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BY
PROFESSOR JOHNSTON.

[Reported by G. BLATCH, Esq., Barrister at Law.]

It is impossible to arrive at a positive calculation on this point, but an approximation may be made. Taking the number of cattle as before estimated; (of course we say nothing of horses, because you have not yet acquired a taste for horse-flesh, nor the habit of eating it; although in many countries it is habitually used, and it is said that young colts are very good eating;) leaving out horse-flesh, we will speak only of cattle, sheep and pigs, as human food, as you are already accustomed to that. The quantity of animal food, then, now raised in this Province, will support about one third more people than the vegetable produce alone will support; add, then, one third or nearly one third to the 4,600,000 people, and the amount will be 5½ millions or 5,600,000 human beings that this Province is calculated to support. But there is one important idea that may in some degree modify this result, and to this the next chapter of my Report is devoted. In a climate like this, it is quite as necessary to have fuel as food. In order to have fuel it is necessary to have wood; to have wood there must be forests, which cover a great extent of country. It is important, then, to enquire what extent of country is required, to grow wood for fuel; the result of my enquiry is, that the extent of land (upon the smallest average) necessary to raise fuel for 1 man is nearly the same as is required to raise food for one man; therefore two acres of land is the smallest quantity for growing fuel for one person. If, then, the quantity of fuel required takes up so much of the surface of the country, it cannot be employed in growing food for stock; therefore we must make a great deduction on that head. A family of five persons will require ten acres of land; one-tenth of the whole country must be kept in reserve for fuel; but certain other considerations will somewhat reduce this average. If the whole fuel of the country were to be grown in the forests in all time to come, the country would not support 5,600,000 people, but only 3,640,000; being a difference of nearly 2,000,000. Much, therefore, depends on where the fuel of a country is to be got from; and thus an important question arises, viz., what chance is there in this country, to get its fuel from under the ground and not from its surface? Because, if fossil fuel (or coal) can be obtained in sufficient quantity, in future times the country will be able to support two millions of people more than it would otherwise support. It will be a long time before all the wood in the country will be cut down; but that is not the point of view in which to look at it; look for instance at Sussex Vale; that district is already so much cleared, that some parts of it have no wood at all, and the inhabitants have to go a long distance to get wood; so it will happen in other parts of the province; the land will be cleared, and the people will have to buy fire-wood from a distance; therefore the general question, that it will be a long time before all the wood in the Province will be cut down, does not apply to the wants of particular localities. But the necessity for obtaining fossil fuel will arise long before that period can arrive; therefore it is a matter of grave consideration to enquire, whether the possibility of obtaining fossil

fuel is real or probable, and whether it can be obtained in such quantities as to enable the farmer to cut down the wood on his land just as he likes, or whether it would be more prudent for him always to reserve a certain quantity of wood land on his property. Now, if you look at the Geological Map of the Province, you will see a great stretch of the grey color between the two reds, and this grey district is called 'the coal field,' because seams of coal occur here and there throughout that district. In some parts of the world these coal seams are very numerous, the coal is easily got at, and is very profitable production; as, for instance, in Cape Breton Island, in Nova Scotia, and in Great Britain. Dr. Gesner explored this tract of country, and indicated the localities where he considered coal might be found. It appears to me that it is important to enquire, whether, among these beds of sandstone indicated on the map, beds of coal may be found which are likely to pay for the working, and profitably to aid the industrial pursuits of the country. On this Geological Map I have marked, by black dots, all the places where coal has been actually found: and in my Report I have collected, both from the Reports of Dr. Gesner and from other sources, every observation that has been made as to the nature of the coal in this Province, and the probability of finding it in greater quantities; because the question of a supply of coal or fossil fuel is a vital question in reference to the agricultural capabilities of the country, and not merely a manufacturing or trading question; it is a question, indeed, of whether the country shall support five millions or only three millions of inhabitants. The difference is very striking indeed; it is the difference between producing fossil fuel from under ground, and raising fuel on the surface of the land. France is an instance of this difference; for though France possesses coal-mines, yet about one-seventh part of the whole surface of that country is under wood, to furnish fuel for the people, even in that temperate climate. You will see, then, the great importance of the question in this colder climate; and I have therefore brought the question prominently forward in my Report, and have recommended an enquiry into the economical question, of how far it is likely that coal does exist, and that by exploration it may be found sufficiently plentiful and easy of attainment to be profitably useful. After doing this, I have considered other collateral topics in my Report, which I now pass over; and I come then to enquire, what is the actual productiveness of the country: what is the state of its agriculture; whether it does produce anything like these aggregates which I have estimated, and what is the amount of produce raised in the Province. When I addressed you on a former occasion, I mentioned that there were a great many points which it was impossible for me personally to pronounce an opinion upon; that it was necessary for me to obtain information on those points; and that my principal object then was, to obtain such information from practical men in the Province, who were best acquainted with the various matters in question. After that meeting I drew up a number of queries, which were printed and circulated throughout the Province, and to which I received about sixty replies from various parties. Out of those sixty answers I have drawn a great mass of information; and the points embraced in this chapter of my Report are, the productiveness and the actual amounts of the crops in this Province, as drawn from those sixty returns furnished to me; and I have embodied those answers in certain Tables which I drew up from a comparison of their contents. I will now briefly present to your notice the substance of those tables, which consist of returns of various agricultural produce in bushels, and their weight per bushel. These returns comprise wheat, barley, oats, rye, buckwheat; indian corn, potatoes, carrots, turnips, mangel wurzel and hay; they are all furnished by practical men, and vouched by the names of the informants; I take, them, therefore,

as my authorities for my Tables and calculations, and if they are in any degree erroneous, the error is not mine; and as all these returns are filed in the Secretary's Office, they can at any time be inspected by those who desire to investigate them. I have classed these returns in Counties, in my Report; and in my second Table I have given the averages of all the returns from all the returns from all the Counties, as far as they were furnished to me. These averages amount to the following produce per acre, viz:

Wheat,	17½	bushels.
Barley,	27	"
Oats,	33	"
Rye,	18	"
Potatoes,	204	"
Turnips,	380	"

I will not now dwell on these averages because time will not permit; but I will tell you what I have done with them, in order to arrive at some idea of the productiveness of this Province. I have taken a similar average of the produce of the State of New York, as furnished by the best and latest authorities; and that average is as follows:

Wheat,	14	bushels.
Barley,	16	"
Oats,	26	"
Rye,	9½	"
Potatoes,	90	"
Turnips,	88	"

I need make no comment on these averages; you can draw your own conclusions; but in order to test this result, I have taken three of the most productive counties in the state of New York, viz., the counties of Genesee, Ontario and Niagara, and have contrasted their average produce with the average of the whole of New Brunswick. In Genesee the average is thus:

Wheat,	16½	bushels.
Barley,	15	"
Oats,	23	"
Rye,	10	"
Potatoes,	125	"
Turnips,	105	"

The average thus arrived at was a result which to me was very unexpected and surprising. I then turned up the Report of the Ohio Board of Agriculture, in which I found a series of returns for the whole State of Ohio, and contrasted them with those of New Brunswick. The averages for Ohio are as follows:

Wheat,	15½	bushels.
Barley,	24	"
Oats,	33½	"
Rye,	16½	"
Potatoes,	69½	"
Turnips,	[no return.]	

For Indian Corn, the return in Ohio was very little higher than in New Brunswick; therefore even in comparison with Ohio, the returns for New Brunswick possess striking peculiarities. In order further to test this result, I have taken the two most productive Counties in New Brunswick, in New York, and in Ohio respectively; and the result of that comparison is nearly as favorable to New Brunswick as the other contrasts. I then turned my attention to Upper Canada, of which I found returns of produce published in that Province, from which I drew the averages as follow:

Wheat,	12½	bushels.
Barley,	17½	"
Oats,	24½	"
Rye,	12½	"
Potatoes,	84	"

In making these comparisons, I have not selected any State in the Union or Upper Canada, rather than Lower Canada; but I have merely made my investigations from such returns only as I possessed or were within my reach. Then after contrasting these results of the productiveness of these several crops in these several countries; the next question is, as to the quality of the produce. Quantity is one thing, and quality is another. The quality of wheat and oats is of great importance; and that quality is indicated by their weight per bushel. With respect to oats, there is no doubt whatever, that where proper mills are erected and employed for the manufacture, the quality of the oatmeal in this Province is equal to any made in the old country.

As to the quality of the wheat, the question is, whether it will produce flour equal to that of the United States. Genesee flour has a great reputation; so much so, that the name is often used for flour produced in other parts of the Union. The quality of genuine Genesee flour has always been supposed to be superior to any flour made in New Brunswick, or to any grain grown in New Brunswick. This fact attracted my attention, and induced me to make enquiries on the subject; and the result, so far as I can learn, is, that flour made in New Brunswick is quite equal in quality and will go as far, will make as many loaves from a given quantity, as any superfine flour imported from the United States; not only when it is made from imported grain, but also when made from home-grown wheat. It is of great importance in judging of the condition of the farmers of a country, to know not only what the soil will produce, but also the price that can be got for it at a market. It will appear from these tables in my Report, that taking them as a whole, the New Brunswick farmer ought to be much better off than the farmer of Upper Canada, because his farm produces so much more in proportion. But then the question arises, whether the larger produce brings a larger amount of money: the question of price is quite as important as the question of quantity; therefore I have devoted a chapter to the prices obtained for different kinds of produce, (derived from the same returns and authorities as the other tables in my Report, already mentioned,) and have deduced the averages for respective counties, and for the whole Province, and have compared them with the averages for other parts of the world. It must be more interesting to you to compare these averages with those of the other parts of North America, than those of Europe; therefore I have made the comparison accordingly, so far as I could get access to the materials to enable me to do so.—In England we always speak of the price of grain by the "Quarter," which is a measure containing eight bushels; therefore I use that measure in these tables.

First, then in Upper Canada, the average prices are as follow:

Wheat,	28s.	per Qr.
Barley,	18s.	"
Oats,	10s.	"
Rye,	18s.	"
Potatoes,	1s. 6d.	per bushel.

In New Brunswick the averages are:

Wheat,	60s. 8d.	per Qr.
Barley,	34s.	"
Oats,	16s.	"
Rye,	38s. 8d.	"
Potatoes,	1s. 11d.	per bushel.

In the State of Ohio, the averages are:

Wheat,	31s.	per Qr.
Barley,	14s. 8d.	"
Oats,	8s.	"
Rye,	16s.	"
Potatoes,	1s. 10½d.	per bushel.

Therefore it appears, that the prices in New Brunswick greatly exceed those in the two other countries named. Then when we consider, that the land in New Brunswick produces a much larger quantity of food, and that the prices obtained for it are also greater than in the neighboring countries, we cannot fail to draw the conclusion, that unless certain circumstances, which are said to interfere with profitable farming in New Brunswick, do really operate very disadvantageously, the farmer of this Province ought to be much better off than the farmer of Upper Canada or Ohio. This is not an absolute conclusion, but depends on circumstances, capable of investigation. If there are such circumstances, which render the condition of the farmer of New Brunswick different from that of the agriculturists of other countries, and which might possibly so interfere with his pursuits as to render his condition less comfortable and profitable than theirs, those circumstances should be investigated, with a view to discover whether they cannot be remedied. Many such circumstances have been alleged; and I have considered them attentively in my Report. First of all, the climate is

*There appears some slight discrepancy in this calculation, arising probably from the hurry of speaking; but the figures are given exactly as spoken by the Professor.—[Reporter.]