

alone; turnips, carrots, mangel wurtzel, and other roots, have now been found most valuable auxiliaries to the stock farmer; and both the soil and climate of Canada are generally well adapted to these useful productions. All that now remains to be done is to keep the ground free from weeds by frequent cultivation, both by the hand and horse-hoe; the latter implement should be regarded as absolutely indispensable to every good farmer. The frequent stirring of the soil during the period of growth produces an astounding effect on the progress of all kinds of plants cultivated in rows. Air and moisture are thereby allowed more fully to permeate the soil, and the roots of plants are enabled freely to extend themselves in search of food. The food itself too, is thus rendered more available for building up the structure of the plant, so far, at least, as inorganic substances are concerned, while the land is kept in a good preparatory condition for the next crop.

The breaking up of fallows should be proceeded with without delay. Whenever practicable autumn or early spring ploughing, for this purpose, is to be preferred. It is the heavy tenacious clays which most need this kind of preparation, and such soils when allowed to become dry and hard, before breaking up, are most difficult and expensive to manage; for this, as well as other reasons, we prefer a deep ploughing in the fall. Fallowing is no doubt practised to a much greater extent, than is either necessary or profitable; but we confess ourselves not among the number who think that it might be dispensed with altogether. Even in England, this is not found in practice to be the case, except on the lighter soils. Not only does a summer fallow, when thoroughly made, clear the land of weeds, which of itself is an object of primary importance; but it effects certain mechanical and chemical changes in the soil itself, that are favorable to the healthy growth of plants. Root crops, however, when properly cultivated in rows, preclude the necessity of naked fallows; but in this country, it is unfortunate that such crops do not generally come off in sufficient time, for sowing fall wheat. If we could cultivate the horse-bean as in the old country, winter wheat might immediately succeed, with great advantage. Taking into consideration, as we should do in all cases of this nature, our peculiarities of climate, market-value of produce, &c.; we are clearly of opinion that, in the long run, it is not the most profitable system of farming in Canada, to adopt a rapid succession of crops. Thoroughly fallowing once in six or seven years, taking off but two grain crops, and liberally seeding down for hay and pasture, the farmer will generally be able, with

the ordinary manure made on the farm, if properly taken care of and applied, to keep his land "in heat" for an indefinite period. This he could most certainly do with the application, now and then, of a little lime in the form of a carbonate, sulphate or phosphate. The first should be thoroughly incorporated with the soil, when in a caustic state, by a deep cross ploughing, and the repeated use of the harrow or cultivator. It will frequently be found in some fields, that only patches of thistles of most luxuriant growth obtain; these portions should be ploughed as deeply as possible every fortnight, during the summer; and when this pest makes its appearance in pastures, it should be cut off, as much below the ground as practicable.

At this season *under-draining* such portions of the fallows as are wet, may be advantageously performed. This matter demands the special attention of the farmer, who should employ all practicable means to get rid of superfluous water; thus bringing those parts of his fields that are now swampy and unproductive, under profitable arable culture. A few well-made drains, judiciously disposed, will frequently effect an entire change in the productive capabilities of several acres. The expense will generally be repaid by the increase of the first or second crop, leaving for a bonus, the *permanent improvement of the soil*.

Every opportunity should now be seized for removing stones from fallow, and all other obstacles to clean and efficient cultivation. Too many farms, even in our oldest settled districts, are yet unnecessarily encumbered and disfigured by stumps and decaying logs, which the fire ought long ago to have converted into food for the crops. The neat and improving farmer will accomplish a certain portion of this kind of work every year, and will thus be constantly increasing the picturesque appearance and productiveness of his estate.

As the oppressive heat of summer approaches, those who set a proper value on comfort and health, will pay strict attention to the cleanliness of their premises. Cellars and root-houses should be thoroughly cleaned out, and the general application of white-wash is strongly to be recommended. All decomposing matter, whether of animal or vegetable origin, either in the solid or liquid state, should be removed to a distance from the dwelling-house, and carefully collected and preserved, for the purposes of manure. A frequent sprinkling of charcoal dust or gypsum, on the floor of stables or over manure heaps,—which latter ought to be protected by a covering of black muck or mould, from the action of the sun and rains,—would tend to fix those volatile or gaseous substances, which though injurious to animals are essential to the nutrition of plants. By systematic attention to these apparently little, but in reality, most important matters, the comfort and salubrity of the farm-house and premises may be increased, and the fertilizing power of the manure heap augmented many fold. Health and competence then are seen, in the case of the farmer, to be mutually dependent.