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AGRICULTURE.

REPORT ON THE AGRICULTURAL CAPABILITIES OF THE PROVINCE OF NEW BRUNSWICK.

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(Continued from our last.)

CHAPTER XVI.

Suggestions as to improvements in the practice of individual farmers.

After what has been said in the preceding Chapters on the subject of individual practice, it will be necessary for me now to touch upon many things which would otherwise have naturally found a place in the present Chapter.

By an improvement in practical agriculture, I understand a change in practice which shall enable the farmer to raise larger or more valuable crops from the same extent of land than before, or to produce equal crops at a cheaper rate without permanent injury to his land. To the practical man therefore, I wish to recommend nothing, which if rightly performed, will not in my opinion be the means of putting more money in his pocket.

What I have said in my suggestions to agricultural Societies in regard to draining—deep and subsoil ploughing—green manuring—the use of bones—the saving of waste materials for the manufacture of manure—the covering of manure from the action of the rains and snows in the fold yard, and from the washing of the rains when laid upon the field—of the use of lime—of an earlier cutting of the grain crops—of improving the breeds of stock—of a better housing of the cattle—of the growth and use of green crops, linseed, and prepared food during the winter months—of more diligent and more extended fall ploughing—of the value of agricultural journals and books—all this is intended as special advice also to the individual farmer. Each man can exercise a far more direct and beneficial influence—beneficial to himself and to the Province—over his own practice, than Societies, however zealous they may be, can be expected to do over the district in which they are placed. The improving farmer indeed does good in two ways. He not only puts more money immediately into his own pocket, but by the influence of his prudent and successful example, he induces others around him to follow his steps, and to put more money into theirs also.—Thus the agricultural improver—the judicious, not the hasty and imprudent one—is a most valuable member of society, and it is for the best interests of the country to support, encourage, and honor him.

There are only a few additional topics on which I think it necessary to address a few observations to the practical farmers of New Brunswick.

1st. I would recommend the abandonment of the system of cropping with grain or cutting with hay till the land is exhausted—a system hitherto so much followed in the Province. If while the stumps are still in the ground, the land cannot be ploughed, and must be left in pasture—the manure by means of the hay and other produce of the farm, should be collected, husbanded, and applied as a top dressing in spring to the early grass. But where the stumps are already up, and grain and root crops have been raised upon the land, the barbarous custom of cutting for hay, year after year, without manure, ought to be forever abandoned. Such land, when in grass, may be pastured, if thought desirable, for three or four years—it may even be allowed to remain in permanent pasture with an occasional top dressing—but not more than one year's hay ought to be cut, as a general rule, without the application of some fertilizing substance to its surface. When land has already been exhausted by such treatment, the use of bones is deserving of a careful trial.

2nd. The custom of leaving the land to cover itself with poor natural grass after the grain crop has been taken off, should also be abandoned. It ought always to be laid down with grass seeds where a naked fallow is not intended. I have indeed seen many cases where naked fields have shown the neglect of this most profitable practice of seeding, but it has generally been upon farms held by the poorest and most ignorant portion of the rural population of the Province.

3rd. The adoption of a system of experimenting, prudently, cautiously, and on such a scale as—if all his experiments should fail—would not seriously affect his pocket, is the next point I would urge upon the practical man.—It is a line of activity upon which he cannot too soon enter. There is a broad intervening space between the actual condition of New Brunswick Agriculture, and the condition to which it might be brought by the judicious application of existing knowledge. But that knowledge cannot

be diffused among, cannot be acquired by the farmers of the Province all at once. What they do learn also they will naturally doubt, until they have seen it actually applied to, and actually causing more profitable crops to grow upon the land. It is therefore by a system of trials that general confidence will be obtained in this or that method of improvement. The distinction between the man who desires to improve—to advance, which is a sort of condition affecting all material things in North America at the present time—and the man who is content to sit still, is that the first endeavours to acquire information, and having obtained an inkling of new knowledge—perfect or imperfect—shews a disposition to make use of it—to make trials of the methods of advancement in his own walk, which the knowledge suggests. The maker of agricultural experiments, therefore, is the man who is acquiring knowledge—is thinking how he can apply it most usefully to himself, and is testing the opinions and recommendations he may have heard or read, by the practical means which his farm places in his hands. It is a favourable sign of the diffusion of knowledge, and of the awakening of thought and dormant intellect among the agricultural community of a country when the habit of experimenting prudently and economically, is seen to diffuse itself among them.

The use of lime is recommended by many in the Province of New Brunswick, and as I think with reason.—The advancing man will therefore try lime on a small piece of his land, if he doubt its efficacy and his means are small. He will try it in various ways, applied at different times, to different crops, and in different soils, and the results will determine him as to whether it would be proper or profitable to use it on a larger scale. Again, in many parts of North America, gypsum is extensively applied to the land. Will it pay to use it on your farm in New Brunswick? It has been occasionally so used, as the following replies to my queries show:—

Some years ago gypsum was employed to some extent as a top dressing for grass land, and with good effect, but from some unexplained reason it is now laid aside.

ROBERT GRAY, York.

I obtained ten tons of plaster of Paris and sowed in the green crop fields. I find the oats and wheat raised on the potato land after this manure so far surpass our other crops, that passers by remark the difference and enquire the cause. The plaster abounds on the Tobique, and can be had in Fredericton for 15s. a ton. On the turnip land we sowed the plaster broad cast, and then drilled it. For potatoes we made the drill, sowed some guano or plaster in the bottom, covered it over with a layer of earth, then planted the potatoes, covered them up, and then the plaster again. For the last 10 years we regularly use the plaster.

JAMES RANKIN, Carleton.

I have used gypsum, and have found it beneficial. I sow one bushel per acre on the first of June; I apply it to gravelly or light soils. I think it generally improves the crops to which it is applied about one third.

HENRY HAYWOOD, King's.

This substance, therefore, which is so abundant in New Brunswick, is also deserving of trial at the hands of the progressing agriculturist. It fails in many cases to produce good effects, though it as certainly does good in others. According to the practical men of Virginia and Pennsylvania, it succeeds best on land that has been previously limed, or is naturally somewhat rich in lime.

With bones, likewise, in various forms, small beginnings may be made by way of experiment. And so with all the improved practices I have directly recommended or indirectly alluded to, the really good and zealous farmer—the man who loves his art,—and wishes to advance it, it only for his own benefit, and on his own farm—will from time to time try them, honestly, fairly, and prudently, yet fully, and will thus keep constantly advancing in experience, and in the profitable culture of his land. There is indeed now scarcely any field so wide as that of the experimental farmer—none so full of endless novelties, which the active mind may investigate experimentally, and always with a view to profit. Unlike the old stagnant art of farming, of which the principles were not understood, the art of this present time is guided by clear principles—is full of every new interest—is in a constant state of progression—and affords full employment for highly intellectual and active minds.

4th. In the preceding Chapters I have recommended the growth of flax to a certain extent for the purpose of procuring linseed as a food for the stock, and fibre for the winter's employment of the farmer's household. There are other crops which in particular localities the farmer may find it profitable to cultivate. The poppy and the sunflower which demand considerable heat to ripen them, are cultivated in French Flanders and elsewhere for the sake of

their seed, which are first crushed for oil, and the cake then used for enriching the manure or feeding stock.—Hemp also is cultivated both for fibre and for the seed, which is also crushed and used as the seeds of the flax, the sunflower and the poppy are. It is worthy of trial whether in some parts of the Province these crops could not be profitably grown.

But among plants, the success of which in some parts of the Province is less doubtful, I would particularly mention the broom corn. This crop is extensively cultivated, among other localities, in the valley of the Mohawk, in North Western New York, and is said to be a very profitable crop. This valley is also celebrated for its growth of Indian corn. It is distinguished as a corn region in contrast with the rich wheat bearing country further west. I infer therefore that those parts of New Brunswick which, like the County of Sunbury, are most adapted to the culture of Indian corn, would be likely to grow also good crops of broom-corn. It is therefore deserving of more extensive trials than I believe have yet been made in New Brunswick. The tops of the seed stalks, which are gathered, are made into brooms, and from these the farmer's profit has hitherto almost altogether been derived; but the seeds which are usually thrown away, may also be employed with advantage in the feeding of stock.

5th. To one other topic I advert, because of its great practical importance, though already frequently noticed in this Report.

The improvement of the breed of stock is in one point of view the basis of the entire agricultural improvement of a district. Good stock necessitates good feeding. Much stock and good feeding produces much and rich manure. Ample manuring enriches the soil, and causes it to produce good crops; and these large crops again, whether of corn, hay, or roots, afford the materials for abundant feeding, and for fold yards full of manure.

But in some parts of the Province there is a prejudice against improved breeds of stock. Thus Mr. Hubbard of Burton, writes me—"The stock of the country will do better on what we farmers call stock hay and no shelter, than the English breed will on merchantable hay with shelter, and horses the same." I infer from these words of Mr. Hubbard, however, that he looks for the profit of his farming, not to the stock he can keep, but to the hay he can sell off his farm. If so, he may continue to rear the hardy animals—which after all, are only old country stock degenerated under the treatment they have received in the Provinces—and to make a profit by his good hay; but his land, like his stock, will degenerate in time, and it will cost his successors both skill and capital to bring it back again to its original productive condition. I am informed that even the periodically flooded lands on the Saint John River no longer yield the crops of hay they are known formerly to have produced. The profit of good stock consists, not only in the early maturity which they attain, and the larger produce of beef they yield from the same amount of vegetable food, but in their furnishing also the means by which the land can be maintained in good condition, and be compelled to produce abundant crops for an indefinite period of time.

As to the benefits of shelter, there is now no question among the most experienced breeders and fatteners of stock as well as among theoretical writers, that an animal which is kept warm thrives better on the same quantity of food, in fact can be kept in condition upon less food than one which is exposed to the inclemency of the weather. In regard to this point, there is not one law for New Brunswick and another for the rest of the world.

On this point, Mr. Goodfellow, of Miramichi, writes me as follows:—

"Fredericton, 29th November, 1849.

"SIR,—Having been requested to give you my opinion on the treatment of live stock in this country during the winter months, I beg to submit the following remarks:—

"When I first engaged in farming operations, I kept my cattle in a building similar to those used throughout this Province at the present time; but, about five years ago, I built a new barn on a side-hill; I excavated an under story for my cattle. One side, and part of the ends, are under the ordinary level of the ground. The side facing the hollow is where the cattle enter the building, which is of frame work boarded and shingled. The building above is also boarded and shingled on the roof and sides. There is a yard in front of 45 feet square. A shed is built on the north and west of the yard to break off the wind, the south side being left open.

"Since I kept my cattle in this building, they appear much more comfortable (being entirely free from the cold) than when they were in the former building, while a saving of 20 per cent. is effected in the food. My cattle are