

of barley meal, beans, and oil cake at less than one fourth of the price charged for the before-mentioned cattle food. As to the stimulating properties contained in these foods, I am inclined to think their constant use is very questionable, and very likely to be productive of harm.

Practical Expense and Results of Tile Draining in Canada.

COMMUNICATED BY HENRY J. BOUTON, OF HUMBERFORD.

EDITORS AGRICULTURIST,—The report condensed for the columns of your publication of the 16th January, from an address by Mr. Dunlop, of East Zorra, evinces an active interest in that locality in a subject which deserves a general and constant attention, far beyond that which our farmers have as yet bestowed upon it. Why is it that of the many settlers among us, who in the old countries have experienced, or at least witnessed, the immense benefits derived from the underdraining of farm lands, so few come forward here to apply the practice on their own account, publicly to recommend it to their neighbours, and strenuously to aid and assist in procuring the adoption of such legislative measures as would remove the physical difficulties which impede it through want of general arterial open drainage, and would facilitate the introduction and distribution of capital, without which few, if any, of our agriculturists, can proceed in the work upon any large scale. It is now some two or three years since the matter was first submitted to public discussion, and though some progress has been made, still the steps in advance have been very slow and halting. Very few have dared the experiment, and these have failed to give publicity to their success. As it is only by the example of tangible results that a practical science, such as agriculture, can be improved or taught, all those engaged in this pursuit should not fail to make known such facts, occurring within their own experience, as may establish the benefit and practicability of any improvement sought to be introduced.

As in your paper all subjects of this nature receive careful and useful attention, no farmer in the country should be without a copy, and all should endeavour, by their own contributions, both in the way of statement of facts, and of explaining the rationale of different appliances of cultivation found to be beneficial.

As to the utility of thorough drainage of land, nothing would bring it home more forcibly to the minds of the farming community than a constant report being sent in by individuals, and published by you, of the extent, be it ever so small, to which it has been applied, and the practical results which have been observed to flow from it, not forgetting the actual expense

of the work. I would therefore call upon every farmer to furnish a statement of this kind, whether it be for publication or to enable the Editors of the *Agriculturist* to report from time to time the actual progress made in this most important work. As more is done and more is known, the examples previously given will be oftener and more confidently followed. To this end I wish to submit a statement of my own operations:

My first performance in this line was in the autumn of 1849, in the first wheat field which I ever sowed, when I laid about 90 rods of drains in about 10 acres of land, though the lowest parts of the field with chestnut staves placed in the form of an inverted V upon a pine slab, this Δ . These drains, at an average depth of 30 inches, cost me 20 cents per rod, material and all, and are yet in very good order, though the land lay so low that I was obliged to draw the water up from the outlet all the way along the bottom of the digging, and the river into which they discharge is generally above the mouth of the drain, which is only kept clear by the force of the water in the soil above compelling it to boil out.

This was the first effort of a book farmer, and although the seed was sown upon an old worn out field, at an expense in pulling stumps, manuring, liming and draining, which would have frightened many an older hand, the crop repaid the outlay with a good return of increase, fully one-third of the crop having been saved by the drains. I wish all my farming operations had been continued as I began; but after this I followed in the track which so many have pursued before and since, of planting many acres of grain in an insufficient manner, and in many cases barely receiving back my seed. The farm which I worked upon was certainly in bad order; a well seeded grass fields; no good fences; plenty of stumps, and no buildings. However, after gaining a little experience, and getting about 120 acres into pretty fair order, I rented out the farm, and in 1854 removed to another worse, where I now reside. Here while diversifying my employments by dabbling for three or four years in mill-dams, saw-mills and grist-mills, thus extending my general information, but adding to the numerous body of those who having too many irons in the fire suffer accordingly, I again went through the ordeal of fencing, building, stump pulling and seeding, and again about 1856 began a few experiments in underdraining. At first I had recourse to my old acquaintance, the slab drain; then I made a bold move and bought one or two loads of horse shoe tiles, then a few pipes, laying in this way in small quantities on detached spots some four or five thousand tiles, or between two and three hundred rods. The labour of these alone cost me about 25 cents a rod, neither my men nor myself understanding the proper way to proceed. In 1858 I visited England, and having had opportunities of examining into these matters, I returned with some