

## FARM AND FIELD

## WALKS AND TALKS AMONG THE FARMERS.—NO. V.

The subject of summer fallowing is one that well deserves to be carefully pondered by all intelligent tillers of the soil. Is fallowing founded on correct scientific principles? and does it pay? are questions that must force themselves on public attention in a utilitarian age like the present. In discussing this matter with farmers, I find in the minds of many a vague doubt as to the wisdom of summer fallowing, while some, a few, perhaps, to speak with caution, have arrived at the conclusion that the practice is a mistaken one, and have therefore abandoned it. For myself, I have no hesitation in saying that I am an anti-fallower. Naturally, therefore, I have some stiff arguments now and then with those who are in favour of this method of culture. Not long since, I was arguing the case with a shrewd and sensible man, a good practical farmer, and I said to him, "Choose an example of what you consider successful summer fallowing, and let us bring it to the test of figures." After a few moments' reflection, he instanced a field of eighteen acres which he thought had paid him well for the cost and trouble of the process. I took pencil and paper, and put down the various items of expense from his dictation, allowing current rates per acre for ploughing, and other operations, \$3 per acre were charged as rent or interest on capital invested in land, which will generally be admitted to be a fair average estimate. We found the total cost of that crop when marketed to be \$360, or just \$20 per acre. The yield was thirty bushels per acre, which at \$1 a bushel gave a profit of \$10 per acre for the two years occupied in fallowing and cropping, or \$5 per acre per annum. It should be said that the land was extra well worked, having been ploughed five times, and that neither labour nor expense were spared to secure the best results.

The foregoing can hardly be taken as a fair average case of summer fallowing, especially in regard to the yield, which was exceptionally good. It proves, among other things, the substantial correctness of the statement made editorially in a recent number of THE RURAL CANADIAN, to the effect that there is ordinarily no profit in growing wheat if the yield be less than twenty bushels per acre. In the instance just given less than twenty bushels per acre would have entailed downright loss, and it may safely be affirmed that summer fallowing is a rather hazardous experiment, since it involves a large outlay which can only be re-couped by a bountiful yield. On the occasion just referred to we not only subjected the practice of summer-fallowing to the test of figures; but did the same with a wheat crop supposed to be grown on a clover-ley, that is, a field which has been in clover (alone) for two seasons. It is immaterial to the calculation whether the second crop of clover be turned under or cut for seed. In either case, there is but one ploughing. We found the total cost of a wheat crop thus grown on the eighteen acres to be \$128.50, or a trifle less than \$7 per acre. This is a big difference in favour of the clover system as compared with summer-fallowing.

What are the arguments in favour of summer fallowing? 1st. "It rests the land." This is rather a funny plea in view of the fact that the land is disturbed and disquieted by the plough all summer long. But the idea, however, is that no crop is exacted from the soil, and that therefore its productive energies are allowed to rest. But the truth is, that those energies do not and will not rest, if there be any seed germs or root-buds in the soil that can be coaxed into growth.

It is the fight with this persistent disposition to produce every green thing in its season which keeps the fallower so hard at work all summer. The land gains in fertility somewhat by the burial in it of those plants which grow spontaneously, and which are converted into manure by the repeated operations of the plough. The case is not one of resting the land, but of giving it several small doses of green manure, which of course are beneficial to it. 2nd. The second and chief argument in favour of summer-fallowing is that "it kills the weeds." Most assuredly it does this, and with the number of ploughings given the eighteen-acre field already referred to, may be trusted to do it very effectually. But then in a good system of husbandry, like that described in last month's "Walks and Talks," there will be no weeds to kill. Our farms ought to be clean. Not to press that view, but taking the generality of land as we find it, dirty enough in all conscience, it is not necessary to go through such a frightfully toilsome process in order to kill weeds. "A more excellent way" was pointed out in the August issue of this journal. Weeds can be eradicated without sacrificing a year's yield of the land, and without the drudgery and expense of summer-fallowing. Do not object, cavil, or declare that "it can't be done," reader,—but make the experiment. It is not a costly or risky experiment, nor is it one that requires a long term of years to bring out the result. There are many experiments which the individual farmer can hardly be expected to make, and for which an Experimental Farm run at the public expense is needed, but this is not one of them.

There is a scientific as well as financial view of fallowing, which must not be overlooked. It is as well, perhaps, in talking over the matter with some farmers not to call it the "scientific" view, but that is what it is, all the same. Is it wise policy, does it accord with the laws of nature to keep land all through the summer in the condition to which we give the name of a "bare" fallow? Will this treatment increase the fertility of the soil? To all these queries, a decided "no" must be given. A "bare" fallow is exposed without protection to the rays of the sun, which liberates the ammonia and cause it to go off into thin air. Ammonia is the prime element of fertility. As the favourite food of plants, it is taken up by roots and absorbed by leaves. The decay of plants restores the ammonia they have consumed to the soil. Hence land on which there is something growing every year which dies and rots on the surface is all the time growing better, because there is a gain from the atmosphere added to what is found in the soil itself. It follows, therefore, that the true policy is to keep something growing in the soil all the time for the double purpose of shading the surface that the sun may not rob it of ammonia, and having a leafy growth to derive a portion of its nutriment from the atmosphere. The system of clovering is far superior to that of fallowing because of all plants, clover is the busiest and most efficient in collecting ammonia both from earth and air. Its long tap roots penetrate to a great depth especially in light, loose soils, and send off innumerable fibres in all directions. These act like so many minute pumps in bringing ammonia to the surface, while the leaves absorb the same valuable element of plant food from the atmosphere. Hence when clover matures and dies, as it does at the close of the second season of its growth, there is a valuable deposit of fertilizing material just where it is wanted by succeeding crops. On the clovering plan, land does not lie idle for one season that it may yield better the next; the labours of successive ploughing is avoided, weeds are killed just as effectually; and the soil is left in quite as good a condition, if not better, for a sowing of wheat, as it is after a course of fallowing. W. F. C.

## DO NOT LET THE FARM RUN DOWN.

The fertility of the soil is the farmer's capital; on this depends largely his success or failure, and his great anxiety should be how best to keep it up to the highest point at the least expense. It is a well-known fact that it is much easier to keep it up as we go along, than after it has been allowed to run down to make spasmodic efforts to restore its former vigour. It does not pay to raise small crops of any kind; medium crops may just pay expenses, while that part of a large crop which is in excess of the medium crop is nearly all profit. Hence we know where to look for our profit, and study to devise the best means of enriching our lands at the least expense. There are several ways suggested. One man feeds stock; another plows clover under; another buys commercial fertilizers. The Western man uses up all the fertility of the soil, and then goes farther West to repeat the process. I have seen something of this system, having known lands in Central Illinois, which a few years ago produced 100 bushels of ears of corn, and which now produce eighteen bushels in a favourable season. They tell us that this soil will never wear out; I know of none that wears out quicker.

The same is the case in our Eastern States. The writer was on some New England farms, some months ago, that had once been the home of thrifty but improvident people. The life of the land was gone; families were separated, and there was a dull prospect for young men to begin life on such an impoverished farm; so these bright boys from the New England hill-sides seek other and more lucrative avocations. They are full of energy and vitality, inured to the rigour of the climate and rough, hard land. Agriculture cannot afford to sacrifice such men. If farmers wish to keep their sons at home, they must keep up the fertility of the soil.

Stock feeding is one of the most important branches of farming, and requires much judgment, care and attention. A prominent man said that to be successful with flowers you must love flowers; and so to be successful with stock you must love stock. The venerable John Johnston once told the writer that he owed his fortune and his reputation as a farmer to one pile of manure. While poor and in debt he bought an adjoining fifty acres on which there was an old barnyard containing an accumulation of twenty-three years' manure. He found it to be a mine of wealth. He applied it to his crops, which in turn gave great returns, and this not only gave him notoriety as a good cultivator, but gave him credit with moneyed men, who freely tendered him all the funds he desired to buy stock with. After securing an immense crop of corn, he fed it to stock and made another great quantity of valuable manure, and so on, year after year. Mr. Johnston has fed thousands of sheep and vast numbers of cattle. It has been stated that in eighteen years of sheep feeding, buying in the fall and selling in the winter or spring, he never but once failed in getting pay for his feed and a handsome profit on the investment. This shows that his judgment must have been superior, and that his stock had his personal and undivided attention.

A wealthy stock farmer in Pennsylvania once told the writer that one drove of cattle will half feed the next; meaning that by applying the manure from one lot of cattle to the ground intended for corn, the crop would be much larger, and that this increased yield would cost almost nothing, while the extra burden of stalks would certainly make the increase a donation year after year. After the farm has become rich, it costs almost nothing to feed stock, as they will live on the surplus. I believe it costs thirty cents per