Successful Cultivation.

SIR,—I feel impelled to give my brother farmers my experience with a field during the past three years, as I think it proves that growing fodder corn, properly cultivated, is the best possible preparation for Manitoba wheat.

In the winter of 1892-3 I hauled the manure daily from the stables and spread it on the snow. As soon as the frost was out sufficiently the manure was plowed under and the ground harrowed once to fine the soil; about the 18th of May harrowed again to kill the weeds then germinating and drilled with shoe-drill, one-half bushel Dakota White Flint corn, rows about 28 inches apart. When the corn was about three inches high harrowed again, which killed another crop of weeds (just showing through the soil) without materially injuring the corn. This treatment left the ground so clean that we only had to cultivate twice during the summer with a Planet Jr. winged steel cultivator. Two boys with hoes followed the cultivator, cutting and pulling any stray weeds from the rows. They could easily keep up to the cultivator, cleaning six to seven acres daily. This treatment prevented any weeds seeding, and when the corn was cut by a binder *with "kicker"* the land was absolutely clean.

The corn thus grown, cut early so as to barely escape frost, is the best fodder I have yet found for milch cows, and they eat it all, not leaving a butt even, as it is the juiciest part of the stalk.

As soon as the land was fit to work in spring of 1894 I gave this corn stubble a stroke across the rows with Acme harrow (a common harrow will do nearly as well, though it will pull a few of the corn roots up) and then drilled with shoe-drill, 1½ bushels of wheat per acre, going with the rows of old corn stubble. (The corn should be cut as low as binder can be run, as more fodder is secured and less corn stubble left on ground.)

Although the average yield of wheat in Manitobe in 1894 was low, owing to the drought, I threshed 31 bushels No. 1 wheat per acre from this field. In the spring of 1895, finding the wheat stubble absolutely clean, I again drilled 1½ bushels of wheat, and have just threshed 56½ bushels per acre from it, all No. 1, unfrozen grain. I think this is a valuable experience. I have from one dressing of green manure and *one plowing* raised one crop of corn and two crops of wheat, as above, which, even at the present price of wheat, pays very well for work done and all expenses, leaving a good profit. I think this present crop of 56½ bushels per acre raised on stubble ground, unplowed, is something uncommon. I may say that the land is measured land and the 56½-bushel yield is threshers' measure, using the bagging attachment, counting two bushels to each bag. The grain was cleanly threshed and is expected to go two bushels and ten pounds to the bag, which would make the actual weighed yield 62 bushels and 42 pounds per acre. I have kept this grain in a separate bin, and intend weighing it carefully to ascertain the exact yield. I believe that while this dressing of fresh manure is a benefit to the immediate crop of corn, it is a much richer plant-food for the first crop of wheat to follow and a still richer food for second crop of wheat.

As it would be interesting to know how it would feed a fourth crop (the third of wheat) without plowing, I am tempted to try it in wheat again next year.

As a result of this experiment, I would strongly advise farmers carrying a number of milch cows to manure as much land as possible in winter and try this system.

The stock objections are two:—

1st—That by spreading fresh manure, ungerminated foul seeds are also spread.

2nd—That the cultivation of the corn in a busy time in summer is too much bother.

To the first I would answer, that in this dry country it is next to impossible to so pile manure as to decompose it and germinate the foul seeds; and I do not care if the ungerminated foul seeds are turned under for a few years, because I have no difficulty in killing them all when turned up to the sun, which will be the first time I summer-fallow the land, as experience has taught us how it should be fallowed. I have been spreading this fresh manure in winter on my lands for years, and the first plowing after is always summer-fallow, and I have as clean a farm as I see in all my travels—not excepting Mr. Elder's, near Virden.

To the second objection I would reply, that the only extra work on account of the corn crop is the cultivation and boys' work following, and the extra value of the fodder crop for milk over any other we have is well worth this extra work, to say nothing of the plowing for the successive crops of wheat, which is saved.

Had I plowed my field in question for each crop of the two last above described, the labor would have been more than double that which I have expended on it.

W. A. DOYLE.

Beulah, Manitoba.

Experience in Potato Feeding.

J. D. Smith writes as follows in the Dairyman and Agriculturist:—"I know from practical experience that potatoes make most excellent pig food during the fall months, my practice being to fill a forty-five gallon farmers' boiler one-half full with potatoes, and fill up with sliced pumpkins. When well cooked I mix in a peck of corn-meal, and pulverize all together thoroughly; then remove to a barrel and mix with what skim-milk we have. Our twenty-six pigs now on hand are making a very fine growth on this diet. Fed judiciously to cows in milk, I value them equal with grain. This may seem a broad statement, but I will explain. We milk more or less of our cows all winter, and our experience is winter milkers need liberal grain feeding. It often occurs that a cow will begin to lose her relish for her grain. The moment I see any disposition on the part of the cow to mince, I remove her grain and substitute a feed of potatoes. Two or three feeds of them regulate the stomach, and the grain is again eaten with a relish. Horses, colts and calves love them dearly, and they are of great value when these animals are confined to dry food. I refused to fill an order recently for anything less than forty cents per bushel, preferring to keep them and feed to stock. The present season is an excellent one for farmers to try experiment in feeding this valuable farm crop."

The Care of Farm Implements.

Among the many jobs to be completed before winter sets in is the cleaning up and putting away of implements and farm machinery. On many well-regulated farms, where there is a roomy, convenient shed, no matter how cheaply construced, and the men who use the implements are thoughtful, the job is never allowed to grow into more than a few minutes' work, which can be done at leisure on some stormy day. Upon too many farms, however, this is not this case. How often is an implement left at the very place where its labors ceased! or, perhaps, by more careful hands, it is taken to a *bare corner of the field* and there left exposed to all sorts of weather. At the end of an indefinite period, during which the implement may have been alternately soaked, dried, frozen and thawed, it is probably removed to the buildings and placed in a barn mow or implement shed just as it has been brought from the field, covered with accumulations of dirt, damp and rust, and altogether in the precise condition that is most favorable to the rapid wasting of its substance, the injury of its working parts, and the permanent impairment of its usefulness. In this state it is left without further care until it is again wanted in the field. Most probably it then receives a hurried examination, or is sent out without any, the expectation being that it was laid away in fair working order, and it should be found in the same state. Now, this hope cannot be other than fallacious, as the above mentioned unfavorable conditions must produce damaging effects. In many cases a trial will prove the implement defective and incapable, and has to be dispatched for repairs. Valuable time is wasted and pressing operations delayed, perhaps with the result of serious and irretrievable loss. This may seem overdrawn to some farmers, but to others it is a good picture of their own experience if they will but admit it. Not only is there loss from delay upon the farm by waiting for the return of the implement, but in many cases the machinist, who is overcrowded with work, does not give the perfection of work that would be done in a more slack season. Further, with his utmost efforts, the busy manufacturer may have to detain the machine longer than was anticipated, and the farmer, perhaps with his crops fully ripe and his harvest waiting, has to bear the loss of much valuable time.

Prof. Wright, of Technical College, Glasgow, deals in an able manner with this subject in the English "Farmer and Stock Breeder." He goes on to explain that, as implements are usually constructed of wood and metal, the contraction and expansion of the two by heat, wet and cold are by no means the same.

"It is true," says the Professor, "that the greater part of the implements of the farm cannot be wholly preserved from the influences of the destructive atmospheric agencies that have been mentioned. Those employed in tillage or outdoor operations must, of necessity, be subjected to a good deal of weathering. Now, because complete preservation can not be obtained, in too many cases it is not considered worth while to take any precaution whatever. Hence, plows, harrows, scuffers, etc., receive little, if any, care, and are allowed to lie about for weeks or months in the wet season of the year, cumbering the head lands, or smothered in the dank herbage of some corner of a field, exposed to every passing shower, and alternately chilled by every evening's frost and thawed again by every morning's sun, while hayrakes and even mowers may be seen buried in the aftermath of fields from which the hay has long been gathered.

"The means that may be taken to retard the progress of deterioration and to shield implements from the wasting influences of the atmosphere are few and simple in character, but not unimportant in effect. One very simple, practical direction is of great consequence. All implements employed at intermittent work should be taken to the shed and placed under cover, repaired, well cleaned and oiled, immediately after use. When laid up for long periods, such as winter, they should be at once overhauled, thoroughly cleaned, repaired, if necessary, painted and oiled, and be kept ready for taking out again on the shortest notice in good working order. By thus putting away implements and tools, much time, worry and money will be saved, and the slovenliness of a yard strewn with machines will not rise up and pronounce against the careless one as a slovenly, untidy farmer."

Manure for Hay.

Hay land, like any other from which a crop is taken year after year, must be supplied with plant food in order to avoid an annual decrease in the crop produced. All hay crops, except clover, have no ability to extract food from the atmosphere, and the amount drawn up from the subsoil is very meager.

Where clover can be grown successfully, it is entirely the most economical hay crop to grow, but where timothy and other grasses have to be depended upon, and are grown on the same field year after year, it is well to know how to treat such land in order to get the most profitable returns.

In 1894 Prof. R. P. Wright conducted a series of experiments in Scotland, for the purpose of determining the best methods of utilizing farmyard manure upon the hay crop. In this case the manures were all applied in the spring, which would, in all probability, have resulted differently had the application been given in the autumn.

On plot nine, twenty tons of farmyard manure per acre were used, which produced an average crop of a few pounds over three tons. This was a larger crop than any obtained from the artificially-manured plots, although plot six, which had received 2 cwt. muriate of potash, 2 cwt. superphosphate, and 1 cwt. nitrate of soda, yielded within about 300 pounds of the farmyard-manured plot.

In the calculation of profit and loss, when due allowance is made for the residual value of the farm manure, a profit of seven shillings per acre is shown, which is considerably less than that realized from the artificially-manured plot, which, of course, could not be credited with any residual value.

On plot ten, ten tons of farmyard manure were applied, and gave an average crop of two and four-fifths tons per acre, being an increase of 1,288 pounds over the unmanured plots. This, like the former farmyard-manured plot, incurred a loss on the first cutting, which would be more than made up from the residual returns on following crops. The effects of the manure was much greater on the timothy plots than on those of rye grass.

The relative merits of the small, as compared with the large, dressing may perhaps be more clearly appreciated if expressed in the following manner: On the average, of all the farms dealt with, farmyard manure, applied at the rate of twenty tons per acre, gave an increase of crop of 1 ton 128 pounds over the crop from the unmanured land. One hundred tons of farmyard manure, applied at the rate of twenty tons per acre, would thus give a total return in hay of about five and one-third tons. On the other hand, the manure, applied at the rate of ten tons per acre, gave an increase of 1,288 pounds per acre. One hundred tons of the manure utilized in this manner would, therefore, give a return in hay of six and one-third tons, as against five and one-third tons when the larger dressing of twenty tons per acre was applied.

On plot eleven, ten tons of farmyard manure were applied, with the addition of one cwt. of nitrate of soda. This combination has produced the largest crop obtained in the experiments. On the average of all the farms, 364 pounds more hay per acre was thus obtained than where twenty tons of manure had been used.

The average increase over the unmanured plot was 1 ton 408 pounds, as compared with an increase of 1 ton 128 pounds on the plot heavily manured with farmyard manure, and 1 ton 40 pounds on plot where artificials alone were applied. The efficacy of this manuring was fully confirmed both on the rye grass and timothy sections of the experiment.

With regard to the character of the vegetation upon the different plots, it may be said that the heavy dressing of farmyard manure encouraged a strong and rank growth of the grasses, but proved very unfavorable to the clovers. On plots where the smallest dressing of farmyard manure was applied the clover was in general fairly good, whereas the grasses were less strong and prominent than where the heaviest dressing was applied. The quality of hay from the plots treated with both farmyard and artificial manures was not only very satisfactory, but it also produced the largest crop, and from it the largest profits in the experiment were obtained.

The Northwest Farmer's Thanksgiving Day.

The Manitoba and Northwest farmer will eat his Thanksgiving Day dinner with a great deal of zest. On a conservative estimate the Manitoba wheat crop alone amounted to 35,000,000 bushels, other grain in proportion, while the Northwest Territories show similar results, comparing the area under crop. Wheat yields ranging as high as 40, 50 and 60 bushels per acre are reported. One Brandon farmer (Mr. McFadden) has sold 22,000 bushels, bringing him $10,000. D. Fraser & Sons, of Emerson, threshed 11,000 bushels, and so on. There have, as usual, been some severe losses from prairie fires, frost, and smut. Some 40,000 fat cattle were shipped from Winnipeg, and the year's total will probably reach 50,000. About 25,000 or 30,000 hogs were marketed, besides a large number of sheep, and the wool clip amounted to 1,000,000 pounds. About 50 cheese factories and 33 creameries are now in operation..