that will bear it. It is truly hard for horse and man, and kills the fertility of the soil for many years, causing great outlay without profit in most cases. Indeed I know many farms that I would not accept as a gift to farm myself, even under the mania that I have had for agricultural pursuits, and horticultural also; for in seeing these well practised, delights me more than all the professions in this extraordinary world; but I think, Mr. Editor, that if I were to carry (say only five tons) of the soil that I usually see turned up with these ploughs to a sound, practical horticulturist for him to grow his tropical fruit in, he would look very serious, and very likely think that I must have made my escape from a lunatic asylum very lately, for tropical fruits require a soil that I believe would grow 70 bushels of wheat per acre, and other kinds of grain in proportion. Even in the land of Canaan, splendid crops are grown with only stirring up their lands with a Greek plough, which is of the simplest kind, made with wood, having a fair length of bottom and beam, a short handle, a double winged share, but no mould board; and one horse, or a pair of mules, draw it easily. But in this fine grain growing country, I think the ploughs made and generally used in the counties of Essex, Suffolk, and Norfolk, England, in the last century and beginning of this, by far the best that I have seen anywhere. I have seen a sound, pretty good land ploughed in Canada, which produced from 1 to 7 bushels of wheat per acre; of peas, from 6 down to 1 and as high as 12 bushels per acre, and oats from 7 to 16 bushels per acre; Indian corn from 9 to 16