

than to raise grain. The land must be in better till than is absolutely necessary for other crops, and it must be cleaned from weeds, for woe to the unlucky wight who essays to grow turnips where weeds do congregate! He will, indeed find it "nasty" and "back-breaking" business to ply the hoe so as to save his turnip crop. But this objection is partly founded in mistake, and may to a great extent, be obviated by choosing a bit of ground that has been made mellow and clean by previous preparation, and must be exceedingly foul that will not do for turnips the second year after grass. A good fall ploughing and a spring ploughing just before the time for turnip sowing, or two spring ploughings and the thorough use of the cultivator, will usually put suitable land into such a condition that it will not only be friable and mellow, but quite free from weeds and grass. Thorough preparation of the soil is the great preliminary for a comfortable and successful time in raising turnips. Another difficulty arising out of mistake is occasioned by broadcast sowing. We had supposed that this mode of putting in turnips was quite obsolete, but from some cases we have lately met with, we are inclined to think not a few farmers fall into this error. Three considerations ought for ever to condemn broadcast sowing: First, this plant requires a soft, deep seed-bed, such as it is well nigh impossible to provide in the general level of a field, and hence the great utility of throwing up ridges to sow on. Secondly, it is of great advantage to scatter some fertilizer, such as guano, bone dust, superphosphate of lime, &c., in the drills along with the turnip seed. Such a course provides ready stimulus for the young plants, hurries their growth so that they get out of reach of the fly and of weeds, and makes a great difference in the yield to the farmer's advantage. Last, but not least, there is the thinning out. Great must be the patience, meekness, and power of endurance of the man who can calmly and with unruined temper plod through the task of thinning a broadcast turnip field. And let him possess these qualities however eminently, he cannot prevent the task on his time being very great, as compared with what it requires to clean out a field of turnips in drills. With a thin-bladed hoe, eight inches wide, you pass along the rows at a moderate walk, a single quick blow being sufficient to make the required gap when once you get expert at the business. The truth is, that with proper tools to work with, and a good system of culture, turnip-growing is by no means hard work. A double-mould plough to make the ridges, some sort of a seed drill to drop the seed, a proper turnip hoe to thin out the plants, and a scuffler or horse-hoe to stir the soil between the rows, will so lighten the work attendant on this crop, that no reasonable man can find it in his heart to complain of it. The difference between a poor yield caused by a want of the right implements, and a good yield obtained by their use, will often pay the cost of the implements in a single season, and thus furnish their future use as so much clear profit.

Dislike of innovation, if not positive sloth, keeps many farmers from growing turnips. There are not a few who have so poor an opinion of their calling, that they do not expect any real improvements to be introduced in it. Other avocations are constantly being benefited by inventions and by improved and labour-saving methods of management, but farming must be carried on according to the fixed and dull routine of old time ways. "Father and grand father, and great-grand-father made a comfortable living in the old-fashioned method, they never heard of skirving's or Laing's turnips, of guano, bone manure, or superphosphate, and what was good enough for them will do for me!" Thus many reason,—no, not reason, but drivel,—as they slowly rumble on in the old time-worn rut. Perhaps there is no class of people who so tenaciously stick to old ways, and are naturally so averse to innovations as farmers. And it cannot

be denied that some of them yield to sloth in regard to such matters. The highest authority has affirmed, "The slothful man saith, *there is a lion in the way,*" some terrible, insuperable difficulty to be contended against, when there is something to be done, especially if it requires a little extra effort. It cannot be affirmed with any truth that farmers as a class are indolent, but along with steady physical toil, there is often a mental sluggishness which indisposes people to take any special pains in a new direction. It is too much trouble. They cannot be bothered to do this or that, so they jog on as their ancestors did in the days when steam, electricity, turnip-growing and stock-feeding were never thought of. A tendency this way is, perhaps, a besetment of universal humanity, and certainly it is one that calls for exposure, and needs to be resisted. Of all places in the world, a sleepy, droning, sluggish spirit has no business on a Canadian farm, where the short, hurried season demands that everything be done in downright earnest.

Familiar Talks on Agricultural Principles.

CONCLUDING TALK.

THESE conversational articles on field topics have now been continued a year and a half. The subjects it was originally intended to embrace in them are pretty much exhausted, and we propose therefore to close the series. Many important matters on which agricultural principles have a direct bearing, might be treated under the general heading which has been employed,—such for instance as fruit-growing, stock-keeping, dairy operations, household management, but each of these having a separate department in the CANADA FARMER, it was deemed advisable to restrict these "talks" to what properly belonged to "THE FIELD." The series embraces many subjects of the highest practical importance, which it has been our aim to treat in a simple and familiar manner, avoiding as much as possible the use of technical and scientific phrases, and conveying information in the language of common life. We have had from time to time gratifying evidence that these articles were useful, and in consequence valued. Some of them have been honored by transference to the columns of such journals as the *Mark Lane Express*, and *Farmer* (Scottish), the most convincing proof we could desire that they were fitted to accomplish the end for which they were written. As a whole, they form a sort of *vaude mecum* of agricultural knowledge on a variety of themes connected with farm economy, and it is not impossible that they may hereafter, with some additions and modifications, be put into a shape which will render them easier of reference, and less ephemeral than the contents of a periodical are usually considered to be. Of course we have not embodied in these articles the whole theory of agriculture. To do so would require a treatise of much larger dimensions. But we have given first lessons in the science and art of farming, which, if they have excited any interest in the minds of our readers, will of course lead to further study and more extensive research. The elementary principles on which we have dwelt have a great variety of applications, and we earnestly counsel our readers, especially the young farmers who are growing up all over the country, to provide themselves with good books and periodicals by means of which they may become more fully acquainted with those principles and their multitudinous applications. They will thus come to understand their business more thoroughly, be able to give a reason for everything they do, and, farming better, will obtain more remunerative returns for their industry.

Properly speaking, agriculture is as truly a learned profession as any other. It demands for its right prosecution, general intelligence, and knowledge of scientific principles, combined with practical skill. It is, as Professor Dawson well observes at the close of the valuable little work we have repeatedly

quoted in the course of these "talks," "a profession more intimately connected than any other with those great natural processes by which God provides out of the earth food for every living thing, and with all that is beautiful and attractive in the face of external nature,—a profession, therefore, worthy of thought and study, and leading to the love of country and of home, and to the cultivation of those tastes and habits which make home agreeable and happy." The ample resources of the noble country God has given us will never be fully known until our farmers in general come to be thoroughly intelligent and expert cultivators of the soil. We are well persuaded that Canada is, in natural advantages, second to no land beneath the sun, and we often picture to ourselves the state of things that will exist when justice shall be done to the splendid capabilities we possess. Then indeed shall the wilderness and solitary place be glad, and the desert rejoice and blossom as the rose. When the waste places are all inhabited, when the farms are neatly planned and tastefully laid out, when the country houses are built with some regard to architectural beauty and surrounded by lawn, shrubbery, flower and fruit gardens, when the high-ways are skirted with well-kept fences and beautiful shade-trees, and when the yield of our fields is doubled, tripled, aye, quadrupled, as it may and will be under the influence of first class farming, the Dominion of Canada will be a country of which its inhabitants may well be proud. As it is, there is much ground for encouragement, and stimulus to improvement. Let our farmers be contented with their lot, and strive to make the very best they can of it. Let them put away the thought of emigrating to other climes which may be supposed to be more propitious and to have greater natural advantages for profitable farming. Such are at best but uncertain chances, and in the vast majority of cases in which they are tried, result in disappointment, failure and loss. It is better to endure and overcome the ills we have, than fly to others that we know not of. Success in life everywhere is conditioned on the conquest of difficulties. These beset every country, clime, and lot. They are no greater here than elsewhere, indeed they are less formidable here than in many parts of the world. Let the temptation to a change of calling also be firmly resisted. It is not all gold that glitters. Here and there a fortunate speculator or shrewd man of business manages to make money rapidly and easily, but the slow, steady gains of agricultural skill and industry are more sure, and are not liable to the maxim "easy come, easy go." The prosperity of our country must be built on its agriculture, and he who by close thought, extensive reading, and persevering industry, constitutes himself a good farmer, will not fail to do well for himself, and to promote in a very high degree the public welfare.

Mangel-Wurtzel Culture.

BY A PRACTICAL FARMER.

I HAVE so often written upon this subject as to cause me some uneasiness, if not an apology for again presuming to pen another paper upon it. As years, however, roll on, slight improvements enter into its culture and management, which I desire to touch on. This root-crop has had to battle with the prejudices of British farmers for more than fifty years. It has, I believe, now fairly conquered every opposition to its progress, and its popularity has become universal, and so great, that it is in very many districts pronounced to be the best and most valuable of our root crops. Such being the case, it is highly desirable that every favourable course connected with its profitable growth should be before the public. One of the most prominent and pleasing features connected with its culture is the great improvements which have been achieved in the various stocks or varieties offered for public favour. If long experience of its character, growth, and management, is of worth, I may claim some consideration. I was rather an extensive grower (for the time) of "beet-root" (i.e. mangel wurtzel), about forty-six years ago, having at that time from twelve to fifteen acres under management. At that period we neither knew aught of its correct culture, its proper uses, or the character of the stock or variety sown. All this has gradually opened before us. The original stocks were so bad, so small, "rooty," "stringy," "fangy," and the mismanagement in housing, harvesting, and administering to stock so great, that it grew into disfavour, and for a time a lesser breadth was grown. Subsequently,