There is no occupier who would not like to have his land in as fine tilth, and as clean, as a garden,—deeply worked, pulverized, and enriched; only (as he will tell you) he must raise and be able to market greengrocers' and fruiterers' produce, in order to make such perfect cultivation pay. As long as grain and roots and fodder are worth no more per acre than at present, there is a limit to the amount of tillage it will answer to bestow in growing them. Give him a power cheaper and stronger than that of horses, and still more than that of workmen,—a power that eats only when at work, never wearies, and will accomplish the tillage wholesale at the right time, instead of being obliged to plod on, bit after bit, often in unsuitable weather, and he will soon show what an augmentation of produce, and how many other advantages, follow a better and superior style of culture.

The increased yield of our grain crops by deeper ploughing and underground draining, where needed, would, if fairly calculated, appear to many absolutely incredible. The risks of injury by insects, rust, &c., would be reduced to a minimum, and the average produce probably doubled. Thousands of acres of our grain-producing land has never been cultivated four or five inches deep, beneath which is often to be found a foot of soil abounding in the necessary mineral and organic matter, constituting the food of plants, and which only requires to be broken up and exposed to the action of air and rains, to yield to the growing crop its abundance of hidden treasure. With regard to Indian Corn, it is stated upon good authority, that in the Western States, upon the deep rich soils of the prairies, with the present shallow and imperfect system of culture, the average yield is under 30 bushels per acre, whereas upon the poorer stony soils of the New England States, in consequence of deeper ploughing and more thorough working the land, double and treble that amount is frequently raised. Upon poor sandy subsoils, deeper ploughing should be proceeded with progressively, as the turning up at once a large quantity of such soil, without a heavy manuring, might be temporarily injurious. It is proper also to observe, that upon soils naturally wet, little benefit can be expected from deeper culture till the land is drained. Draining, indeed, is the first indispensable means of improvement on wet lands,—the foundation of all subsequent ameliorations, and should always *precede*, rather than follow, deep cultivation. In preparing land for spring grain, it will be found most advantageous not to plough generally less than seven or eight inches deep; and for root crops an additional depth of as many inches by the subsoil plough, with a liberal dressing of well decomposed manure, will be found the most remunerating,

PREPARATION FOR ROOT CROPS.

As the live-stock of Canada has of late years been rapidly increasing in quantity, and, in most districts, improving in quality, the supply of a sufficient amount of suitable provender, becomes a question of great moment to every farmer since the mixed system of husbandry, or the breeding of stock and the raising of grain, is the one universally prevailing in this country. The main object of the farmer is to produce the largest amount of grain, and sustain the greatest number of animals of the best quality that his farm will allow, without diminishing, but rather increasing, the natural and permanent productiveness of the soil.

With a view of increasing and improving the domesticated animals of the farm, it has been found requisite in the British Islands, whose soil and climate are so peculiarly adapted to the production of grass and a rich permanent pasturage, to cultivate the various kinds of root crops upon a scale of great magnitud