

FARM AND FIELD.

[For The Rural Canadian.]

KNOWLEDGE IN FARMING.

Experience in farming is the only true teacher. By long years of experience, the adaptation of soils to different crops has been discovered. There are, however, many truths in connection with farming yet to be drawn out and proved. This can only be done by intelligent, watchful, educated farmers. A man may be educated ever so highly, may have a vast amount of knowledge in every branch of learning, and may be a first-class chemist, but if he has not had the training and experience he cannot make his knowledge of any practical use on a farm. His well-trained mind may, however, make him far more successful than if he were entirely illiterate. Place an ignorant cockney from the centre of London, England, on a farm for himself, and what would be the result? Bring a graduate, who has never been on a farm, from a university, and place him in the same position; in nine cases out of ten he would make himself successful. The first would have no idea whatever of his position, and would be completely lost. The second, whose mind had been trained, and had learned all he knew by close application, would at once apply himself to study and observation, and would add only another branch to his attainments. The first, having an untrained mind, cannot understand what he reads or even what he sees, therefore cannot be successfully shown. The second, having gained his knowledge by reading and being taught, can understand what he reads and what is shown him, because the training of his mind has been such that no point can escape his comprehension. While the first can only understand that he is to plough, sow and reap; the second understands there are many details which must not be omitted—and here lies the true reason of success.

But the educated man brought up on a farm has the advantage of both, he has the advantage of a thorough training, though that training may be in a great number of cases only mechanical; still by it no thought is needed for the mechanical part of the work, and the whole attention may be thrown into the scientific part. Then if he have an intelligent, thinking mind, his experience is apt to show him at once how to make his success sure.

All our forefathers had to do on the virgin soil was to sow and reap; but the time has come when a great deal of thought and study must guide our efforts in successful farming. The condition of the soil most favourable to particular crops, the methods of arriving at this condition, and the proper rotation to carry on, are only a few of the many points to be studied. To study these few successfully requires a mind trained to think deeply, and this training can only be got in a thorough education.

Another advantage the educated farmer has over the uneducated, is his aptitude for reading. We would hear less of the many swindling transactions that are of daily occurrence, if farmers read more. Nearly every case of swindling we hear of has a farmer for its victim. We as farmers should consider this a disgrace. This evil can only be overcome by a knowledge of the world's ways and the world's business. The only way a farmer can obtain this knowledge is through the newspapers, and only through them by intelligent reading.

It is plain, therefore, that to be successful, progressive farmers, we must cultivate our brains as well as our soils, and we must not make the mistake of calling our education finished when we leave school. Life is not long enough to learn all; we must learn to put our education to

use, and to make it useful we must add to it. The best way to add to our stock of knowledge in farming is by getting all we can from brother farmers, and our easiest way to get that is through the agricultural papers. E. W.

Whitevale, Ontario.

DEEP PLOUGHING AND GRASS SEEDING.

The Farmers' Club at Elmira, N.Y., is chiefly composed of practical farmers, and at its meetings some useful facts are always elicited. The latest copy received of *The Husbandman* details a conversation held just before the late meeting of the Club was called to order, between a knot of members in which the subject of deep ploughing and grass seeding was the theme. It is worth reproducing. The question was asked, What is the effect of deep ploughing upon subsequent grass seeding? One man said:

"There is a field"—the speaker indicating direction by a wave of the hand—"ploughed a dozen years ago more than a foot deep late in autumn, and the next year fitted for wheat, on which was the grass seeding. To-day the sod is like a cushion under the feet, and it has been so ever since the second year after that deep ploughing. Why, that is the way to make grass on heavy land. You must get down so that the roots have earth to get hold of or you can't make a sod. That field never had half a crop of grass until the soil was opened by the plough. The treatment wouldn't do so well in loose soils—these gravelly flats for instance—but such soils never get first-class sod with any treatment."

The reply came from a farmer who values grass beyond all other crops, because he regards it as the foundation of successful farming. He said:

"That is good doctrine when applied to heavy soils like most of the uplands skirting this valley. I have just been showing a field that I treated that way, so far as deep ploughing is concerned, to a party of visitors who doubted the effect. If I am not mistaken they saw the finest grass they had looked on this year—thick, compact sod, grass up full height, fresh and rugged, set to stay. That land was ploughed, part of it a foot deep, late in the fall, harrowed in spring, and grass seed sown without a grain crop. Another part was left till spring because I couldn't get all the work done before, and was then ploughed not so deep—say seven inches. On that, grass is fair, but not so rank nor so well set as on the other. I want to plough seventy-five acres more of that heavy land as deep as possible, and as late as I can before the ground closes for winter. I have seen enough to satisfy me that the way to establish grass on close, heavy land is to loosen the land first by the plough—my process; then by frost—nature's process."

The First Speaker: "Of course you won't get a full crop every year. I got a light yield this year, but all old meadows are light. Still mine was thick at the bottom, and the crop, although not heavy, will wear well."

A Third Farmer: "I don't know that it is good policy to seed with grass alone; it seems to me there is loss of the use of land."

The Second Speaker: "So there is, if a grain crop is the principal object; but if you want grass, that is the way to get it. You need have no fear if the ground looks rather naked in May, and the crop small in June. Up to July there will not be much pasture, but it will do no hurt to turn the cattle on and along in July they will find more fresh feed than on any other field. Some farmers say, keep cattle off; my way is to put them on at any time, for they will find a little very juicy grass to graze, and they won't hurt the seeding a bit; in fact they will do it good, for their feet

will plant some of it better, and grazing will thicken the whole by making root-growth."

First Speaker: "Talking of seeding, we hear a great deal of complaint from farmers who have heavy soils, that they can't depend on getting good catches. The whole trouble is in the lack of fitting. If they will break up their lands so that grass roots have a place to run, they won't fail so often. When they do that they can get better crops, and more surely, both of grass and grain, than farmers on these gravelly flats get, and make more profit, too, although they may have more hard work, for heavy lands cannot be tilled so easily."

Second Speaker: "All very true. The first thing we do is to fit land for the crops wanted. When we talk about thin seeding, for instance, with wheat, there are protests coming from every direction, but we provide a condition that doesn't seem to be understood by men who don't want to be convinced that three pecks of wheat will seed an acre if the soil is in the best condition for wheat. I don't advocate thin seeding as the general rule, because I know that not one field in ten is well fitted. Get that condition and anything beyond three pecks is thrown away."

Third Speaker: "You want to fit the land so that every kernel will grow, I suppose."

Second Speaker: "Precisely; then I don't have to throw seed away. But if some of it is to be covered by great flat stones, some by heavy clods, and some must fall on land that is too thin to support the plants, even if they make a start, then I must sow more. I want it understood that when I recommend thin seeding it comes after thorough fitting. Get that fact well in mind—attend to the fitting—and there is no earthly use of distributing seed that won't have room to grow. But it's of no use to talk about it, for nine farmers out of ten think they know better. They will go on sowing two bushels of wheat, or three of oats, because they can't persuade themselves that any less may bring a full crop. I have seen wheat this year as thick as I want to see it, and only three pecks of seed were used on an acre. But, mind you, the land was in good order."

"THAT SWAMP."

Farmer Brown had a pretty good farm, but there were places on it which needed something more than the annual spread of manure to make them as productive as the rest of it was. These places were, for the most part, on the tops of the hills. The action of the wind and rain seemed to blow and leach the fertility out of these spots.

In one corner of the farm was a swamp, or marsh rather, covering about five acres. This was overgrown with a tall, rank grass every year, which was never out, because of its utter unfitness for use with stock. So, summer after summer, the grass had grown up, and winter after winter it had decayed, and the "swamp" was considered an altogether worthless piece of property.

One day Farmer Brown had a visitor from town. He was a man with a scientific turn of mind. He was not, however, a practical farmer, and Brown took but little stock in his ideas, when he advised doing this or that about the farm.

"He plans well," Mr. Brown said to his son. "That is, his plans sound well enough, but he hasn't put 'em into practice, so he don't know just what he's talkin' about, all the time, to my thinkin'. They may work all right, and then ag'in, they may not."

This visitor looked at the hill-tops where the wheat had a thin, yellow appearance. The oats looked no better in these places than the wheat did.

Then he looked at the swamp. He got a pole