

its fertility that he had to go to the expense of hauling them on again.

There is much of this in Wellington, Grey and Bruce, and these counties are rapidly assuming a most important position in the agricultural world of Canada.

Soils -Loam.

Soil of this description seems all over the world to be considered the farmer's paradise. Upon these loamy sections Nature appears to have combined all her gifts, for this soil is composed of an intermixture of all the earths, not thrown together without discrimination, but beautifully blended.

We find loams of various colours. Upon the high lands it assumes a dark red, on gradual slopes a yellow, and upon bottoms and in valleys a black hue. The two first formations appear to be a deposit from the great and general flood, while the latter seems to be composed of the constant accumulations of the deposits of partial floods at various times.

In one place we shall find the loam resting upon stone, while in another the subsoil is clay, but it is almost invariably of sufficient depth to serve the purpose of the cultivator.

It is friable, and readily admits of thorough percolation by both air and water, retaining just sufficient of the latter to serve the uses of the growing plant, and allowing of the oozing away of all superfluous water, so that upon such lands stagnant water is almost a thing unknown. Thus it is neither subject to drought in summer nor to coldness in the spring.

We have in every township, sandy, clay and gravelly loams, being so named according as these earths severally preponderate. These lands contain in all cases a proportion of that nameless peculiar quality generally known as virgin soil or maiden, i.e., unexhausted earth.

Such soil is readily worked at all times, and is applicable to each and all styles of agriculture. If allowed to become overran with weeds, they are easily extirpated; if impoverished by bad farming, it is easily and quickly ameliorated. A soil with such a character cannot but be coveted by every farmer.

We should therefore set before us a model a loam, and endeavour, whatever be the nature of our land, to bring it by a systematic course of culture as nearly to the form of loam as capital and circumstances will permit.

And yet of this soil to which we readily apply such encomiums, there is a variety of undoubted fertility and yet practically incapable of producing crops of good quality—the alluvial soils. These soils, black with vegetable and animal matter, seem to partake strongly of the nature of a hotbed. They force the crop so rapidly that it appears lux-

uriant to the eye, but in nutriment they are not equal to crops grown upon drier land.

Paradoxical as the saying may appear, these lands are too rich, and must be run out by quantity of crop at expense of quality.

C. E. W.

The Growth of Corn.

Who is there amongst our readers that has not observed that in some plants, and even in some considerable patches of corn, there is at times a most unaccountable stoppage of growth; the plant seems suddenly to come to a stand-still, with no apparent cause for it, and then in a week or two grows away as rapidly as ever. This is accounted for by a contributor to one of our Southern exchanges in the following manner, and as he professes to speak from actual experiment, and continued observation and trial, the substance of what he says is deserving of respect and attention; and if the facts are as stated in the rapidly growing South, how much more important is it for us in Canada, which is nearly the extreme northern boundary for the growth of corn. The writer referred to says that when corn is first planted, whether deep or shallow, the primary effort of the growing plant is to throw out the future fibrous roots at the first joint above the acrospire. These are the roots intended to gather plant food for the future blade and stem, and finally the leaves of the plant; and by means of these fibres the blade and the first three leaves of the plant makes its appearance above the soil. At first these roots seem to find what they want in the soil immediately around them; and if the grain has not been sown at more than *one and a half inch* deep, the growth rapidly progresses, and without any check. If, however, the grain is deeper than that distance below the surface, the plant, when it has well shown itself, comes to a halt, and grows no more for a time. During the pause the second joint throws out a series of roots, and the first set ceases to grow; and as soon as the second set attains sufficient size, the plant again grows rapidly. It while this is the case the earth is drawn up round the stem to the depth of another inch or two, the plant ceases to grow, and after another pause a third set of roots is produced, which can be again checked by a further earthing up, until by carrying the earth up to a sufficient extent (say one foot) the plant ceases to grow altogether, and will form neither seed nor blossom; nor when the experiment is carried to the full extent, will the great lateral roots which finally nourish the ears, start forth at all, and the plant languishes and dies.

The experiments seem to have been conducted with great care and judgment. The following are extracts from the article alluded to:—

"In order to prove or test the matter more fully, I last spring instituted the experiment

to which you have alluded. The seed was taken from the same ear, and as nearly as possible from the same portion of the ear, and divided into seven equal portions, which, under the different circumstances hereafter alluded to, were planted so that there should be the least possible difference in soil and situation, and all were treated as nearly alike as the circumstances would permit.

"The different lots were planted at different depths, varying from three-quarters to four and one-half inches deep. The result was as follows: That planted three-quarters of an inch deep came through in six and one-half days; one inch deep in seven days; one and one-half inches deep in nine days; two inches deep in ten and one-half days; three inches deep in fourteen days; and less or greater depths in the same or a like proportion; that planted deepest, was nearly three weeks in coming through, and all died in two to five weeks afterwards, except one stalk, which went through the season without any show of an ear.

"By carefully watching my experiment, I noticed the same effect in the corn which was planted over *one and a half inches* deep, which was alluded to above, viz: for two weeks after it formed its first two leaves, it made no apparent growth; on investigating into the matter, I found the cause under ground. The growth had proceeded as usual until the miniature corn stalk came to form the first joint. In every case where this joint was formed under the surface of the ground, a new lot of roots were thrown out at the joint, and during their formation, which required about two weeks—the plant made no growth above the ground. As soon as these second roots were perfected, the old or original ones decayed, and the growth went on as before.

"By experiment, I found that by watching the growth of the plant, and drawing up fresh earth every time a new joint was being formed, I could check its growth until its energies seem to become exhausted, and death would ensue—leaving the dried leaves on top of a mound, a foot or more in height."

Now, if the foregoing can be depended on, it clearly shows that what is required for the well doing of the first fibrous, and of course for the future plant, is a proper degree of accessibility to the atmospheric air. The writer does not describe the nature of the soil, and in this doubtless great differences would arise. Most likely the soil on which the foregoing experiments were tried was a fine clay or impervious loam, and in that case the air would not find access to the roots as easily as in a sandy loam or a very pervious soil. My individual observations have been made on a light porous sand, and therefore no doubt I have been able to keep the roots in full action at a greater depth than was done in the foregoing experiments. The course I have been obliged to adopt has been to plant the corn in a depression; let it grow in that