cious tillage, farmers must have recourse to root-growing. Rotation of crops is the life of successful farming, and to have a really good rotation, roots must take their turn with other products. "Yet," says an American writer, "with all the light shed on root culture abroad, our agricultural newspapers contain every season accounts of some man's little experiment with half an acre of roots, and the wonderful profit therefrom; and to-day, any man who has two acres in roots is a wonder to his neighbors. The wiseacres dubiously shake their heads, while Englishmen have their 300 acres of roots." This is doubtless too true of many neighborhoods in Canada as well as in the United States; but there are large sections of the country where the truth on this subject is beginning to be thoroughly understood, and the culture of root-crops is taking its proper place in the arrangements of the farm.

Turnips, mangolds, and carrots, are the leading crops of the root kind which it is desirable to grow. While the two latter are valuable products, and well deserving of the farmer's attention, the turnip is especially worthy of culture. Its hardiness, its feeding properties, the readiness with which it may be kept through the winter, and particularly the time for sowing and harvesting it, are strong recommendations of it. Spring is a very hurried season in this country; but turnips do not require to be sown until the labors of spring are finished. This gives breathing time, and affords opportunity to prepare the land thoroughly—a very necessary point. Then again in the fall, which is only second to spring in the pressing nature of its duties, the pulling and housing of the turnips may be deferred until every other crop is secured. From the fact that seed-time for the turnip is late, the excuse is often made for not sowing, "My ground is all full." This is seldom strictly true. There is usually some neglected corner on the farm—a bit of summer fallow, which could soon be got ready, or some little clearance near the bush, which could easily be burnt off and cleared up for a turnip patch; or the barn-yard is far larger than necessary, the lane four times too wide, or space enough is wasted elsewhere sufficient to raise a supply of roots such as would greatly help to eke out the winter stock of hay, and keep the cattle in vastly better condition than they usually are. By bespeaking attention to this matter, now that the work of the year is still prospective, we hope to prevent the land being all devoted to other things. Let every one of our readers resolve to have a good-sized and well-tilled turnip field this year. Choose the mellowest piece of ground at command, pulverize it well by repeated plowings and harrowings, manure it thoroughly broadcast and in the row with well-rotted dung and bone-dust, obtain in time the best seed, sow it carefully, till and hoe the plants well, and not only will the crop amply reward your toil and outlay, but the ground will be left in such a state for a succeeding crop of grain, as will make you wish your entire farm were a turnip field.—*Ib.*

DEEP CULTIVATION.

TWENTY years ago, a prominent English agriculturist spoke of shallow ploughing as one of the principal curses of British agriculture, and the same writer in a recent communication to an English paper, says:—

"I am sorry to be obliged to state, that in my opinion, formed from observation, four inches (solid) is still the full average depth of the British agricultural pie-crust, in which plants are to grow whose roots would, if permitted, descend many feet."

We question if the "agricultural pie-crust" of Canada is any deeper on an average; and though it yields a large supply of food for man and beast, let it not be forgotten that there is something below the crust, which is capable of adding immensely to that supply. In point of fact, nearly every farmer in the country has a *second* farm of the possession of which he lives in total ignorance,—a new farm under the old one. Farms not only lie side by side, but in layers, and if the rage for broad acres could be displaced by a rage for deep acres, the amount of soil under cultivation might soon be doubled.

The objects of ploughing are chiefly these: to pulverize the soil so that the air can get into it, and the roots of plants find their way through it: to mingle the different portions of it as thoroughly as possible; to cover manure; to kill weeds; and to keep the surface open and fresh. By bringing fresh portions of earth to the surface, moisture is attracted from the air, and along with the moisture, various fertilizing gases are absorbed. By keeping the pores of the land, so to speak, open, this process goes on more thoroughly than