

OF IRELAND

Geographical Miles.	Statute Miles.
106	122
53	61
176	202
175	201
209	240
1,750	2,013
192	221
2,661	3,060

IRELAND

Geographical Miles.	Statute Miles.
106	122
53	61
22	25
71	82
46	53
29	33
25	29
313	364
132	152
1,800	2,070
192	221
2,819	3,242

ADA PUBLISHED
ST, 1878.

Miles.
3,865
4,371
4,470
2,228
2,202
1,092
2,194
1,670
1,693
145
825
735
1,657
1,736
1,708
210
310
476
767
808
1,010

ANALYSIS OF MANITOBA SOIL.

(Translation of Letter to Senator Emil Klotz.)

Hon. SENATOR :

KIEL, 29th April, 1872.

"The analysis of the Manitoba soil is now completed, and the result is in 100,000 parts :

Potash.....	228.7
Sodium.....	33.8
Phosphoric Acid.....	69.4
Lime.....	682.6
Magnesia.....	16.1
Nitrogen.....	486.1

"Yours truly,

"(Signed), V. EMMERLING."

Extract from Letter of Senator Emil Klotz to Jacob E. Klotz, Agent for the Dominion Government.

"KIEL, 4th May, 1872.

"After considerable delay, I succeeded in obtaining the analysis of the Manitoba soil from Professor Emmerling, Director of the Chemical Laboratory of the Agricultural Association of this place, and hope it may be of service to you. Annexed I give you our analysis of the most productive soil in Holstein, whereby you will see how exceedingly rich the productive qualities of the Manitoba soil are, and which fully explains the fact that the land in Manitoba is so very fertile, even without manure.

"The chief nutrients are, first, nitrogen, then potash and phosphoric acid, which predominates there; but what is of particular importance is the lime contained in the soil, whereby the nitrogen is set free, and ready to be absorbed in vegetable organisms. The latter property is defective in many soils, and when it is found defective recourse must be had to artificial means by putting lime or marl (a clay which contains much lime) upon the same.

"According to the analysis of the Manitoba soil, there is no doubt that, to the farmer who desires to select for his future home a country which has the most productive soil and promises the richest harvest, no country in the world offers greater attractions than the Province of Manitoba, in the Dominion of Canada.

"Analysis of the Holstein soil and Manitoba soil compared :

	Holstein Soil.	Excess of Properties of Manitoba Soil.
Potash.....	30	198.7
Sodium.....	20	13.8
Phosphoric Acid.....	40	29.4
Lime.....	130	552.6
Magnesia.....	10	6.1
Nitrogen.....	40	446.1

ANALYTICAL LABORATORY, SURGEON'S HALL,
EDINBURGH, 11th December, 1876.

Analysis of Sample of Manitoba Soil :

MOISTURE.....	21.364
Organic matter containing nitrogen equal to ammonia, 23'.....	11.223
Saline matter:	
Phosphates.....	0.472
Carbonate of lime.....	1.763
Carbonate of magnesia.....	0.937
Alkaline salts.....	1.273
Oxide of iron.....	3.115
Silicious matter:	7.560
Sand and silica.....	51.721
Alumina.....	8.132
	59.853
	100.000

The above soil is very rich in organic matter, and contains the full amount of the saline fertilizing matters found in all soils of a good bearing quality.

(Signed) STEPHENSON MACADAM, M.D.,
Lecturer on Chemistry, etc.

[A statement of analysis by Sir J. B. Lawes and Professor Gilbert is given in this Guide Book, under the head of Manitoba.]