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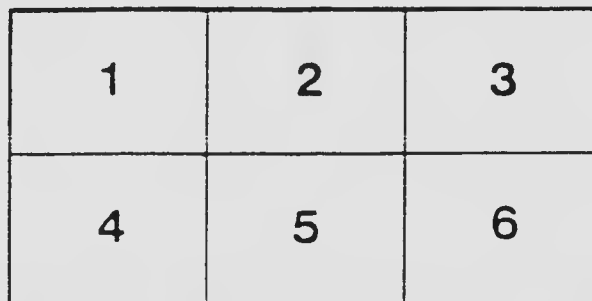
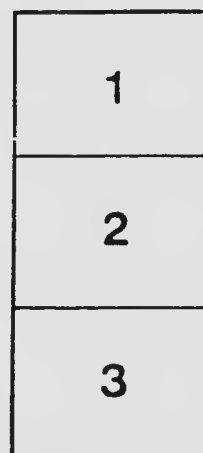
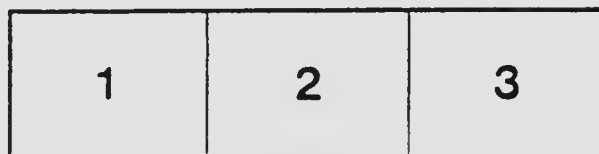
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O. H. M. S.

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W. J. Gerald
Deputy Minister.

LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA

—
BULLETIN No. 151
—

STANDARD FERTILIZERS, 1908

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LABORATORY

OF THE

INLAND REVENUE DEPARTMENT

OTTAWA, CANADA.

BULLETIN No. 151.

STANDARD FERTILIZERS, 1908.

OTTAWA, April 14, 1908.

W. J. GERALD, Esq.,
Deputy Minister of Inland Revenue.

SIR,—I have the honour to report upon 199 samples of Agricultural Fertilizers, registered for sale in Canada in 1908.

The appended table is self explanatory, and contains a statement of the guaranteed content of each sample, as well as the content found by analysis in this Laboratory.

The Fertilizers Act (Chap. 132, R. S. 1906) Section 4, requires the publication of the "relative value of each fertilizer calculated from its contents in fertilizing ingredients, at their current market value."

The following values have been used in calculating this relative value:—

	Cents per lb.
Nitrogen, in salts of ammonia, or nitrates, as well as in compound fertilizers.....	17
Organic nitrogen, in ground bone, fish blood or tankage.....	16
Phosphoric acid:	
Soluble in water.....	6
Soluble in 1 per cent. citric acid solution.....	5½
Insoluble in Thomas phosphate powder, bone, fertilizers generally.....	1½
Potash, in compound fertilizers.....	5

Owing to the fact that the nitrogen in most of the compound fertilizers, is derived in part from organic but chiefly from inorganic materials, its value has been, in most cases taken at 17 cents per lb. It is believed that the error so introduced, is small enough to be negligible.

The valuation of the phosphoric acid involves greater difficulty. Many samples are accompanied by statements of the total phosphoric acid, without distinguishing between soluble and insoluble acid. In such cases it has been impossible to place a value based on the manufacturer's or importer's guarantee; but the relative value is calculated upon the results of analysis of the sample deposited here. Whether the importer can be held responsible, without his explicit consent, for such valuation is an open question. It has been claimed that, while the importer guarantees a minimum percentage weight of phosphoric acid, he does not guarantee a minimum value for such ingredient.

In a few cases, there occur in the tables, samples which have been analysed and registered although intended rather for *use* than for *sale* by the sender. This arises from indefiniteness on the part of the sender in stating just what was wanted.

It is probable that most of the brands registered as 'tankage' are not intended for sale as fertilizers, but rather, for sale as material for the manufacture of fertilizers. Strictly speaking it is no part of the duty of this Department to do this class of work, which is entirely commercial in its character, and should be left to be dealt with by those financially interested in it.

The regulation under which a fertilizer analysis is made in this laboratory for the nominal charge of three dollars, is made primarily in the interest of users of fertilizers, or of dealers in the same who may desire to be in a position to give a personal guarantee as to the value of the goods they sell. The Departmental laboratory does not desire to come into competition with commercial analysts, or to regulate the fees properly remunerative, for such work. It is only in such cases where we have found it impossible to make the above indicated distinctions, that work of the kind described has been accepted in this laboratory.

In our last bulletin (No. 134) on this subject, the late Chief Analyst remarks as follows: "The Fertilizers Act, 1890, requires that (Standard) samples shall be transmitted to the Minister of Inland Revenue, before the end of the month of January in each year, but, to suit the convenience of the manufacturers, this term has been gradually extended until samples are accepted which come as late as the end of April."

I have found it necessary, this year, to concede the same extension of time, and would respectfully draw your attention to the fact that the main object for which this publication exists, is really defeated by the delay referred to. This Bulletin is intended to furnish farmers and gardeners with information as to different brands of fertilizers to be offered for sale in Canada during the next following season. Unless the publication is in their hands, before they require to place their orders for fertilizers it is manifestly useless to them. As a matter of fact, this bulletin should be available to the public on the first of March.

Phosphate Slags. — Seven of the fertilizers herein registered are ground slags, containing from 16 to 20 per cent. of phosphoric acid, to which they owe their fertilizing value. None of this phosphoric acid is in the free state; but the special combinations in which it exists are not fully known. By reference to Bulletin No. 70 (May, 1900) and No. 75 (May, 1901), it will be seen that the late Chief Analyst gave consideration to the question of expressing the "relative value" of phosphoric acid in these slags, as compared with the value of phosphoric acid in acidulated fertilizers. For various reasons, which are stated in Bulletin 70, he concluded "that it would be inconvenient and possibly unjust, to change a system which has been established for twelve years, and which is well understood by the fertilizer manufacturers and agriculturists of the Dominion, without at least substituting for it another which has the approval of a body of British Chemists having a reputation equally as high as that of the United States Association of Agricultural Chemists."

The matter was referred to the Society of Public Analysts, London (See Bulletin 75, p. 5), but, further than expressing themselves dissatisfied with the application of the Ammonium citrate process to basic slags, no conclusions were reached.

Here the matter has rested; and a 1 per cent. citric acid solution has been applied to the determination of so called "available" phosphoric in slags, as in other fertilizers, since 1901.

The same process has been used in the samples now reported, because I am not prepared to recommend another process, as yet. But I am not persuaded that the process now employed, is all that could be wished, or that its indications do justice to the particular class of fertilizers known as phosphatic slags. It is certain that it would be unfair to apply the "relative numbers" based upon present methods of analysis, in comparing the fertilising value of a slag with that of a superphosphate fertilizer. The "relative values" herein given for slags, must be interpreted as only applicable to slag fertilizers, when compared with each other. And it is not certain that even then the conclusions drawn will be true to the facts, as indicated by field experiments.

It is not impossible that the phosphoric acid in slags is practically all of one kind, its availability depending rather upon the fineness with which the slag is ground, than upon any actual state of combination. The whole question of valuation of slags is yet undergoing study; and I hope that before another Bulletin dealing with fertilizers is issued, I shall be able to describe a method of analysis more fully meeting the exigencies of the case.

Reverted Phosphoric Acid—The substitution of a 1 per cent. solution of citric acid, for the usual solution of ammonium citrate, in determining reverted phosphoric acid, was made by the late chief Analyst for reasons given in Bulletin 75 (page 6). These may be quoted here.

Besides defending the position taken by this Branch, and also by the Agricultural Committee of the House of Commons. I also suggested a plan by which *all* fertilizers could be tested by exactly the same method without doing any injustice to the Thomas Phosphate Powder or basic slag. This consisted (after the removal of the soluble phosphoric acid, when present, by water) in boiling the water-insoluble residue, or, in the case of basic slag, the powdered sample direct, with a strong solution of ammonium chloride, so as to remove any free lime which the sample might contain, and after this to determine the available phosphoric acid by a 1 per cent. solution of citric acid as recommended by Dr. Bernard Dyer. The latter part of the plan is justified in an elaborate paper by that gentleman entitled "On the analytical determination of probably available mineral plant food in soils", and published in the Journal of the Chemical Society Vol. LXV; from which the following important conclusion may be quoted:— "A one per cent. citric acid solution appears, then, to give indications fairly bearing out the manurial properties of phosphatic materials as recognized by experience in the field; it approximates fairly well to the average strength of the natural solvent (root-sap) used by the plant itself; and tested by the result it gives on soils of known history and condition, it appears likely to afford a not unreliable means of gauging, as regards the available mineral constituents the probable fertility of the soil itself".

This substitution of citric acid for citrate of ammonium has the disadvantage of making a comparison between the same brands of fertilizer analyzed in this laboratory, and the laboratories of the United States, impossible or at best, unsatisfactory. The differences are certainly not great, but they are variable, since the complex nature of mixed fertilizers causes a variable effect, for the two solutions in question. It is, on this account, to be desired that an international method of operating should be determined upon.

I have already drawn your attention to several points in which our present Fertilizer Act is in need of amendment or revision, and I am pleased to know that such revision is contemplated in the immediate future. I beg to recommend the publication of this report as Bulletin No. 151.

I have the honour to be, sir,
Yours obedient servant,

A. MCGILL,
Chief Analyst.

DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised	Designation.	No. of Sample.	Manufacturer.	By whom sent.	From what Materials Produced.
1908.					
Jan. 28	Great Eastern North- ern Corn Special.	2073	Am. Agr. Chemical Co., Great Eastern Fertilizer Branch, Rutland, Vt.	Manufacturers.	
" 28	Great Eastern High Grade Potato Manure.	2074	"	"	
" 28	Great Eastern Potato Manure.	2075	"	"	
" 28	G. E. Potato Special.	2076	"	"	
" 28	G. E. General	2077	"	"	
" 28	G. E. Grass and Oats Fertilizer.	2078	"	"	
" 28	Aroostook Complete Manure.	2079	"	"	
" 29	Aroostook High Grade.	2080	A. A. C. Co.	G. E. Fertilizer Branch, Rutland, Vt.	
" 29	Special Potato Mix- ture.	2081	Am. Agr. Co., Sales Dept.	Buffalo Manufacturers, Buffalo.	Animal matter, blood, bone and tankage, mineral phosphates, pot- ash and all treat- ed with sulphuric acid.
" 29	High Grade Potash Compound.	2082	"	"	"
" 29	Bradley's New Method Fertilizer.	2083	"	"	"
" 29	Bradley's B. D. Sea- Fowl Guano.	2084	Am. Agr. Co., Sales Department.	Buffalo Manufacturers, Buffalo.	Animal matter, blood, bone and tankage, mineral phosphates, pot- ash, and all treated with sul- phuric acid.
" 29	Bradley's Complete Manure for Potatoes and Veget- ables.	2085	"	"	"
" 29	Crocker's New York Special Phosphate.	2086	"	"	"
" 29	Crocker's Wheat and Corn Fertilizer.	2087	"	"	"
" 29	Crocker's Cabbage and Potato Ma- nure.	2088	"	"	"
" 29	Crocker's Best Pot- ash Fertilizer.	2089	"	"	"
" 29	Crocker's Complete Manure.	2090	"	"	"
" 29	Crocker's Special Po- tato Manure.	2091	"	"	"
" 29	North-Western Com- plete Manure.	2092	N. W. Fertilizing Co., Chicago, Ill.	Geo. C. Bingham, Buffalo.	
" 29	Michigan Carbon Fruit and Vine Fertilizer.	2093	Michigan Carbon Works, Detroit.	American Agr. Chemical Co., Buffalo.	

FERTILIZERS REGISTERED FOR THE YEAR 1908.

		RESULTS OF ANALYSIS.										No. of Sample.	
		Nitrogen.				Phosphoric Acid.				Potash.	Moisture.		Relative value per ton of 2,000 lbs.
Total includ- ing that of nitric acid or ammonia if present.	Total calculat- ed as am- monia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.	p. c.	p. c.	p. c.				
Guaranteed contents	2.06	2.88	2.50	3.50	5.6	3.4	2.3	10.13	8-10	15.0	2.50	18.46	2073
Contents as found	2.21	2.69	2.69	4.85	2.53	1.57	10.95	9.38	10-12	10.75	21.09		
Guaranteed contents	3.30	4.13	4.5	1.6	2.4	1.2	7.10	6-8	9.38	10.65	30.13		
Contents as found	3.36	1.08	5.70	1.92	1.25	8.87	7.62	9.38	10.65	30.13			
Guaranteed contents	2.06	2.86	2.5	3.5	5.6	3.4	2.3	10-13	8-10	3.4	19.90	2075	
Contents as found	2.09	2.53	7.25	2.92	1.75	11.92	10.17	3.88	4.85	23.42			
Guaranteed contents	3.30	4.12	4.5	6.8	2.3	1.2	9-13	8-11	7.8	27.92	2076		
Contents as found	3.51	4.27	6.00	3.83	1.17	11.00	9.83	7.20	6.25	30.90			
Guaranteed contents	0.82	1.65	1-2	5-7	3.4	2-3	10.14	8-11	1-5	16.69	2077		
Contents as found	1.14	1.39	5.00	4.00	1.70	10.70	9.00	5.63	8.75	2.42			
Guaranteed contents					6.7	5.6	1.2	12-15	11-13	2.3	15.00	2078	
Contents as found					6.05	1.62	2.15	12.82	10.67	3.07	11.00	16.06	
Guaranteed contents	2.40	3.00	3.1	5.6	1.2	1.2	7.10	6.8	10-12	25.56	2079		
Contents as found	2.21	2.72	5.15	3.15	1.25	9.55	8.30	10.08	6.55	27.72			
Guaranteed contents	4.00	5.00	5.6	5.7	2.3	1.2	8.12	7.10	7.8	29.10	2080		
Contents as found	1.48	5.44	5.00	3.65	1.09	9.65	8.65	6.87	10.25	32.42			
Guaranteed contents	0.82	1.65	1.2	7.8	2.3	1.2	10.12	9.11	7.8	20.69	2081		
Contents as found	1.51	1.87	6.50	2.25	1.72	10.47	8.75	8.05	10.25	24.08			
Guaranteed contents	1.65	2.47	2.3	6.7	2.3	1.2	9.11	8-10	10-11	25.31	2082		
Contents as found	2.16	2.55	5.25	1.75	2.50	9.50	7.00	9.96	12.05	26.08			
Guaranteed contents	0.82	1.65	1.2	6.7	2.3	1.2	9.11	8-10	2-3	14.49	2083		
Contents as found	2.10	2.55	5.00	1.97	3.00	9.97	6.97	2.10	9.95	18.31			
Guaranteed contents	2.06	2.88	2.5	3.5	6.7	2.3	1.2	9.11	8.10	15-25	18.20	2081	
Contents as found	2.25	2.74	5.25	2.10	2.75	10.40	7.65	2.20	10.35	19.71			
Guaranteed contents	3.20	4.12	4.5	6.7	2.3	1.2	9.11	8-10	7-8	27.89	2085		
Contents as found	3.36	4.08	5.50	2.82	1.75	10.07	8.32	6.80	10.25	28.54			
Guaranteed contents					8.10	2.3	1-2	11-14	10-12	8.9	20.10	2086	
Contents as found	0.31	0.37	9.50	0.25	1.25	11.00	9.75	7.74	10.05	20.84			
Guaranteed contents	2.06	2.88	2.5	3.5	6.7	2.3	1.2	9.11	8-10	15-25	18.20	2087	
Contents as found	2.41	2.92	5.00	3.38	3.12	11.50	8.38	2.02	10.15	20.87			
Guaranteed contents	2.47	3.30	3-4	6.7	2.3	1.2	9-11	8.10	6.7	24.10	2088		
Contents as found	3.18	3.91	6.75	2.12	1.25	10.42	9.17	5.89	8.75	27.81			
Guaranteed contents	1.65	2.47	2-3	6.7	2.3	1.2	9.11	8.10	10.11	25.31	2089		
Contents as found	1.75	2.13	5.25	2.92	2.20	10.35	8.17	10.00	12.25	26.12			
Guaranteed contents	4.82	1.65	1.2	6.7	2.3	1.2	9.11	8.10	4.5	16.49	2090		
Contents as found	0.95	1.16	5.50	1.42	2.80	9.72	6.92	4.40	12.15	16.63			
Guaranteed contents	3.29	4.12	4-5	6.7	2.3	1-2	9.11	8-10	7.8	27.89	2091		
Contents as found	3.68	4.47	4.00	3.87	2.50	10.37	7.87	6.91	11.10	29.23			
Guaranteed contents	2.06	2.88	2.5	3.5	6.7	2-3	1.2	9.11	8-10	3-4	19.70	2092	
Contents as found	2.31	2.91	4.25	3.00	2.75	10.00	7.25	3.49	14.10	20.57			
Guaranteed contents	1.65	2.47	2.3	6.7	2-3	1.2	9.11	8-10	10-11	25.31	2093		
Contents as found	1.79	2.13	4.65	3.63	2.07	9.75	7.68	10.33	12.35	25.95			

DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	No. of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1908.					
Jan. 29	M. C. Complete Fer-tilizer.	2091	Michigan Carbon Co., Detroit.	" "	"
" 29	M. C. Defiance Fer-tilizer.	2095	" "	" "	"
" 29	M. C. General Crop Fertilizer.	2096	" "	" "	"
" 29	M. C. Potato and Tobacco Fertilizer.	2097	" "	" "	"
" 29	Homestead High Grade Garden Vegetable Fertilizer.	2098	" "	" "	"
" 29	High Grade Fruit and Vegetable Fer-tilizer.	2099	" "	" "	"
" 29	Pure Bone Meal	2100	W. A. Freeman Co., Ltd., Hamilton, Ont.	Manufacturer.	Phosphate, blood, bone, tankage, sulphuric acid, muriate of potash, sulphate of ammonia, ni-trate of soda.
" 29	Bone and Potash	2101	" "	"	"
" 29	Tobacco Manure	2102	" "	"	"
" 29	Celery and Early Vegetable Manure	2103	" "	"	"
" 29	Potato Manure	2104	" "	"	"
" 29	Sure Growth Manure	2105	" "	"	"
" 29	Phosphate Powder	2106	" "	"	"
" 29	Tankage Manure	2107	" "	"	"
" 29	Fertilizer	2108	Fowlers Can. Co., Ltd., Hamilton, Ont.	"	Blood, bone and tank residue of hogs and cattle.
" 29	Thomas Phosphate Powder, 17 20	2109	Works H. & E. Albert, London.	Anglo Can. Chem. Co., St. John, N.B.	"
" 30	Thomas Phosphate Powder, 14 16 (ground basic slag).	2110	H. E. Albert Works, London.	" "	"
" 30	Albert Horticultural Manure Brand, A. G.	2111	Chem. Works late H. & E. Albert, Biebrich on Rhine, Germany.	" "	"
Feb. 5	Homestead Corn and Grain Producer.	2112	Michigan Carbon Works, Detroit.	Am. Agr. Chem. Co., Buffalo Sales Dept.	"
" 5	Homestead Dissolved Bone Phosphate.	2113	" "	" "	"
" 5	Fertilizer	2114	London Fertilizer Works, London, Ont.	Manufacturers.	Bones and meat of animals.

FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.										No. of Sample.
	Nitrogen.					Phosphoric Acid.					
	Total including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.		Total.	Total available.	Potash.	Moisture.	Relative value per ton of 2,000 lbs.	
				Insoluble.							
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	§ c.		
Guaranteed contents	1.65-2.47	2-3	6-7	2-3	1-2	9-11	8-10	4-5	19.31	2094	
Contents as found...	1.88	2.28	5.15	3.56	2.37	11-10	8.73	4.32	12.15	2154	
Guaranteed contents	1.65-2.47	2-3	6-7	2-3	1-2	9-11	8-10	2-3	17.31	2095	
Contents as found...	1.96	2.38	5.37	2.71	1.67	9.75	8.08	2.31	13.35	2000	
Guaranteed contents	0.82-1.65	1-2	6-7	2-3	1-2	9-11	8-10	4-5	16.49	2096	
Contents as found...	0.91	1.11	4.50	3.80	1.95	10.25	8.30	4.15	13.65	17.41	
Guaranteed contents	2.06-2.88	2-5	3-5	6-7	3-4	9-11	8-10	3-4	19.70	2097	
Contents as found...	2.31	2.81	4.25	3.22	2.22	9.75	7.53	4.05	11.45	21.28	
Guaranteed contents	2.06-2.88	2-5	3-5	6-7	3-4	9-11	8-10	6-7	22.70	2098	
Contents as found...	2.16	2.62	5.52	1.23	1.25	11.00	9.75	6.31	12.10	25.31	
Guaranteed contents	3.29-4.12	4-5	6-7	2-3	1-2	9-11	8-10	7-8	27.89	2099	
Contents as found...	4.40	5.34	5.50	3.05	1.50	10.05	8.55	6.97	11.10	32.31	
Guaranteed contents	2.47-4.12	3-5				20.25				2100	
Contents as found...	3.29	4.00		13.75	7.75	21.50	13.75		8.60	28.64	
Guaranteed contents	1.65-2.47	2-3				9-10		6-8		2101	
Contents as found...	3.02	3.67	1.22	1.95	2.95	9.12	6.17	6.29	10.10	24.35	
Guaranteed contents	2.47-3.29	3-4				7-9		4-5		2102	
Contents as found...	3.15	3.82	1.12	4.76	3.62	9.50	5.88	5.23	9.80	23.61	
Guaranteed contents	4.12-5.77	5-7				9-10		5-7		2103	
Contents as found...	5.50	6.68	0.85	6.03	2.37	9.25	6.88	4.96	9.15	32.02	
Guaranteed contents	2.47-3.29	3-4				8-10		5-7		2104	
Contents as found...	3.05	3.71	0.87	5.33	3.35	9.55	6.20	5.96	7.45	21.24	
Guaranteed contents	2.88-4.12	3-5	5			8-10		3-4		2105	
Contents as found...	3.43	4.16	0.47	5.93	2.90	9.30	6.40	4.61	6.95	24.23	
Guaranteed contents						13-18				2106	
Contents as found...				11.37	7.37	18.74	11.37		10.30	14.72	
Guaranteed contents	1.65-5.77	2-7				12-15				2107	
Contents as found...	7.08	8.60	0.25	9.50	2.25	12.00	9.75		10.15	35.50	
Guaranteed contents										2108	
Contents as found...	7.06	8.57	0.12	5.33	1.30	6.75	5.45		6.85	28.99	
Guaranteed contents						17.20				2109	
Contents as found...				13.00	5.25	18.25	13.00		Trace	15.88	
Guaranteed contents						14.16				2110	
Contents as found...				12.45	4.30	16.75	12.45		Trace	14.99	
Guaranteed contents	11.90	14.45	11.10			11.10	11.10	15.16	68.94	2111	
Contents as found...	12.07	14.65	11.10	None	Trace	11.10	11.10	15.25	13.95	69.61	
Guaranteed contents	1.65-2.47	2-3	6-7	2-3	1-2	9-11	8-10	2-3	17.31	2112	
Contents as found...	2.66	2.87	6.17	3.53	2.30	12.00	9.70	2.24	9.45	23.26	
Guaranteed contents			10-12	2-3	1-2	13-15	12-11		14.50	2113	
Contents as found...			10.40	2.05	1.92	14.37	12.45		10.90	15.31	
Guaranteed contents										2114	
Contents as found...	4.24	6.36	Trace	8.32	2.00	10.32	8.32		10.50	23.32	

DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	wt. Designation.	No. of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1907.					
Feb.	5 Watch 'Em Grow	2115	Standard Fert. & Chem. Co., Ltd., Smith's Falls	" " "	Nitrate of soda, ammonia, potash and magnesia salts. Bone, superphosphate of lime and bone meal.
"	7 Fertiliser Tankage	2116	Laing Packing and Provision Co., Montreal.	Manufacturers	Bones and offal of hogs, cattle and sheep.
"	7 Dried Blood	2117	" " "	" " "	Blood of hogs, cattle and sheep.
"	13 Ground Bone	2118	The Pidgeon Fertiliser Co., Ltd., Windsor, N.S.	" " "	Nitrate of soda, dried blood and tankage, ground bone, muriate of potash, potash salts, rock phosphate, sulphuric acid and sulphate of ammonia.
"	13 Intense Brand	2119	" " "	" " "	" "
"	13 Potato Manure	2120	" " "	" " "	" "
"	13 Potato Guano	2121	" " "	" " "	" "
"	13 Brunswick Brand	2122	" " "	" " "	" "
"	13 Eureka Phosphate	2123	" " "	" " "	" "
"	14 Swifts Lowell Cereal Fertilizer.	2121	Swifts Lowell Fertilizer Co., Boston, Mass.	" " "	Blood meat, bone, bone black, bone phosphates, nitrate of soda or sulphate of ammonia and sulphate or muriate of potash.
"	11 Empress Brand	2125	" " "	" " "	" "
"	14 Bone Fertilizer.	2126	" " "	" " "	" "
"	14 Animal Brand	2127	" " "	" " "	" "
"	11 Potato Manure	2128	" " "	" " "	" "
"	14 Potato Phosphate	2129	" " "	" " "	" "
"	11 Potato Grower	2130	" " "	" " "	" "
"	11 Swifts Superior Per tilizer.	2131	" " "	" " "	" "
"	14 Lowell Ground Bone	2132	Swifts Lowell Fertilizer Co., Mass.	Manufacturers	" "

FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.										Relative value per ton of 2,000 lbs.	No. of Sample.
	Nitrogen.		Phosphoric Acid.					Potash.	Moisture.			
	Total including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.					
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	% c.			
Guaranteed contents	3.29	4						8			29.08	2115
Contents as found...	4.02	4.88	11.00	0.85	1.55	13.40	11.8	7.13	6.70	35.70		
Guaranteed contents	7.65	9.31				10.46			10.60			2116
Contents as found...	7.56	9.18	5.00	2.50	2.95	10.45	7.50		10.09	33.83		
Guaranteed contents	12.84	15.60							17.11			2117
Contents as found...	13.22	15.95	0.50	0.25	None	0.75	6.75		15.95	43.18		
Guaranteed contents	2.47	3.00				20.00						2118
Contents as found...	2.76	3.37		13.00	11.00	24.00	13.00		4.65	26.98		
Guaranteed contents	2.06	2.50				7.00		1.00				2119
Contents as found...	2.10	2.55	6.05	1.50	0.25	7.80	7.55	3.86	12.40	19.99		
Guaranteed contents	1.65-2.47	2.3				9.10	7.8	5.6			18.91	2120
Contents as found...	2.03	2.45	5.80	0.35	1.55	7.70	6.15	5.31	9.10	20.02		
Guaranteed contents	1.65-2.47	2.3					7.8	2.50			15.81	2121
Contents as found...	1.74	2.11	1.15	2.55	0.37	7.07	6.70	5.57	11.66	19.38		
Guaranteed contents	3.29	4.00				6.00		8.00				2122
Contents as found...	3.12	3.79	5.42	1.00	0.50	6.92	6.42	8.53	12.30	26.89		
Guaranteed contents	2.06	2.50						8.00	1.50		17.30	2123
Contents as found...	2.11	2.57	7.50	1.63	0.62	9.75	9.13	3.84	16.70	21.99		
Guaranteed contents	0.82	1.00				8	7	1			11.79	2124
Contents as found...	0.98	1.19	5.30	1.88	0.82	8.00	7.18	1.23	12.50	13.24		
Guaranteed contents	1.24	1.50			1.60	8	7	2			14.22	2125
Contents as found...	1.29	1.56	5.37	3.88	0.62	9.87	9.25	2.10	6.70	17.44		
Guaranteed contents	1.65	2.00				9	8				17.38	2126
Contents as found...	2.07	2.52	5.00	3.63	0.87	9.50	8.65	3		75.20	54	
Guaranteed contents	2.47	3.00				10	8				21.80	2127
Contents as found...	2.55	3.09	5.32	4.48	0.95	10.75	9.80	4.10	5.30	21.16		
Guaranteed contents	1.65	2.00				8	7	4			17.61	2128
Contents as found...	1.54	1.87	5.10	3.75	0.62	9.47	8.85	4.44	6.35	20.11		
Guaranteed contents	2.47	3.00				9	8	6			23.50	2129
Contents as found...	2.60	2.56	4.80	5.32	0.95	11.07	10.12	6.56	6.40	27.30		
Guaranteed contents	3.29	4.00				7	6	10			28.09	2130
Contents as found...	3.96	4.78	4.17	4.20	0.75	9.12	8.37	10.50	4.50	33.81		
Guaranteed contents	3.70	4.50			1	8	7	10			30.58	2131
Contents as found...	4.09	4.96	4.45	4.22	0.70	9.37	8.67	10.00	7.65	31.16		
Guaranteed contents	2.47	3				25						2132
Contents as found...	2.61	3.19		17.50	7.25	21.75	17.50		4.50	29.84		

DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	No. of Sample.	Manufacturer.	By whom sent.	From what Materials Produced.
1908.					
Feb. 14	Peerless Fertilizer.	2133	New England Fertilizer Co., Boston.	"	Blood, meat, bone, bone black, bone phosphate, nitrate soda or sulphate ammonia and sulphate of potash or muriate of potash.
"	14 Potato Fertilizer.	2134	"	"	"
"	11 New England Corn and Grain.	2135	"	"	"
"	14 N.E. Potato Grower.	2136	"	"	"
"	14 N.E. Ground Bone.	2137	"	"	"
"	14 Essex XXX Fish and Potash.	2138	Essex Fertilizer Co., Boston.	"	Fish meat, bone, bone black, bone phosphate, nitrate of soda or sulphate of ammonia and sulphate or muriate of potash.
"	14 Essex Market Garden and Potato Manure.	2139	"	"	"
"	14 Essex Complete Manure for Potatoes, Roots and Vegetables.	2140	"	"	"
"	14 Essex Ground Bone.	2141	"	"	"
"	14 Bradley's Superphosphates for Orchards.	2142	Am. Agr. Chemical Co., Boston Sales Dept.	"	Bone black, phosphate guano, muriate or sulphate of potash.
"	14 Bradley's Potato Fertilizer.	2143	"	"	Bone black, animal bone, phosphate guano, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate of potash, sulphuric acid.
"	14 Bradley's XL Superphosphate of Lime.	2144	"	"	"
"	14 Bradley's Farmers' New Method Fertilizer.	2145	"	"	"
"	14 Bradley's Fine Ground Bone.	2146	"	"	"
"	14 Bradley's Eclipse Phosphate.	2147	"	"	"

FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.										Moisture.	Relative value per ton of 2,000 lbs.	No. of Sample.
	Nitrogen.					Phosphoric Acid.							
	Total includ- ing that of nitric acid or ammonia if present.	Total calculat- ed as am- monia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.	Potash.					
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	% c.			
Guaranteed contents	0.82	1			1	8	7	1				11.79	2133
Contents as found...	1.04	1.25	5.75	3.30	0.70	9.75	9.05	1.41			4.95	15.69	
Guaranteed contents	1.65	2				8	7	1				17.61	2134
Contents as found...	1.74	2.11	5.57	3.06	0.62	9.25	8.63	4.57			9.10	20.72	
Guaranteed contents	1.24	1.50				8	7	1				14.22	2135
Contents as found...	1.44	1.75	5.55	1.40	1.50	8.45	6.95	2.56			7.70	16.11	
Guaranteed contents	2.47	3				7	6	10				25.30	2136
Contents as found...	2.52	3.06	4.95	0.60	2.45	8.00	5.55	10.94			6.70	26.84	
Guaranteed contents	2.47	3				25	25						2137
Contents as found...	2.51	3.03		14.23	10.87	25.10	14.23				10.35	26.95	
Guaranteed contents	2.06	2.5			1	9	8	5				19.10	2138
Contents as found...	2.14	2.60	7.52	1.36	2.12	11.00	5.88	3.41			7.80	21.84	
Guaranteed contents	2.06	2.5			1	9	8	5				21.10	2139
Contents as found...	2.17	2.63	4.85	3.15	2.75	10.75	8.00	5.51			7.15	23.03	
Guaranteed contents	3.29	4			1	11	10					28.09	2140
Contents as found...	3.61	4.39	4.42	2.75	2.25	9.42	7.17	10.35			6.30	31.63	
Guaranteed contents	2.47	3				23	10					22.80	2141
Contents as found...	2.63	2.20		14.65	9.10	23.75	14.65				5.35	27.26	
Guaranteed contents			11-13	3-4	1-2	15-19	14-17					16.80	214
Contents as found...	trace.	trace.	12.00	1.60	3.25	16.85	13.60				10.70	17.14	
Guaranteed contents	2.06-2.88	2.5-3.5	5-6	3-4	2-3	10-13	8-10	3-4				19.90	2143
Contents as found...	2.24	2.72	6.00	1.75	3.00	10.75	7.75	3.59			11.40	21.23	
Guaranteed contents	2.06-2.88	2.5-3.5	5-6	3-5	2-3	10-13	8-10	1.5-2.5				18.40	2144
Contents as found...	2.27	2.75	6.62	0.55	3.00	10.17	7.17	1.73			12.15	18.90	
Guaranteed contents	1.03-2.50	1.25-3	6-8	2-4	2-3	10-15	8-12	2-3				15.50	2145
Contents as found...	1.48	1.80	6.90	1.95	2.15	11.00	8.85	2.15			13.35	18.20	
Guaranteed contents	2.50-3.25	3-4				21-25							2146
Contents as found...	2.91	3.54		19.50	7.00	26.50	19.50				5.75	33.44	
Guaranteed contents	1.03-2.50	1.25-3.00	6-8	4	2-3	10-15	8-12	2-3				15.50	2147
Contents as found...	1.31	1.60	6.12	73	2.25	11.10	8.85	2.26			6.15	17.68	

DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	No. of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1908.					
Feb.	14 Bradley's Eureka Fertilizer.	2148	Am. Agr. Chemical Co., Manufacturers, Boston Sales Dept.	.....	Bone black, animal bone, phosphate guano, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate potash, sulphuric acid.
"	14 Bradley's Alkaline Bone with Potash.	2149	"	"	"
"	14 Bradley's Complete Manure with 10 per cent Potash.	2150	"	"	"
"	14 Bradley's High Grade Fertilizer with 10 per cent Potash.	2151	"	"	"
"	14 Read's Standard Superphosphate.	2152	"	"	"
"	14 Read's Sure Catch Fertilizer.	2153	"	"	Bone black and phosphate guano, muriate or sulphate potash.
"	14 Read's Fish Bone and Potash.	2154	"	"	Bone black, animal bone, phosphate guano, dried fish, meat, or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate of potash, sulphuric acid.
"	14 Read's Practical Potato Special.	2155	"	"	"
"	14 Read's Vegetable and Vine Fertilizer.	2156	"	"	"
"	14 Read's Potato Manure.	2157	"	"	"
"	14 Read's High Grade Farmers Friend.	2158	"	"	"
"	14 Tucker's Imperial Bone Superphosphate.	2159	"	"	"
"	14 Williams & Clark's American Potato Manure.	2160	"	"	"
"	14 Pacific Potato Special.	2161	"	"	"
"	14 Pacific Noblesque Guano.	2162	"	"	"
"	14 Pacific Fine Ground Bone.	2163	"	"	"

FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.										Relative value per ton of 2,000 lbs.	No. of Sample.
	Nitrogen.					Phosphoric Acid.						
	Total including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.	Potash.	Moisture.			
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	\$ c.		
Guaranteed contents	1 03-2 50	1 25-3 00	6-8	2 4	2-3	10-15	8 12	2-3	.....	15 50	2148
Contents as found.	1 51	1 84	5 97	1 45	3 25	10 67	7 42	2 16	13 80	17 03		
Guaranteed contents	.....	.....	5-7	5 6	1-2	12-15	11-13	2 3	.....	13 80	2149
Contents as found.	.....	.....	6 92	5 58	1 80	11 30	12 50	1 98	8 45	16 96	
Guaranteed contents	3 30-4 13	4-5	4 6	2-4	1-2	7-10	6-8	10-12	.....	24 52	2150
Contents as found.	3 39	4 11	5 85	1 60	1 80	9 25	7 45	9 57	10 15	30 42		
Guaranteed contents	2 40-3 00	3-4	5-6	1 2	1-2	7-10	6-8	10-12	.....	25 56	2151
Contents as found.	2 69	3 26	5 17	2 15	2 10	9 42	7 32	9 84	8 55	28 19		
Guaranteed contents	0 83-1 65	1-2	5-7	3 4	2 3	10-14	8-11	4-5	.....	16 69	2152
Contents as found.	1 16	1 41	5 42	2 71	2 37	10 50	8 13	5 44	6 55	19 58		
Guaranteed contents	.....	.....	6-7	4-5	1-2	11-14	10-12	2-3	.....	13 90	2153
Contents as found.	.....	.....	6 82	4 20	2 10	13 12	11 02	1 87	10 40	15 30	
Guaranteed contents	2-3	2 10-3 60	3-4	1-2	1 2	5-8	4-6	4-6	.....	15 80	2154
Contents as found.	2 30	2 81	5 90	2 35	2 12	10 37	8 25	4 34	14 60	22 46		
Guaranteed contents	0 82-1 55	1-2	2-3	2-3	1-2	5-8	4-6	8-10	.....	15 69	2155
Contents as found.	1 12	1 36	5 25	1 42	2 75	9 42	6 67	9 07	14 00	21 57		
Guaranteed contents	2 06-2 88	2 5-3 5	5-6	3-4	2-3	10-13	8-10	6 7	.....	22 90	2156
Contents as found.	2 58	3 13	6 05	2 13	1 92	10 10	8 18	6 50	13 90	25 45		
Guaranteed contents	2-4-3	3-4	5-6	1-2	1-2	7-10	6-8	10-12	.....	25 56	2157
Contents as found.	2 86	3 47	5 42	1 28	2 55	9 25	6 70	9 84	7 25	28 24		
Guaranteed contents	3 5-4 13	4 5-4-6	4-6	2-4	1-2	7-10	6-8	10-12	.....	29 20	2158
Contents as found.	3 85	4 67	6 00	1 55	1 80	9 35	7 55	9 82	10 40	32 36		
Guaranteed contents	1 03-2 50	1 25-3	6-8	2-4	2 3	10-15	8-12	2-3	.....	15 50	2159
Contents as found.	1 18	1 43	6 50	2 25	2 50	11 25	8 75	2 81	12 40	17 85		
Guaranteed contents	2 06-2 88	2 5-3 5	5-6	3-4	2-3	10-13	8-10	3-4	.....	19 90	2160
Contents as found.	2 16	2 62	5 97	2 73	2 80	11 50	8 70	3 57	11 10	21 92		
Guaranteed contents	2 06-2 88	2 5-3 5	5-6	3-4	2-3	10-13	8-10	3-4	.....	19 90	2161
Contents as found.	2 27	2 75	5 62	5 21	3 82	11 65	8 83	3 47	11 10	22 31		
Guaranteed contents	1 03-2 5	1 25-3 0	6-8	2-4	2-3	10-15	8-12	2-3	.....	15 50	2162
Contents as found.	1 23	1 50	6 15	2 05	2 10	10 30	8 20	2 18	13 35	16 63		
Guaranteed contents	2 5-3 25	3-4	.....	.....	.....	21-23	.....	.....	.....	.....	2163
Contents as found.	2 23	2 70	.....	17 20	8 30	25 50	17 20	.....	5 10	28 99	

DESCRIPTION OF STANDARD SAMPLES OF

Date when advised.	Designation.	No. of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1907.	Feb. 14 Soluble Pacific Guano	2164	Am. Agr. Chem. Co., Manufacturer Boston Sales Dept.	Manufacturer	Bone black, animal bone, phosphate, guano, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate potash, sulphuric acid.
	" 14 Quinnipiac Phosphate for all Crops.	Chicax 2165	"	"	"
	" 14 Quinnipiac Manure.	Potato 2166	"	"	"
	" 14 Quinnipiac Garden Manure.	Market 2167	"	"	"
	" 14 Cumberland phosphate.	Super 2168	"	"	"
	" 14 Cumberland Fertilizer.	Potato 2169	"	"	"
	" 14 Cumberland Ground Bone.	F.V. 2170	"	"	"
	" 14 Standard Fertilizer	2171	"	"	"
	" 14 Standard Special for Potato	2172	"	"	"
	" 14 Darling's Blood, Bone and Potash.	2173	"	"	"
	" 14 Clark's Cove, Great Plant Manure.	2174	"	"	"
	" 14 Highgrade-Fertilizer, with 10 Potash.	2175	"	"	"
	" 21 Croker's General Crop Fertilizer.	2176	Am. Agr. Chem. Co., Buffalo Sales Dept.	"	Bone, char bone, dried blood, tankage, meat, fish, bone phosphate, sulphate of ammonia, nitrate of soda, muriate or sulphate of potash, sulphuric acid.
	" 21 Special Potato Phosphate.	2177	Nova Scotia Fertiliser Co., Halifax, N.S.	"	Bone, char bone, dried blood, tankage, meat, fish, bone phosphate, sulphate of ammonia, nitrate of soda, muriate or sulphate of potash, sulphuric acid.
	" 21 Bone Meal	2178	"	"	"
	" 21 10 Potatoes Phosphate.	2179	"	"	"
	" 14 Ceres Superphosphate	2180	Nova Scotia Fertilizer Co., Halifax, N.S.	Manufacturers	Bone, char bone, dried blood, tankage, meat, fish, bone phosphate, sulphate of ammonia, nitrate of soda, muriate or sulphate of potash, sulphuric acid.

FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.										No. of Sample.	
	Nitrogen.					Phosphoric Acid.						
	Total including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.	Potash.	Moisture.	Relative value per ton of 2,000 lbs.		
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.			
Guaranteed contents	2.06	2.88	2.5	3.5	5.6	3.4	2.3	10.13	8.10	15.25	18.40	2164
Contents as found.	2.00	2.00	2.53	3.5	6.72	1.21	3.37	11.30	7.93	1.68	10.20	19.19
Guaranteed contents	1.03	1.65	3.00	6.8	2.4	2.3	10.15	8.12	2.3	15.50	2165	
Contents as found.	1.12	1.12	4.36	5.80	1.88	2.82	10.50	7.68	3.51	14.65	17.19	
Guaranteed contents	2.5	3.25	3.4	5.6	1.2	2.3	8.11	6.8	5.6	21.20	2166	
Contents as found.	2.13	2.13	2.58	1.00	2.65	3.35	10.00	6.65	5.56	13.00	21.52	
Guaranteed contents	3.30	1.12	4.5	6.8	2.3	1.2	9.13	8.11	7.8	27.42	2167	
Contents as found.	2.16	2.16	2.62	6.15	2.52	2.25	10.22	8.67	7.70	8.50	25.87	
Guaranteed contents	2.06	2.88	2.5	3.5	5.6	3.4	2.3	10.13	8.10	15.25	18.40	2168
Contents as found.	1.53	1.53	1.85	6.92	3.51	2.32	12.75	10.43	1.87	10.60	19.93	
Guaranteed contents	2.06	2.88	2.5	3.5	5.6	3.4	2.3	19.13	8.10	3.4	19.90	2169
Contents as found.	1.74	1.74	2.11	6.35	2.05	2.75	11.17	8.40	3.72	12.25	20.34	
Guaranteed contents	2.5	3.25	3.4	5.6	1.2	2.3	21.23	21.23	5.15	27.46	2170	
Contents as found.	2.38	2.38	2.89	11.93	9.82	24.75	14.93	5.15	27.46	2171		
Guaranteed contents	2.06	2.88	2.5	3.5	5.6	3.4	2.3	10.13	8.10	15.25	18.40	2171
Contents as found.	1.40	1.40	1.70	6.62	2.81	2.32	11.75	9.43	1.77	12.00	18.26	
Guaranteed contents	2.06	2.88	2.5	3.5	3.6	3.4	2.3	10.13	8.10	3.4	17.50	2172
Contents as found.	1.76	1.76	2.14	5.50	3.65	2.35	11.50	9.15	3.66	11.95	20.96	
Guaranteed contents	4.10	5.0	5.6	5.7	2.3	1.2	8.12	7.10	7.8	29.44	2173	
Contents as found.	3.75	3.75	4.50	5.35	2.10	1.70	9.15	7.45	7.12	9.95	29.11	
Guaranteed contents	3.3	4.12	4.5	6.8	2.3	1.2	9.13	8.11	7.8	27.92	2174	
Contents as found.	3.65	3.65	4.44	5.75	2.90	1.87	10.52	8.65	7.87	7.70	30.93	
Guaranteed contents	2.4	3.0	3.4	5.6	1.2	1.2	7.10	6.8	10.12	25.56	2175	
Contents as found.	2.73	2.73	3.30	5.37	1.95	2.05	9.37	7.32	10.29	8.40	28.78	
Guaranteed contents	0.82	1.65	1.2	5.6	2.3	1.2	8.10	7.9	1.2	12.29	2176	
Contents as found.	0.87	0.87	1.05	5.40	2.02	2.06	9.42	7.42	1.31	11.80	13.57	
Guaranteed contents	1.65	2.47	2.3	5.6	2.3	1.2	8.11	6.8	7.9	19.81	2177	
Contents as found.	2.87	2.87	3.49	6.20	1.30	1.60	8.50	7.50	10.13	9.15	29.06	
Guaranteed contents	2.47	3.29	3.4	5.32	15.75	9.50	25.25	15.75	8.20	34.19	2178	
Contents as found.	4.38	4.38	2.5	3.0	15.75	2.3	8.11	6.8	10.12	21.20	2179	
Guaranteed contents	2.06	2.47	2.06	5.85	4.58	1.32	8.75	7.43	10.06	9.65	24.96	
Contents as found.	1.69	1.69	2.3	3.0	1.32	2.3	9.12	7.9	2.3	15.51	2180	
Guaranteed contents	1.65	2.47	2.3	5.6	1.38	1.80	10.40	8.60	4.61	9.90	21.28	
Contents as found.	1.75	1.75	2.13	7.22	1.38	1.80	10.40	8.60	4.61	9.90	21.28	

DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	No. of sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1907.					
Feb.	11 Potato Phosphate	3181	Nova Scotia Fertilizer Co., Halifax, N.S.	Manufacturers	Bone char, bone dried blood, tank- age meat, fish bone phosphate, sulphate of am- monia, nitrate of soda, nitrate or sulphate of pot- ash, sulphuric acid
	14 Tankage	2182	Gibbs Ltd. Toronto and London	"	.....
	22 Soluble Bone	2183	Buffalo Fertilizer Co., Buffalo, N.Y.	"	Ammonia from ani- mal matter, tank- age and blood phosphoric acid from phosphate rock, acidulated and from fine ground bone and the potash from muriate of potash
	22 Extra Bone and Pot- ash.	2184	"	"	" ..
	22 Fish Guano	2185	"	"	" ..
	22 Farmers Choice	2186	"	"	" ..
	22 Ideal Wheat and Corn	2187	"	"	" ..
	22 Celery and Potato Special.	2188	"	"	" ..
Mar.	3 Reid's Superphos- phate	2189	Thomas Reid, St. John, N.B.	"	Calcined bones, old meat, fish offal, kainite, sulphate of ammonia, &c.
	3 Slag	2190	"	Nova Scotia Fertilizer Co., Halifax.	.....
	5 Stockbridge Special Complete Manure for Potatoes and Vegetables.	2191	Bowker Fertilizer Co., Boston.	Manufacturers	Bone, bone-black, phosphatic grain, bone phosphate, dried blood meat or fish, sulphate of ammonia or nitrate of soda, sulphate of pot- ash or muriate of potash and sul- phuric acid.
	5 Bowker's Market Star dew Fertilizer.	2192	"	"	" ..
	5 Bowker's Vermont Phosphate.	2193	"	"	" ..
	5 Bowker's Potato and Vegetable Phos- phate.	2194	"	"	" ..
	5 Bowker's Clean Phos- phate.	2195	"	"	" ..

FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.											No. of Sample.
	Nitrogen.			Phosphoric Acid.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.	
	Total includ- ing that of nitric acid or ammonia if present.	Total calculat- ed as am- monia.	Soluble in water.	Citric soluble.	Insoluble.	Total	Total available.					
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	% c.			
Guaranteed contents	1.65-2.47	2.3	.....	.....	2.3	9-12	7-9	4-5	.....	17.91	2181
Contents as found..	1.68	2.04	8.75	.....	1.30	10.02	8.72	4.82	.....	9.70	21.42
Guaranteed contents	7.42	9.06	.....	.....	.....	13.5	.....	.....	6.9	.....	2182
Contents as found..	7.25	8.81	1.62	6.78	2.35	10.75	8.40	.....	12.15	33.31	.....
Guaranteed contents	.....	.....	11.90	0.28	4.52	.....	.....	.....	.....	15.40	2183
Contents as found..	.....	.....	.....	.....	.....	16.70	12.18	.....	8.20	15.91	.....
Guaranteed contents	.....	.....	.....	.....	.....	.....	10	8	.....	19.00	2184
Contents as found..	0.49	0.60	10.06	1.17	4.20	15.42	11.22	8.11	5.10	24.38	.....
Guaranteed contents	0.82	1	.....	.....	.....	.....	9	2	.....	14.52	2185
Contents as found..	0.98	1.19	6.62	0.93	4.30	11.85	7.55	2.74	12.25	16.13	.....
Guaranteed contents	0.82	1	.....	.....	.....	.....	8	5	.....	16.59	2186
Contents as found..	1.01	1.22	5.75	0.80	3.30	9.85	6.55	6.18	14.40	18.88	.....
Guaranteed contents	1.65	2	.....	.....	.....	.....	9	5	.....	20.51	2187
Contents as found..	1.69	2.06	5.37	1.53	3.75	10.67	6.92	4.84	10.45	19.86	.....
Guaranteed contents	1.65	2	.....	.....	.....	.....	8	10	.....	24.41	2188
Contents as found..	1.72	2.09	4.62	1.40	3.65	9.67	6.02	10.81	13.60	24.84	.....
Guaranteed contents	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2189
Contents as found..	0.69	0.83	2.37	3.20	4.35	9.92	5.57	.....	16.55	10.02	.....
Guaranteed contents	.....	.....	.....	.....	.....	.....	16	.....	.....	17.60	2190
Contents as found..	.....	.....	.....	.....	5.37	17.60	12.23	.....	.....	15.06	.....
Guaranteed contents	3.29	4	.....	.....	.....	.....	7	10	.....	28.09	2191
Contents as found..	3.11	3.77	5.37	1.88	1.25	8.50	7.25	9.69	7.45	29.15	.....
Guaranteed contents	2.47	3	.....	.....	.....	.....	7	6	.....	25.30	2192
Contents as found..	2.72	3.30	4.67	2.06	2.02	8.75	6.73	10.13	6.55	27.85	.....
Guaranteed contents	2.47	3	.....	.....	.....	.....	15	3	.....	21.80	2193
Contents as found..	2.65	3.11	4.92	3.13	2.35	10.40	8.05	4.82	12.80	23.88	.....
Guaranteed contents	1.65	2	.....	.....	.....	.....	9	8	.....	16.71	2194
Contents as found..	1.68	2.04	6.12	2.81	2.77	11.70	8.93	2.10	9.60	19.08	.....
Guaranteed contents	1.65	2	.....	.....	.....	.....	9	8	.....	16.71	2195
Contents as found..	1.74	2.11	5.92	2.86	2.37	11.15	8.78	2.43	11.30	19.31	.....

DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	No. of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1907.					
March 5	Bowker's Square Brand Bone and Potash.	2196	Bowker Fertilizer Co., Boston.	Manufacturers	Bone, bone-black, phosphateguano, bone phosphates, dried blood meat or fish, sulphate of ammonia or nitrate of soda, sulphate of potash or muriate of potash and sulphuric acid.
"	5 Bowker's Farm and Garden Phosphate.	2197	"	"	"
"	5 Bowker's Sure Crop Phosphate.	2198	"	"	"
"	5 Bowker's Potash Bone Phosphate.	2199	"	"	"
"	5 Bowker's 6 Potato Fertilizer.	2200	"	"	"
"	5 Bowker's 10 Manure.	2201	"	"	"
"	5 Bowker's Superphosphate with Potash.	2202	"	"	"
"	5 Bowker's Fresh Ground Bone.	2203	"	"	"
"	5 Bowker's Nitrate of Soda.	2204	"	"	"
"	5 Bowker's Muriate of Potash.	2205	"	"	"
"	5 Bowker's Dissolved Bone-black.	2206	"	"	"
"	7 H. Fertilizer	2207	W. Harris & Co., Toronto	"	Flesh and blood.
"	7 Bone Meal	2208	"	"	Bones
"	9 Imperial Superphosphate.	2209	Provincial Chemical Fertilizer Co., St. John, N.B.	"	"
"	9 Complete Arcostock Potato.	2210	"	"	"
"	9 Bone, Blood and Potash.	2211	"	"	"
"	9 Special Potato Phosphate.	2212	Provincial Chemical Fertilizer Co., St. John, N.B.	Manufacturers	"
"	9 Victor Guano	2213	"	"	"
"	9 Bone Meal	2214	"	"	"
"	10 Virginia Tobacco Fertilizer.	2215	Am. Agr. Chem. Co., Buffalo Sales Dept.	"	Animal matter, mineral phosphates and potash, all treated with sulphuric acid.

FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.										Moisture.	Relative value per ton of 2,000 lbs.	No. of Sample.
	Nitrogen.			Phosphoric Acid.					Potash.				
	Total including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.						
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	%				
Guaranteed contents	1.65	2				7	6	2			14.51	2196	
Contents as found ..	1.65	2.01	6.20	1.82	2.85	10.87	8.02	2.53	7.85	18.44			
Guaranteed contents	1.65	2				9	8	2			16.71	2197	
Contents as found ..	1.71	2.07	6.62	1.96	2.62	11.20	8.58	2.60	8.05	19.30			
Guaranteed contents	0.82	1				9	8	2			13.89	2198	
Contents as found ..	0.91	1.10	5.75	3.13	1.57	10.45	8.88	1.95	11.15	15.86			
Guaranteed contents	0.82	1				8	6	2			11.99	2199	
Contents as found ..	0.98	1.19	3.42	4.38	2.00	9.80	7.80	2.20	14.25	15.05			
Guaranteed contents	0.82	1				7	6	6			15.69	2200	
Contents as found ..	0.84	1.02	5.70	1.85	1.45	9.00	7.55	6.14	10.15	18.31			
Guaranteed contents	0.82	1				6	5	10			18.59	2201	
Contents as found ..	0.81	0.99	4.65	2.67	1.05	8.37	7.32	9.84	9.90	21.43			
Guaranteed contents						11	10	2			13.30	2202	
Contents as found ..						13.05	9.55	2.10	10.00	16.86			
Guaranteed contents	0.78	0.96	5.57	3.98	3.50	22.18						2203	
Contents as found ..	2.47	3				24.30	15.55		4.55	27.52			
Guaranteed contents	2.29	2.79		15.55	8.75					50.42		2204	
Contents as found ..	14.83	18								0.88	49.71		
Guaranteed contents	14.62	17.75								50.00		2205	
Contents as found ..									48.20	2.30	48.20		
Guaranteed contents										15.50		2206	
Contents as found ..									15				
Guaranteed contents	Trace.	Trace.	12.10	2.90	0.25	15.25	15.00			14.05	17.79		2207
Contents as found ..													
Guaranteed contents	7.13	8.66				8.43							2208
Contents as found ..	7.03	8.53	0.20	5.35	2.25	7.80	5.55			8.35	29.30		
Guaranteed contents	1.96	2.38				27.23							2209
Contents as found ..	1.43	1.73		17.05	8.75	25.80	17.05			5.30	25.96		
Guaranteed contents	2.80	3.4							10.3	2.4			2210
Contents as found ..	2.52	3.06	6.75	3.18	2.12	12.05	9.93			8.90	22.86		
Guaranteed contents	3.02	3.67							8.57	9.72		29.42	2210
Contents as found ..	3.09	3.76	4.75	2.17	0.85	7.77	6.92			7.65	29.79		
Guaranteed contents	1.96	2.38							8.69	5.00		21.22	2211
Contents as found ..	1.96	2.38	4.20	4.00	2.00	10.20	8.20			3.70	21.77		
Guaranteed contents	2.55	3.10							8.15	7.20		24.84	2212
Contents as found ..	2.31	2.81	4.67	2.46	0.87	8.00	7.13			9.30	23.80		
Guaranteed contents	1.96	2.38							10.47	3.84		21.63	2213
Contents as found ..	2.03	2.47	4.45	4.78	2.12	11.35	9.23			4.90	21.38		
Guaranteed contents	3.21	3.90				24.40							2214
Contents as found ..	2.66	3.23		13.70	8.95	22.65	13.70			6.15	26.27		
Guaranteed contents	1.65-2.47	2 to 3	6-7	2-3	1-2	9-11	8-10	4-5			19.31	2215	
Contents as found ..	2.67	3.25	4.55	6.55	1.05	12.15	11.10	8.14		2.80	30.20		

DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	No. of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1907.					
Mar. 14	Bilston Basic Stag...	2216	Alfred Hickman Co'y, Bilston, England.	E. E. McNutt, Truro, N.S.	
" 19	Sulphate of Ammonia	2217		Mathias O. Ferland, Berthierville, Que.	
" 19	Celery, Ohio, and Truck Fertilizer.	2218		" "	
" 19	Crocker's H.G. Special Fertilizer.	2219		" "	
" 19	Muriate of Potash...	2220		" "	
" 19	Sulphate of Potash...	2221		" "	
" 19	Eureka Special To- bacco.	2222		" "	
" 20	No. 1 Superphos- phate.	2223	Capleton Chemical Ferti- lizer Co., Buckingham, Que.	Capleton Chemical Ferti- lizer Co., Buckingham, Que.	
" 20	Royal Canadian...	2224	" "	" "	
" 20	Reliance.....	2225	" "	" "	
" 20	Victor.....	2226	" "	" "	
" 20	Leeds Thomas Phos- phate Flour.	2227		Davison Hill, Onslow Station, N.S.	
" 25	Ground Bone	2228		Brackman & Ker Milling Co., Vancouver.	
April 6	Bone Meal.....	2229			
" 7	Dried Tankage.....	2230	Canadian Packing Co., London, Ont.	Themselves.....	Waste general of packing house.
" 9	Fertilizer.....	2231	Joseph O'Mara, Palmer- ston, Ont.	Himself.....	Blood, offal and tankage of hogs.
" 18	Fertilizer 'A'.....	2232	Victoria Chemical Co., Ltd., Victoria, B.C.	Themselves.....	Nitrate of soda, muriate of pot- ash and super- phosphate of lime.
" 18	Fertilizer 'B'.....	2233	" "	"	"
" 18	Fertilizer 'C'.....	2234	" "	"	Muriate of potash and superphos- phate of lime.
" 18	Fertilizer 'D'.....	2235	" "	"	Nitrate of soda, muriate of potash and superphos- phate of lime.
" 18	Superphosphate of Lime.	2236	" "	"	Spent bone, char- and sulphuric acid.
" 18	Nitrate of Soda.....	2237	" "	Imported from Chili.....	
" 18	Sulphate of Potash...	2238	" "	Imported from Germany.....	
" 18	Muriate of Potash...	2239	" "	Imported from Germany.....	

DESCRIPTION OF STANDARD SAMPLES OF

Date when advised.	Designation.	No. of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1907.	" 1. Homestead, A. Bone Black Fertilizer.	2240	Michigan Carbon Works, Detroit.	Themselves	Dissolved bone, black mineral phosphates sulphate of ammonia, acidulated tankage, sulphate or muriate of potash
"	" 18 Homestead High G. Garden and Vegetable Fertilizer.	2241	" "	" "	" "
"	" 18 Homestead Sugar Bee Fertilizer.	2242	" "	" "	" "
"	" 18 A-I Potash Fertilizer.	2243	" "	" "	" "
"	" 18 Desiccated Bone	2244	" "	" "	Animal bone
"	" 23 Universal Fertilizer.	2245	Ontario Seed Co., Waterloo, Ont.	Manufacturers	Sulphate of potash
"	" 25 Engrais Chimique	2246	F. Camac Marquis, Quebec.	Dr. Fiset	Green bones and dead animals.
"	" 30 Bone Meal	2247	Portland Seed Co., Portland, Oregon.	J. R. Rennie, Vancouver, B. C.	" "
"	" 30 Bone Meal	2248	" "	M. J. Henry, Vancouver, B. C.	" "
May	" 5 General Blood, Bone and Potash Fertilizer.	2249	Michigan Carbon Works, Detroit.	Am. Amalgated Chem. Co., Buffalo, N. Y.	Blood, bone and tankage mineral phosphates and potash.
"	" 5 Best Potato and Garden Blood and Tankage Fertilizer	2250	" "	" "	" "

FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.										No. of Sample.
	Nitrogen.					Phosphoric Acid.					
	Total including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.	Potash.	Moisture.	Relative value per ton of 2,000 lbs.	
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	8 c.	
Guaranteed contents	2.5						8.00	1.50		18.80	2240
Contents as found...	2.52	3.06	6.0	2.23	2.07	10.30	8.23	2.16	15.25	21.00	
Guaranteed contents	3.5						8.00	5.00		14.99	2241
Contents as found...	2.06	2.30	6.00	2.70	1.80	10.50	8.70	5.27	14.00	22.98	
Guaranteed contents	1.5						9.00	2.00		17.00	2242
Contents as found...	1.36	1.65	6.25	2.15	2.75	11.15	8.46	3.16	10.35	18.47	
Guaranteed contents	1.0						8.0	3.00		15.20	2243
Contents as found...	0.81	1.00	6.12	1.58	2.67	10.37	7.70	3.03	13.15	15.67	
Guaranteed contents	1.5						25.00			32.30	2244
Contents as found...	1.22	1.48	—	16.75	14.50	31.25	16.75		1.50	26.68	
Guaranteed contents	3.29	4.12	4-5	6-7	2-3	1-2	9-11	8-10	7-8	27.89	2245
Contents as found...	3.15	3.94	8.17	0.68	1.15	11.00	9.85	5.34	8.00	26.95	
Guaranteed contents											2246
Contents as found...	3.14	3.81	—	13.10	8.50	21.60	43.10		15.80	27.00	
Guaranteed contents	3.62						20.40				2247
Contents as found...	3.58	4.35	None.	17.00	5.00	22.00	17.00		6.25	31.66	
Guaranteed contents	3.62						20.40				2248
Contents as found...	2.96	3.59	None.	16.00	5.50	21.50	16.00		6.25	28.72	
Guaranteed contents	1.65	2.00	6-7	2-3	1-2	9-11	8-10	10-11		25.31	2249
Contents as found...	2.31	2.81	7.02	1.68	1.50	10.00	8.70	9.92	9.75	28.44	
Guaranteed contents	2.06	2.50	6-7	2-3	1-2	9-11	8-10	6-7		22.70	2250
Contents as found...	2.13	2.58	5.87	3.12	2.01	11.00	8.99	7.30	7.30	25.62	

