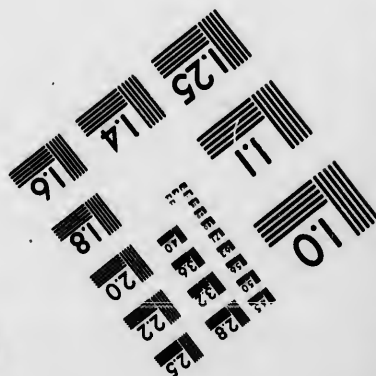
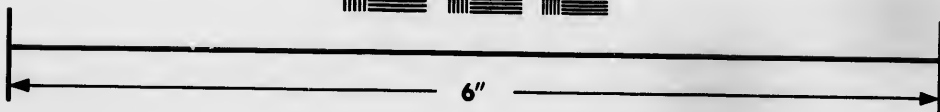
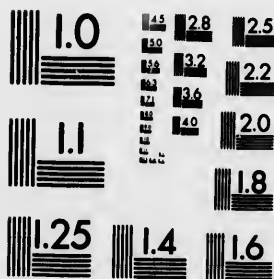


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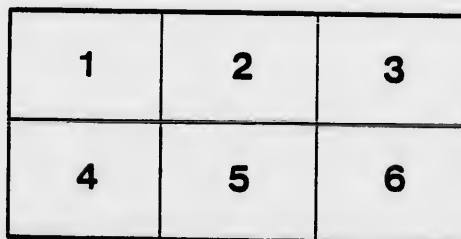
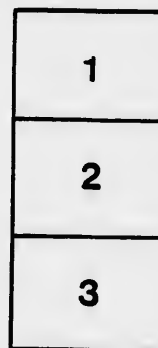
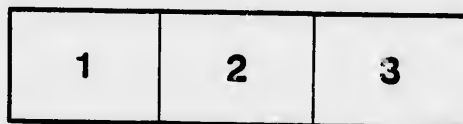
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THE
AGRICULTURAL CAPABILITIES

OF THE
PROVINCE OF ~~NEW-BRUNSWICK,~~
~~BRITISH NORTH AMERICA.~~

AN ADDRESS

DELIVERED BEFORE THE
MECHANICS' INSTITUTE
OF THE
CITY OF SAINT JOHN, NEW-BRUNSWICK,
ON FRIDAY EVENING, DECEMBER 21st, 1849.

BY

JAMES F. W. JOHNSTON, M. A., F. R. SS. L. & E.

FELLOW OF THE GEOLOGICAL AND CHEMICAL SOCIETY,

Honorary Member of the Royal Agricultural Society, Foreign Member of the Royal Swedish Academy of Agriculture, &c. &c.; Chemist to the Agricultural Chemistry Association of Scotland, and Professor of Chemistry and Mineralogy in the University of Durham.

REPORTED FROM SHORT-HAND NOTES TAKEN BY

GEORGE BLATCH, ESQUIRE,
BARRISTER AT LAW.

SAINT JOHN, NEW-BRUNSWICK:

PRINTED BY HENRY CHUBB & CO., STATIONERS, &c.

1850.

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ADDRESS.

CCDD Mr. CHAIRMAN, LADIES, AND GENTLEMEN,—

In appearing before you on the present occasion, I have first to apologise to you, for the disappointment which, two weeks ago, unavoidable circumstances compelled me to cause you. I assure you, that the accident of an uncommonly sudden change of weather, combined with other impediments, which prevented my fulfilling my engagement at that time, was to me a source of very great regret; and you will readily understand that it must have been more peculiarly so, from the circumstance, that although I have addressed many audiences in various parts of the world, yet I never disappointed an audience before. However, I believe you will perhaps think with me, that the disappointment then involuntarily inflicted on you will be compensated, and my Address to you rendered more agreeable by the postponement; inasmuch as, since that time, I have obtained the permission of His Excellency the Lieutenant Governor and other authorities, to lay before you an abstract of my enquiries with regard to the Agricultural capabilities of this Province, as comprised in my written Report. If I had addressed you when first intended, it would have been only on more general topics; topics, perhaps more familiar to you, but less interesting in the discussion than that which I shall now present to your notice; and, therefore, we may be induced to believe, that that disappointment, like in any other casual vexations and grievances in life, was really intended for our good.

I have been so much occupied, during the last six weeks, in putting together the results of my observations and enquiries in this Province, in the form of a Report, that I have had no opportunity to prepare any thing special for this evening; but I propose to give you a brief outline of the direction of my enquiries and of the results obtained from them. This I shall do in plain, homespun language, devoid of ornament or imagery, so that you may easily understand the subject; and you will then make allowance for any want of strength or polish, and for the absence of flowers of language and oratory.

In looking at the Agricultural capabilities of any country, it is of the greatest consequence to a person taking a general view of it, to have an idea, before-hand, of what is the Geological structure of that country. In my former address in this place, it will be remembered by those who were present, that I drew the attention of the audience to this point; that a knowledge of the geological structure of a country is of the greatest possible consequence, to enable any one to arrive at anything like general conclusions with regard to the agricultural capabilities of that country. When I tell you, that from an inspection of the geological maps of other countries, countries which I have not personally visited, I am enabled to judge of the agricultural capabilities of those

countries, and not only to judge of those capabilities as a whole, but also to instruct others as to the kinds of husbandry most suited to the various soils of such countries, you will have an idea of the value of a knowledge of what is called the geological structure of a country; and this knowledge you may obtain by looking at geological maps. If you look at this Geological Map of the Province of New-Brunswick now exhibited before you, (which I have had prepared, to attach to my own Report on this Province,) you will see, that there are various portions of its surface coloured with different colours; and those colours represent the different species of rocks which prevail in the various districts of the Province. Now you all know, that if you dig beneath the surface of the earth at any place, you will come, at a lesser or greater depth, to the solid rock. The solid rock varies in species in various parts of every country, and Geologists have given different names to the various species of rocks, such as sandstone, trap, grey-wacke, limestone, and many others. This system of the various kinds of rocks constitutes what is called "geological formation;" and this geological formation or structure of a country is exhibited in maps by different colours, the various colours representing the various geological formations or species of rocks. The map now before you thus exhibits the geological formations that occur in the Province of New-Brunswick; and I have been anxious to embody in one map all the information hitherto collected as to the geological formation of this Province, by previous investigators as well as by myself. Dr. Gesner has often addressed you from this place on this subject: he was employed for several years at the expense of the Province in making geological explorations of the country, and he published a series of reports of the results of his enquiries, which no doubt contain many valuable facts and observations. But unfortunately, tho' those facts and observations are to a certain extent embodied in this map, yet it is still exceedingly incomplete. I have had all the available observations of Dr. Gesner, as well as my own observations and those of Dr. Robb embodied in this map; and although it is still incomplete, yet it will afford more information on the subject than has ever yet been obtained; and here I cannot help remarking, that a large amount of valuable information on this head is deposited in the Crown Land Office of this Province, and it seems to me surprising, that information for which such large sums have been paid by the Provincial Government, should up to this moment have lain hidden in a Government office.

We have now noticed the fact of the various kinds of rock: the next principle to consider is, that every rock with which we are acquainted, when exposed to the action of the air, gradually

undergoes a crumbling process ; it becomes, as it were, degraded, and is converted from a solid mass into minute portions of matter, which, by the chemical operation of the atmosphere and other combinations, in course of time, form gravel, mud, clay, sand, &c., and on the top of these loose materials eventually the soil is formed. Now, soils are of various kinds, according to the nature of the materials from which they have been formed. You will see, on this map, between the broad red belt which stretches diagonally across it, and the patch of lighter red in the corner below, a large tract of surface coloured grey : these colours represent different kinds of soil ; and you will observe, that this large tract of land coloured grey, is covered with loose materials forming a soil totally different from that which is formed by the materials from the red rock or sandstone. Therefore, it is important in taking a general view of the agricultural capabilities of a country, to know the character of the soil and the quality of the rocks of which that soil is formed.

The first chapter of my Report comprehends the study of the geological structure of this country, in relation to its agricultural capabilities and the qualities of its various soils. I describe those qualities and capabilities ; and when you read it, you will see that the Government, which in former years expended large sums of money in encouraging explorations and in endeavouring to make out the geological structure of the Province, have not only done a thing of great importance and service to the country at large, but have really laid out this money in a way which ultimately (and more especially would it, if the project had been satisfactorily completed) will repay itself, which will actually benefit the pockets of those who cultivate the soil of the country ; because the knowledge thus obtained will hereafter enable them to know how that soil is composed, and how it can most advantageously be improved by cultivation. By this map you will be able to tell where good soil and where bad soil is to be met with ; and it will thus be practically beneficial to proprietors and future purchasers of land. I have now briefly noticed the general description of the soil as demonstrated by the geological formation of the country ; and I have thought it proper to begin my Report with this introductory chapter, as a preface to the rest of my examination of the agricultural capabilities of the Province, in order to give to science that prominence which it deserves, which is desirable in every practical work of this kind, and which will render the other portions most profitable and beneficial. I now dismiss that chapter.

In my next chapter, we turn to the real, the actual productiveness of the country, or the actual value of the soil as determined by personal inspection. If you look at this second map here exhibited, you will see certain green lines running in every direction. These lines represent

the country which I have personally gone over. I assure you I have found it no little fatiguing, to travel two thousand miles in New-Brunswick, in the short time that I have had for the purpose ; and I would not recommend some of you to go over it in the manner that I have gone over it : were you to do so, doubtless you would meet with as remarkable adventures and various disagreeables as I have met with ; but perhaps you would take a longer time in performing the journey so as to render it less fatiguing. And here I cannot help observing, that in no part of the world that I have ever been in, has it appeared to me that the people in general understood the value of time less than they do in this Province ; the inhabitants of New-Brunswick certainly cannot find it necessary to work as hard as people do in Europe, or they would understand the value of time better.—The relative value of the soil in different parts of this Province, I have ascertained by personal observation ; and I have represented on this map, by the figures 1, 2, 3, 4, 5, the various qualities of the soil in different parts of the Province, not as deduced from the geological map, but from my own personal observation ; and I have called the attention of the readers of my Report to the difference of the value of the soil, as indicated by both the geological structure and by personal examination ; and thus you will see the value, in an economical point of view, of such a demonstration and comparison. In making this elucidation I have also been indebted to whole cart-loads of Reports laid up in the Land Office, and have thus endeavoured to embody on this map all that any person with good eyes and ordinary understanding has been able to observe and report on this subject. If you look at this third map now exhibited, you will see that the same thing is represented by colours : the five different colours represent the various qualities of the soil of this Province, and thus you may see at a glance the localities of the best and the worst soil in the Province. The first quality (coloured *dark red*) comprises the rich intervals and islands on the River St. John and the marshes about Sackville and its vicinity, and those to be found to a smaller extent in other parts of the Province, which, altogether, do not amount to more than fifty thousand acres in the whole Province. The *lighter red* colour, you see, prevails in the counties of Carleton and Restigouche and at Suss Vale in King's County ; this colour represents the second quality of soil ; the first quality (the *dark red* colour) being the richest soil in the Province. The third colour on the map is *blue*, and comprises a very large portion of the Province ; this is second-class upland, and includes nearly seven millions of acres. The *darker yellow* colour comprises about five millions of acres ; and the *lighter yellow* (being soils not present unfit for cultivation) also about five millions. Altogether there are about eighteen millions of

acres, of which thirteen millions are fit for cultivation, and five millions are, in their present condition, unfit for agricultural operations.

I have next endeavoured to arrive at an idea of the comparative productiveness of these different soils. It is necessary to know how much human life an acre will support; and in order to arrive at that, I have classified the soils according to their relative productiveness; and the standard which I have taken is this:—in this country the common mode of judging of the value of land is by the number of tons of hay which it will produce. I have therefore in the first place taken this as a standard for calculation. I have taken this small quantity of first quality land in the Province, (the rich intervale land,) which is only 50,000 acres, as producing 2½ tons of hay per acre; the next quality at 2 tons per acre; the third quality at 1½ ton per acre; and the fourth at 1 ton per acre; and supposing that these different qualities of soil produce at that rate, that is their absolute value. The fifth or lowest kind of soil we throw out, as not being capable of paying for cultivation.

The next standard is that of *cattle*. We know that a horse or a cow will eat so many tons of hay in a year; therefore, if we know how many tons of hay the land will produce, we have no difficulty in ascertaining how many cattle it will support. But the next question is, how many men will the same land support? To arrive at this, we must take some standard, some kind of food for men. I have taken *oats* as this standard; of all grain oats thrive best in this Province; they are therefore the proper staple grain of the Province. What changes in the relative production of the various grains in this country, may result from continual clearances of the land and consequent changes of climate, we cannot tell; but at present oats are the most sure crop in this country. The principle then is this: that the land that will grow a ton of hay will grow twenty bushels of oats; one is equal to the other; thus 50, 40, 30 and 20 bushels of oats per acre will represent the different ratio of productiveness of the various qualities of the land. We then estimate the quantity of oats necessary to support a man. This is very well known, because it is a common article of food, especially in Scotland, where it is a staple of life. Then we estimate the quantity of oats necessary to support the whole population of the Province; in doing which we allow so much per head for young and old, varying according to age, and taking the average of the whole. Then we take the whole population of the Province, which is about 210,000 people, as far as known at present. Of horses and cattle there are about 150,000, and sheep and pigs we estimate at 250,000. Taking all these together, we can calculate what proportion of land is required to support the human inhabitants and the stock of cattle respectively, if they continue in the same relative proportions as

at present. Taking this, then, as the existing average, the result is this: calculating upon the principles already laid down, and leaving out of consideration the five millions of acres of unproductive land, we find that the soil of the Province is qualified to maintain 4,620,000 human beings, together with 3,500,000 horses and cattle, and 5,500,000 sheep and pigs, supposing all the cultivable land to be cultivated, and to produce in the same proportion as the land at present cultivated in the Province. But I must observe, that in taking this basis for my calculations I do not speak of the ratio of produce only as an opinion of my own, but as the result of enquiries made in the Province; if, therefore, I am wrong in my information, I am not to blame for it; I make my calculations only on the basis of the information afforded me by others; and therefore I want to guard myself against being held responsible for that information. According to the best information afforded me, therefore, it appears that if the four classes of available soil be entirely cultivated, this Province ought to maintain 4,620,000 human beings, and cattle and sheep in proportion, from its own resources alone. I now pass over some important materials of my report, which come in here and which bear on this general point, but which require to be more fully discussed than our time will now allow; and I turn to another point worthy of notice. I have supposed, in considering this number of 4,620,000 human beings, that the whole were supported on the vegetable produce of the soil. I have spoken of oats as the standard food, but the whole sustenance of this number of people need not necessarily be by oats: it might be partly of wheat and other grains, and vegetables of various kinds. The land will produce various kinds of human food. But I have as yet supposed that the vegetable produce of the soil was the only support of the population. But what are the *cattle* raised for? Why, for human food; therefore we must take into account the quantity of *animal* food thus raised for the support of human beings. This animal food, independently of the quantity of vegetable food raised in the Province, would support a large portion of the population.

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

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people, and the amount will be 5½ millions or 5,800,000 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 one 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 or 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 5,800,000 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

* 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.]

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 colour between the two reds, and this grey district is called 'the coal field,' because seams of coal occur here and here throughout that district. In some parts of the world these coal seams are very numerous, the coal is easily got at, and is a 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 that coal might be found. It appears to me, that it is important to enquire, whether, among these beds of sandstone indicated on the map, heels 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 we 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. Those 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 Counties, as far as they were furnished to me. These averages amount to the following produce *per acre*, viz:

Wheat, 17½ bushels.	Rye, 18 bushels.
Barley, 27 " "	Potatoes, 204 " "
Oats, 33 " "	Turnips, 389 " "

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.	Rye, 9½ bushels.
Barley, 16 " "	Potatoes, 90 " "
Oats, 26 " "	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.	Rye, 10 bushels.
Barley, 15 " "	Potatoes, 125 " "
Oats, 23 " "	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 from the Secretaries of the different Agricultural Societies in that State, for the year 1848. I

took the averages of those returns for the whole State of Ohio, and contrasted them with those of New-Brunswick. The averages for Ohio are as follow:

Wheat, 15½ bushels.	Rye, 16½ bushels.
Barley, 24 " "	Potatoes, 69½ " "
Oats, 33½ " "	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 favourable 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.	Rye, 11½ bushels.
Barley, 17½ " "	Potatoes, 84 " "
Oats, 24½ " "	

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 those 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 of 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-Brun-

wick 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.	Rye, 18s. per Qr.
Barley, 18s. "	Potatoes, 1s. 6d. per [Bushel.
Oats, 10s. "	

In New-Brunswick, the averages are:

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

In the State of Ohio, the averages are:

Wheat, 31s. per Qr.	Rye, 16s. per Qr.
Barley, 14s. 8d. "	Potatoes, 1s. 10d. per [Bushel.
Oats, 8s. "	

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 neighbouring 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 their's, 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 said to be disadvantageous. It is most important to a farmer to understand well the

nature of the climate of his country; and therefore the relation of the climate of New-Brunswick to the profits of the New-Brunswick farmer, is a necessary point of enquiry. It is of no consequence to discuss the general subject of "Climate"; we need merely enquire, whether the Climate of this Province is such, as to interfere materially with the profits of the New-Brunswick Farmer, and to injure his condition in comparison with the farmers of neighbouring countries. In my Report, I set out with allowing two things as indisputable; first, that this climate is exceedingly healthy; and 2dly, that, as far as I can judge, the climate is not such as materially to interfere with the amount of the produce of the land, and that, in spite of the climate, the average produce is greater than in the adjoining countries of Canada and the United States. 'This clears away much difficulty, and leads me to discuss the question, of what are the probable profits of the farmer in this country. It has been so often stated to me, that in this Province the winter eats up the summer; that the immense stock of hay required to maintain the stock of cattle during the winter greatly decreases the value of the farm produce, and that therefore it is impossible for the farmer to realise any great profit on his operations, that I was compelled to give attention to these statements. I have therefore considered these points fully in this portion of my Report. I will not now go over the arguments and facts contained in my Report, on this head; but will merely state the general results deduced from them. The first objection made is, that the extreme shortness of the season for agricultural labour requires greater exertion than in climates with longer summers, and leaves a larger portion of the year in which agriculturists must be supported without raising any produce, and that therefore farming in this country is more expensive than elsewhere. This is a very reasonable argument, and requires investigation, to test its soundness. I have compared the answers to my printed queries, as received from fifty different persons (practical men in this Province,) who have given an opinion on this question. Of these, there are twenty-five who say, that the fact does not in reality affect the profits of the farmer, and twenty-five who say that it does, and that it lessens those profits. Therefore the evidence is exactly balanced on that point. Then I take the question of paid labour; whether it is profitable for the farmer to pay for labour in this country? The same difference of opinion appears on this point also: there are just as many who say that it is, and just as many who say that it is not.

I will now just draw your attention to the value of the evidence in this respect. One man gives me an opinion on one side; another gives his opinion on the other side; and a third tells me he has made a good profit on paid labour, and shews me the money he has gained by it.

Now, I will ask you, which of those three men would you believe, and place the greatest reliance on? Whether you would rather believe the man, who shewed you the money he had made by employed and paid labour; or the man who shewed you his empty pockets, and told you that paid labour was the cause of it? I think we cannot help arriving at the conclusion, that what one man does another can do. If A. can cultivate his farm to a good profit, by employing paid labour, and carefully looking after his own interests, surely B. can do the same to as good effect. Therefore I think, that those men who speak affirmatively on this question, and who shew me the sovereigns made by pursuing this system, are the men to be believed and relied on; and their evidence is better than any mere theoretical opinion. Then, as to the question, how far the winter interferes with the raising of stock and rendering them profitable: I speak now of oxen, cows, and such cattle: it has been by some supposed unprofitable to raise stock in the winter in this Province. I have gone the same way to work in treating this question; I have obtained the same kind of evidence, and have come to the same kind of conclusion, on the same principles of evidence. If a man tells me he has made money by the pursuit, and shews me the sovereigns so gained, I cannot resist that evidence; what he has done, others may do, if they pursue the same prudent system; and therefore the conclusion I arrive at, on the whole subject is, that it is profitable to carry on farming in this Province, and to raise and maintain stock in the winter. I have thus disposed of the two objections, relative to the climate and to paid labour; but there are other things that interfere with farming in this country. One is, the pursuit of the lumbering business; and no doubt that is a circumstance which has hitherto most materially interfered with the prosecution of agricultural industry in this Province. It is necessary therefore to consider, how far it is likely to interfere with the future condition of the Province, in relation to its agricultural prosperity; but it is only fair to acknowledge, that although evils have sprung from lumbering pursuits, yet that the Province owes a great deal of its prosperity to its lumbering operations. That pursuit was the natural trade of the country, before agriculture could possibly have been commenced at all, and it will continue to be so for a long time to come. There is a great difference between urging a thing too far, and conducting it in a skilful and prudent way. From the returns and papers I have received on this point, I have been compelled to come to the conclusion, that lumbering does not necessarily interfere with farming; but rather, if judiciously followed, each class of persons attending exclusively to their own peculiar business, that lumbering operations will promote the interests of the farmer in various ways. Then, again, as to the profits of farmers, and markets for their produce; I have made a com-

parison of the returns furnished to me, and have deduced the averages of the different prices obtained and profits gained. Now, if these profits and prices were obtained, there must have been some place where these articles were sold, and therefore there must be markets for the produce of the country; and these markets will not only continue, but will gradually increase. No doubt, the markets might in some respects be improved; and on this head, I have thrown out some suggestions in my Report, which may hereafter prove beneficial. I have also, in that Report, touched on the subject of Emigration, its causes and effects; and on the effects of blights or diseases on the agricultural products of the Province. The consideration of all these questions leads me to the general conclusion, that so far as I have been able to examine the condition of the Province personally, as well as from the study of the various points put to me by practical men belonging to the country, I conceive that there is nothing in the circumstances of this Province so different from those of other countries to which I have alluded, (and particularly as regards Canada and the Eastern States of the Union) which ought to diminish the profits of the farmer in comparison with those countries. In my Report, I have discussed the actual state of the tillage and agriculture of the Province, and have followed up this discussion with a series of recommendations for their improvement; which are partly such as can be carried out only by means of Legislative enactment and assistance, partly within the scope and capability of Agricultural Societies, and partly can be effected by the exertions of individual farmers. These topics are too extensive for me to discuss this evening; and indeed it would be improper for me to do so, because they will come before the Legislature for consideration, and any notice of them now would be premature.—I here briefly take my leave of you, by not giving any opinion of my own, further than I have given it as founded on the information afforded me. I mention this merely as a safeguard; that although the information contained in my Report may be imperfect information, and the results deduced may be merely imperfect results, yet they are such as have been obtained from the *data* furnished to me by the men and the documents I have met with in the Province. Probably, they are results which I might have reason to correct were I to reside longer in the Province; but at present they are such as I have been compelled to arrive at, from the materials and means of information possessed by me, or to which I have had access. How far they may prove useful, in making the farmers more contented, and the people more satisfied with the Province as to its agricultural capabilities, I leave you to judge, after perusing the Report at length: you are quite capable of judging on this question, and I am quite sure your judgment will be sound and impartial.

