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### AGRICULTURE.

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

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(Continued from our last.)

The special varieties of soil denoted by the figures and numbers, are as follows:—

No. I. on the uncoloured, and the bright red on the coloured map, denote the soil of best quality in the Province. This consists chiefly of river intervale, islands, and marsh lands. It is only of limited extent, and is confined, for the most part, to the course of the River Saint John, that of the Petitcodiac, and to the neighbourhood of Sackville.

No. II. and the pale red colour, denote the best quality of upland, and such portions of good Intervale and marsh land as are not included under No. I. It is to be understood, however, that there is much marsh land, both dyked and undyked, which does not deserve a place even under this second head. This first class upland exists chiefly in the Counties of Carleton and Restigouche.

No. III. coloured blue, is the second rate upland, inferior to No. II., but still very good in quality. It represents the medium soils of the Province, and stretches over a much larger surface than any of the other colours.

No. IV. coloured bright yellow, is inferior in quality to any of the others. It is decidedly inferior or poor land, resembling the least productive of that which is now under cultivation. It consists for the most part of light sandy or gravelly soils, hungry, but easily worked, or of stony and rocky ground, which is difficult and expensive to clear, but as in some parts of Charlotte County, productive when cleared.

This class also includes lands covered with heavy hemlock, and other soft wood, which though hard to clear, and unfavourable for first crops, may hereafter prove productive when it has been fairly submitted to the plough. It will be seen that a great extent of this bright yellow land exists in the northern part of the Province.

No. V. coloured pale yellow, includes all in which its present condition appears incapable of cultivation.

The naked flats distinguished as bogs, heaths, barrens, cariboo plains, &c., are all comprehended under this colour, and tracts of swampy country, which at present are not only useless in themselves, but a source of injury to the adjoining districts. All this pale yellow is not to be considered absolutely irreclaimable, but to be unfit for present culture or for settlement, till much larger progress has been made in the general improvement of the Province.

The dark spots, coloured with Indian ink, represent the localities of some of the naked and barren plains which are included under this No. 5.

It is not to be supposed that I or my travelling companions have been able to inspect, even cursorily, the whole of the country we have thus ventured to colour and to distinguish by numbers. The country we have actually seen and explored during our late tour may be judged of from the green lines traced on both maps, which represent the routes we took, and the country we actually went over.—Our knowledge of the rest has been gathered from numerous persons whom we met with in different parts of the Province, from the reports and surveys deposited in the Land Office, and from the observations of Dr. Gesner.—Though far from being correct, these maps are valuable, both as an approximation to the truth, and as embodying nearly all that is at present known as to the soils of the Province. Your Excellency will, I am sure, both be inclined to value them more, and make larger allowances for their want of correctness, when I mention they are the only maps of the kind of any country which, so far as I know, have yet been attempted, and that they have been of necessity executed in a very short period of time for so extensive a work.

The relative areas, or extent of surface covered by these several soils, as they are represented in the coloured map, are very nearly as follows:—

No. I.	coloured bright red,	50,000 acres.
No. II.	coloured light red,	1,000,000 "
No. III.	coloured blue,	6,950,000 "

No. IV.	coloured bright yellow,	5,000,000 "
No. V.	coloured pale yellow,	5,000,000 "

Total area of the Province, 18,000,000 acres. The area of the Province has been calculated so as to include the territory within the boundary, as it may possibly be determined, between New Brunswick and Canada.

Such are the relative geographical limits of the soils of different qualities in the Province, and the areas covered by each respectively, according to the best information I have been able to collect.

The absolute values of each variety of soils in terms of the staple crops of the Province, I have estimated as follows:—

It is usual to talk and judge of the absolute or comparative value of land in New Brunswick by the quantity of hay it is capable of producing. I have taken this crop therefore as one standard by which to fix the absolute and relative value of the different qualities of the soil in the Province. Then of the grain crops—oats, taking the whole Province together, is the most certain, and probably the best in quality. The culture of the oat is extending also, and the consumption of oatmeal as a common food of the people, is greatly on the increase. I take this crop therefore as a second standard. I assume also, but this is an arbitrary assumption, that as an index of the value of land at this time in this Province, with its present modes of culture, twenty bushels of oats are equal to a ton of hay. In other words, I assume that where a ton of hay can be produced, twenty bushels of oats may be produced, or its equivalent of some other variety of human food.

Thus I have the means of giving a value to the different varieties of soil, in terms either of food for stock or food for man.

I have classified the soils of the Province, therefore, in terms of these crops at the following absolute and relative value per imperial acre.

No. I.	will produce 2 1-2 tons of hay, or 50 bushels oats per acre.
No. II.	" 2 tons " 40 bushels "
No. III.	" 1 1-2 tons " 30 bushels "
No. IV.	" 1 ton " 20 bushels "

The only reasonable objection which so far as I know can be made against this estimate is, to the value in oats assigned to the quality of the soil called No. 1.

It may be correct to object that this first class soil does not in practice produce 50 bushels of oats, but the real effect of this objection is very small: First, because nearly all this land is yearly cut for hay: Second, because grain crops, (except in Sunbury, the Indian Corn,) do not succeed upon it in consequence of their rankness, which makes them lodge and refuse to ripen: and, Thirdly, because under proper culture in this climate, land that produces 2 1-2 to 5 tons of hay, as the first class Intervale and dyked marsh does, ought also to bear easily and to ripen upwards of 50 or 60 bushels of oats.

The whole production of food for man or beast which the province would yield, supposing all the available land to be cultivated according to the present methods, and that hay and oats bear to each other, the relation of one ton to twenty bushels, would therefore be—

	Tons of hay.	or	Bushels of oats.
1st. Class,	125,000	or	2,500,000
2nd. Class,	2,000,000	or	40,000,000
3rd. Class,	10,425,000	or	208,500,000
4th. Class,	500,000	or	10,000,000

Total produce, 17,555,000 tons of hay, or 351,000,000 bushels of oats. Being an average produce per acre over the thirteen millions of acres of available land, of 1 1-3 tons of hay or twenty seven bushels of oats.

What amount of population will this quantity of food sustain?

There are various ways by which we may arrive at an approximation to the number of people which a country will comfortably maintain upon its own agricultural resources. The simplest and most commonly adopted in regard to a new country like this, is to say, if so many acres now in cultivation support the present population, then, as many times as this number of acres is contained in the whole available area of the country, so many times may the population be increased without exceeding the ability of the country to sustain it.

Thus in New Brunswick, there are said to be at present about 600,000 acres under culture, and the produce of these acres sustains of—

Men, women and children,	210,000
Horses and cattle,	150,000
Sheep and pigs,	250,000

But 600,000 are contained in 13,000,000, the number of available acres in the Province, nearly 22 times, so that

supposing every six hundred thousand acres to support an equal population, the Province ought to be capable of feeding about—

Men, women and children,	4,620,000
Horses and cattle,	3,300,000
Sheep and pigs,	5,500,000

The human population and the stock maintaining the same relative proportions as they do at present.

But this estimate is obviously only a mere guess, and by accident only can be near the truth, because supposing the quantity of land actually in culture to be correctly stated, (which cannot with any degree of confidence be affirmed,) the important consideration is entirely neglected, that the land now in cultivation may be much superior in quality to those which are in a wilderness state. This indeed is very likely to be the case, as the history of agriculture shows that the least productive lands by nature, unless they are much more easy to work, are always the last to be brought into cultivation. It leaves out of view also the question of fuel, which we shall by and by see has a most important relation to the agricultural capabilities of a country and its power of supporting a given amount of population.

But from the data above given we can approximate to the truth in another way, answering directly the question, what amount of population will the produce we suppose the Province able to yield, maintain?

If we suppose a full grown man to live entirely upon oats without any other food, he will require to support him for twelve months, about 1000 lbs. of oatmeal, equal to about 2000 lbs. of oats, which at the low average of 35 lbs per bushel, amounts to 57 bushels. If we allow that each of the population, big and little, consumes 40 bushels an apparently high average, then the consumption of each individual, according to our estimate of the comparative productive powers of the land, in regard to hay and oats, would be equivalent to two tons of hay, would on an average support one individual if fed upon oatmeal.

The usual allowance for the winter food of a horse in this Province is four tons of hay, and for a cow, two tons sheep and pigs may be estimated at a quarter of a ton each.

The cattle and horses together are estimated at 150,000. If the relative proportions of the two kinds of stock be as in Canada West, about four to one, then the entire population and live stock, (poultry, dogs, &c. &c. excluded,) would require for their support the following amount of produce, calculated in tons of hay:—

210,000 at 2 tons each,	420,000 tons.
30,000 horses, 4 tons each,	120,000
120,000 cattle, 2 tons,	240,000
250,000 sheep and pigs, 1-4 ton	62,500

842,500  
But we have seen that the average produce in hay of the whole 13 millions of available land may be estimated at 1 1-3 ton per acre,—the above 842,500 tons of hay therefore represent 631,875 acres of land of average quality.

It will be observed that this sum comes very near the extent of land supposed to be at present actually cultivated in the Province. It is also about one-twentieth part of the whole available area (13 millions) in acres and in hay; so that the Province, according to this mode of calculation be supposed capable of supporting twenty times its present numbers of inhabitants and of live-stock, that is—

Men, women and children,	4,200,000
Horses,	600,000
Cattle,	2,400,000
Sheep and pigs,	5,000,000

If the proportion of animals materially diminish, of course the number of human beings which the country is able to support would proportionally increase.

Those that are familiar with the feeding of stock will have observed that in the preceding calculation, I have allowed for the support of the live stock only during the seven months of winter, and that no land has been assigned for pasture during the remainder of the year while the hay is growing.

It will be also observed, however, that I have supposed all the stock to be full grown, and have assigned a full allowance of hay to every animal, whatever its age. A considerable surplus therefore will remain unconsumed when the winter ends, which will go some length in feeding the stock in summer, or, which would be preferred, in allowing land to be set aside for pasture, or for soiling the animals with green food in the stables.

Again, by referring to the relative proportions of land employed in raising food for the human and the animal population, as the relative numbers in which they exist in New Brunswick, as they are given in a preceding page, it