

DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
CENSUS OF INDUSTRY
MINING, METALLURGICAL AND CHEMICAL BRANCH
OTTAWA - CANADA

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ANNUAL INDUSTRY REPORT - CHEMICALS AND ALLIED PRODUCTS GROUP

THE FERTILIZER MANUFACTURING INDUSTRY, 1938.

Production by plants in Canada engaged principally in the manufacture of fertilizers was valued at \$12,841,300 in 1938, an improvement of 25 per cent over the total of \$10,266,953 reported for 1937. In addition, there was a production of 195,351 tons of fertilizer materials valued at \$4,308,024 in 1938 and 255,549 tons at \$5,745,806 in 1937, by establishments which were classified to other industrial groups.

During 1938 only 26 plants in Canada produced fertilizers as their major products and of these 10 were in Ontario, 4 in British Columbia, 5 in Quebec, 3 in New Brunswick, 3 in Nova Scotia and 1 in Prince Edward Island. Capital employed increased to \$17,155,945 from \$16,689,720 in 1937; the number of workers rose to 1,232 from 1,023, and salaries and wages advanced to \$1,560,873 from \$1,447,625.

The total production of mixed fertilizers from all industries amounted to 238,634 tons worth \$7,426,494 at the factories in 1938, this total including 284,735 tons at \$7,278,006 made by plants in the fertilizer manufacturing industry and 3,899 tons at \$148,488 made in the meat-packing plants and glue factories. In 1937 the corresponding total was 243,802 tons at \$6,130,523 and in 1936 the output amounted to 175,703 tons at \$4,222,587.

Superphosphate was manufactured in 1938 by Canadian Industries Limited at Beloeil, P.Q., Hamilton, Ont., and New Westminster, B.C., and by the Consolidated Mining and Smelting Company of Canada, Limited at Trail, B.C.; the output figures are not published separately since there were only two producers.

Ammonium sulphate was made by the Consolidated Mining and Smelting Company of Canada, Limited, at Trail, B.C., and also by the following coke manufacturers - Algoma Steel Corporation Limited at Sault Ste. Marie, Ont.; Dominion Steel and Coal Corporation, Ltd., at Sydney, N.S.; Hamilton By-Product Coke Ovens, Limited, at Hamilton, Ont.; Montreal Coke & Manufacturing Company at Montreal, P.Q., and The Steel Company of Canada, Limited, at Hamilton, Ont. Production during the calendar year 1938 amounted to 119,519 tons; imports totalled 5,910 tons, and exports amounted to 77,191 tons. Ammonium phosphate was made only by the Consolidated Mining and Smelting Company of Canada, Limited, at Trail, B.C.

A special survey of the fertilizer trade in Canada during the fertilizer year ended June 30, 1939, has been completed by the Dominion Bureau of Statistics and the results have been published in a special report. Summary figures on the sales of fertilizers have been reprinted in Tables 13 and 14 of this bulletin. A total of 333,967 tons of mixtures and materials was sold in Canada during the year ended June 30, 1939, compared with 323,376 tons during the preceding twelve-month period.

202-14

Table 1 - PRINCIPAL STATISTICS OF THE FERTILIZER MANUFACTURING INDUSTRY, 1929 - 1938.

Year	No. of plants	Capital employed	Average number of employees	Salaries and wages	Cost of fuel and electricity at works	Cost of materials at works	Gross selling value of products at works
		\$		\$	\$	\$	\$
1929 ...	12	2,991,783	251	265,650	17,386	1,450,253	2,258,780
1930 ...	14	4,139,498	261	262,928	18,889	1,647,478	2,504,573
1931 ...	18	15,615,119	636	848,256	44,972	3,053,016	4,251,840
1932 ...	19	17,083,478	748	1,097,812	49,010	2,616,333	4,006,187
1933 ...	20	15,918,787	667	776,647	322,849	2,796,726	4,286,051
1934 ...	20	15,452,733	776	946,178	348,716	3,647,660	5,467,154
1935 ...	19	15,646,828	996	1,239,337	344,131	4,362,594	6,075,616
1936 ...	20	14,800,141	930	1,196,286	443,627	4,996,084	7,075,831
1937 ...	20	16,689,720	1,023	1,447,625	506,965	6,693,841	10,266,953
1938 ...	26	17,155,945	1,232	1,560,873	654,359	8,344,853	12,841,300
% change 1938 from 1937 ...		+ 2.8	+20.4	7.7	+29.1	+24.6	+25.0

NOTE - Profits or losses cannot be calculated from the above figures as data are not available for general expense items such as interest, rent, depreciation, taxes, insurance, advertising, etc.

Table 2 - PRINCIPAL STATISTICS, BY PROVINCES, 1937 and 1938.

Province	No. of plants	Capital employed	Average number of employees	Salaries and wages	Cost of fuel and electricity at works	Cost of materials at works	Gross selling value of products at works
		\$		\$	\$	\$	\$
<u>1937</u>							
New Brunswick ..	3	890,240	90	102,945	2,180	985,207	1,239,424
Quebec	3	1,274,856	105	157,545	685	925,043	1,495,089
Ontario	7	3,183,745	326	337,714	13,657	2,241,446	3,788,623
British Columbia	4	10,556,992	392	728,651	485,156	1,872,040	2,816,481
Prince Edward Island	1)						
Nova Scotia ...	2)	783,887	110	120,770	5,287	670,105	927,386
CANADA ...	20	16,689,720	1,023	1,447,625	506,965	6,693,841	10,266,953
<u>1938</u>							
New Brunswick ..	3	1,068,839	83	118,111	3,672	1,118,615	1,444,951
Quebec	5	2,335,325	174	213,567	4,330	1,636,164	2,346,396
Ontario	10	3,745,994	390	439,178	23,787	2,629,553	3,844,364
British Columbia	4	9,141,710	471	679,834	616,489	2,046,124	3,886,296
Prince Edward Island	1)						
Nova Scotia ...	3)	864,077	114	110,183	6,081	914,397	1,319,293
CANADA	26	17,155,945	1,232	1,560,873	654,359	8,344,853	12,841,300

Table 3 -- CAPITAL EMPLOYED, BY PROVINCES, 1937 and 1938.

Province	Present value of	Inventory value of	Operating capital	TOTAL CAPITAL EMPLOYED
	land, buildings, machinery and equipment	Materials, supplies and finished products on hand, and stocks in process	(cash, bills and accounts receiv- able, etc.)	
	\$	\$	\$	\$
<u>1937</u>				
New Brunswick ..	266,140	384,113	239,987	890,240
Quebec	518,769	439,008	317,079	1,274,856
Ontario	1,146,492	1,300,523	736,730	3,183,745
British Columbia	9,674,465	747,351	135,176	10,556,992
Other provinces.	133,734	212,185	437,968	783,887
CANADA ...	11,739,600	3,083,180	1,866,940	16,689,720
<u>1938</u>				
New Brunswick ..	338,522	295,378	434,939	1,068,839
Quebec	884,900	801,164	649,261	2,335,325
Ontario	1,287,222	1,358,307	1,100,465	3,745,994
British Columbia	8,402,155	181,397	558,158	9,141,710
Other provinces.	182,948	262,305	418,824	864,077
CANADA ...	11,095,747	2,898,551	3,161,647	17,155,945

Table 4 -- EMPLOYEES, SALARIES AND WAGES, BY PROVINCES, 1937 and 1938.

Province	Average number of employees					Salaries	Wages	TOTAL SALARIES and WAGES
	On salaries		On wages		TOTAL			
	Male	Female	Male	Female				
					\$	\$	\$	
<u>1937</u>								
New Brunswick ..	15	2	73	..	90	37,611	65,334	102,945
Quebec	29	14	62	..	105	92,326	65,219	157,545
Ontario	81	34	211	..	326	144,943	192,771	337,714
British Columbia	64	10	317	1	392	160,206	568,445	728,651
Other provinces.	24	4	82	..	110	57,788	62,982	120,770
CANADA ...	213	64	745	1	1,023	492,874	954,751	1,447,625
<u>1938</u>								
New Brunswick ..	14	2	67	..	83	34,991	83,120	118,111
Quebec	36	8	130	..	174	96,541	117,026	213,567
Ontario	127	47	216	..	390	247,564	191,614	439,178
British Columbia	66	13	387	5	471	157,606	522,228	679,834
Other provinces.	16	7	91	..	114	45,065	65,118	110,183
CANADA ...	259	77	891	5	1,232	581,767	979,106	1,560,873

Table 5 - WAGE-EARNERS, BY MONTHS, 1937 and 1938. (On the last day of each month or nearest work day)

Month	1 9 3 7			1 9 3 8		
	Male	Female	TOTAL	Male	Female	TOTAL
January	535	...	535	852	5	857
February	520	1	521	866	5	871
March	666	1	667	923	5	928
April	968	1	969	1,422	5	1,427
May	1,329	1	1,330	1,321	6	1,327
June	680	1	681	710	5	715
July	618	...	618	651	5	656
August	653	...	653	702	5	707
September	726	...	726	712	6	718
October	667	...	667	812	5	817
November	706	...	706	850	6	856
December	828	1	829	860	4	864
AVERAGE	745	1	746	891	5	896

Table 6 - REGULAR HOURS WORKED PER WEEK BY WAGE-EARNERS, 1938. (Overtime not included)

Regular hours worked per week	Per cent of wage-earners	Regular hours worked per week	Per cent of wage-earners
30 hours or less	2.2	51 - 54 hours	8.1
31 - 43 hours	43.7	55 hours	7.4
44 hours	6.1	56 - 64 hours	2.2
45 - 47 hours	2.1	65 hours and over	1.4
48 hours	23.6		
49 - 50 hours	3.2		

Table 7 - FUEL AND ELECTRICITY USED, 1937 and 1938.

Kind	Unit of measure	1 9 3 7		1 9 3 8	
		Quantity	Cost at works	Quantity	Cost at works
			\$		\$
Anthracite coal	short ton	28	400	32	423
Bituminous coal - Canadian ..	short ton	3,852	18,504	560	2,580
Imported ..	short ton	1,062	6,885	1,196	7,464
Coke	short ton	7	83	5	62
Gasoline	Imp. gal.	3,063	704	34,249	7,194
Fuel oil	Imp. gal.	356	116	1,680	135
Other fuel	xxx	...	...	...	148
Electricity purchased	K. W. H.	300,646,986	480,273	412,549,998	636,353
TOTAL .....	\$	...	506,965	...	654,359

Table 8 - POWER EQUIPMENT, 1937 and 1938.

	1 9 3 7		1 9 3 8	
	Number of units	Total rated horse power	Number of units	Total rated horse power
Steam engines and steam turbines ..	1	10	1	10
Gasoline, gas and oil engines ....	...	...	...	...
Total primary equipment	1	10	1	10
Electric motors operated by purchased power	836	23,273	978	26,329
TOTAL	837	23,283	979	26,339
Stationery boilers	1	1	1	1

Table 9 - MATERIALS USED IN THE FERTILIZER MANUFACTURING INDUSTRY, 1937 and 1938.

Materials	1 9 3 7		1 9 3 8	
	Quantity	Cost at works	Quantity	Cost at works
	Short tons	\$	Short tons	\$
Ammonium phosphate	2,674	135,834	2,973	156,421
Ammonium sulphate (sulphate of ammonia) ..	22,284	578,436	27,769	764,394
Bone char	849	16,833	480	12,193
Bone meal and bone flour	157	4,573	212	5,538
Calcium cyanamide (cyanamid)	4,145	117,889	5,501	171,267
Calcium nitrate and nitrochalk	733	20,588	582	16,020
Dried blood	408	20,790	783	32,697
Fish meal or scrap	419	14,523	481	17,033
Lime or land plaster	3,995	13,855	4,246	21,119
Kainite and potash manure salts	75	2,500	75	2,500
Phosphate rock	101,704	726,572	102,125	765,816
Potassium chloride (muriate of potash) ..	28,899	795,733	37,174	1,068,820
Potassium nitrate (nitrate of potash) ..	624	32,421	637	33,426
Potassium sulphate (sulphate of potash) ..	3,925	142,312	5,866	220,512
Sodium nitrate (nitrate of soda)	8,314	221,648	10,754	290,452
Sulphuric acid, 66° Bé	172,570	1,601,144	161,829	1,579,949
Superphosphate, 16%	22,190	209,511	12,750	139,239
Superphosphate, 20%	114,181	1,403,576	166,656	2,027,186
Superphosphate, 45%	1,430	48,156	837	32,274
Tankage	1,374	36,517	2,355	71,036
Whale meat, bone and blood	139	5,003	254	7,961
All other materials .....	...	116,065	...	379,834
Containers and shipping materials .....	...	429,362	...	529,166
TOTAL .....	...	6,693,841	...	8,344,853

Table 10 - PRODUCTS OF THE FERTILIZER MANUFACTURING INDUSTRY, CALENDAR YEARS 1937 and 1938.

NOTE - Figures in this table are for the Fertilizer Manufacturing Industry, which includes only the concerns which were engaged chiefly in the manufacture of fertilizers (see Directory). Some fertilizers were made also in other industries; for the total output of mixed fertilizers in Canada, see Table 11.

Products	1 9 3 7		1 9 3 8	
	Quantity	Selling value at works	Quantity	Selling value at works
	Short tons	\$	Short tons	\$
Mixed fertilizers	223,716	5,593,964	284,735	7,278,006
Superphosphate, ammonium phosphate and ammonium sulphate (completely manufactured) (1)	192,800	3,489,765	217,438	4,329,934
Superphosphate, milled and screened only	45,530	861,509	47,856	807,258
Ammonium sulphate, milled and screened only	1,925	65,243	2,856	90,285
Muriate of potash, milled and screened only	3,372	120,730	4,956	158,746
Nitrate of soda, milled and screened only	1,915	66,067	2,691	80,133
All other products .....	...	69,675	...	96,938
TOTAL .....	...	10,266,953	...	12,841,300

(1) Superphosphate is manufactured in Canada by two companies only, and ammonium phosphate and ammonium sulphate are manufactured by only one company in this industry, hence the production figures are not shown separately.

Table 11 - TOTAL PRODUCTION OF MIXED FERTILIZERS IN CANADA, FROM ALL INDUSTRIAL GROUPS, CALENDAR YEARS 1921 - 1938.

NOTE - Figures in this table represent the total Canadian production of mixed fertilizers, regardless of the industries in which produced.

Calendar Year	Quantity	Selling value at works	Calendar Year	Quantity	Selling value at works
	Tons	\$		Tons	\$
1921	46,900	2,399,855	1930	78,158	2,548,226
1922	40,843	1,813,136	1931	113,632	3,247,694
1923	37,587	1,366,343	1932	95,857	2,447,407
1924	38,126	1,539,003	1933	106,421	2,777,702
1925	47,076	1,663,129	1934	138,750	3,517,193
1926	56,888	2,043,093	1935	145,844	3,442,017
1927	72,112	2,552,421	1936	175,703	4,222,587
1928	76,180	3,017,648	1937	243,802	6,130,523
1929	75,164	3,098,567	1938	288,634	7,426,494

Table 12 - IMPORTS INTO CANADA and EXPORTS OF FERTILIZERS AND FERTILIZER MATERIALS, CALENDAR YEARS 1937 and 1938.

	Unit of measure	1 9 3 7		1 9 3 8	
		Quantity	Value	Quantity	Value
		\$		\$	
IMPORTS -					
Tankage	Ton	1,342	37,058	1,598	42,564
Bone dust, charred bone, bone ash, bone meal, and bone flour	Ton	2,102	74,195	2,411	77,280
Fish offal or refuse	Ton	609	23,278	955	59,289
Ammonium sulphate	Ton	3,230	82,440	5,910	156,540
Basic slag, crushed or ground .	Ton	11,962	84,683	10,644	89,780
Kainite, and other German potash salts	Ton	627	12,468	120	3,850
Potash, muriate of, crude	Ton	41,245	1,006,842	48,389	1,108,897
Potash, sulphate of, crude ...	Ton	5,501	155,390	6,099	173,859
Soda, nitrate of	Ton	28,132	728,365	34,568	918,701
Superphosphate	Ton	100,726	952,775	114,357	1,092,859
Fertilizers, compounded or manufactured, not elsewhere specified	Ton	12,002	342,398	8,758	216,378
Fertilizers, unmanufactured (from April 1938)	Ton	...	...	5,376	111,665
EXPORTS -					
Tankage	Ton	15,568	508,948	14,013	353,009
Bone dust and meal	Ton	1,336	31,040	345	9,715
Fish offal or refuse	Ton	662	17,870	1,168	53,086
Ammonium sulphate	Ton	56,486	1,212,258	77,191	1,697,204
Cyanamide	Ton	146,221	3,264,043	138,477	3,143,238
Fertilizers, manufactured ...	Ton	70,056	2,123,863	65,910	2,225,744

Table 13 - TOTAL SALES IN CANADA OF FERTILIZER MATERIALS and MIXED FERTILIZERS FOR THE YEARS ENDED JUNE 30, 1938 and 1939. (Short tons)

Province	Fertilizer Materials		Mixed Fertilizers	
	1938	1939	1938	1939
Prince Edward Island	12,923	12,725	8,692	8,124
Nova Scotia	9,416	12,147	22,444	22,706
New Brunswick	16,058	14,554	22,561	23,084
Quebec	24,878	21,126	49,118	55,648
Ontario	28,812	28,072	105,101	114,061
Manitoba, Saskatchewan and Alberta ..	9,691	7,287	741	1,106
British Columbia	4,996	5,166	7,945	8,161
CANADA	106,774	101,077	216,602	232,890

Table 14 - SALES OF FERTILIZERS IN CANADA, EXCEPT FOR MANUFACTURING PURPOSES, DURING THE YEAR ENDED JUNE 30, 1939.

(Short tons)

Fertilizers	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba, Saskatch- ewan and Alberta	British Columbia	TOTAL SOLD IN CANADA
Nitrate of soda	565	3,326	1,734	388	628	44	185	6,870
Sulphate of ammonia	1,899	1,253	1,659	1,468	1,171	135	815	8,400
Cyanamide	1	596	9	65	941	...	100	1,712
Nitrochalk	13	4	1	3	...	...	...	21
Calcium nitrate .....	...	48	...	...	1	...	...	49
Bone phosphate .....	...	29	2	46	64	...	45	186
Superphosphate	7,640	3,313	7,488	13,823	20,111	86	1,260	53,721
Natural phosphate rock .....	...	...	...	15	...	...	1	16
Basic slag .....	...	3,192	654	3,283	2	...	88	7,219
Bone meal or bone flour	1	50	29	...	637	30	382	1,129
Muriate of potash	2,606	293	2,682	1,401	1,294	3	364	8,643
Sulphate of potash .....	...	...	107	187	132	1	107	534
Tankage .....	...	2	36	...	247	...	106	391
Sheep manure .....	...	41	2	130	396	...	86	655
Dried blood .....	...	...	...	...	120	50	80	250
Whale products .....	...	...	125	...	...	...	230	355
Fish meal .....	...	...	...	...	1	...	646	647
Ammonium phosphate .....	...	...	26	1	1,443	6,932	575	8,977
Other fertilizer materials ...	...	...	...	316	834	6	96	1,302
Total Fertilizer Materials ..	12,725	12,147	14,554	21,126	28,072	7,227	5,166	101,077
Total Mixed Fertilizers	8,124	22,706	23,084	55,648	114,061	1,106	8,161	232,890
GRAND TOTAL - 1939	20,849	34,853	37,628	76,774	142,133	8,393	13,327	333,967
GRAND TOTAL - 1938	21,615	31,860	38,619	73,996	133,913	10,452	12,941	323,376

DIRECTORY OF FIRMS INCLUDED IN THE FERTILIZER MANUFACTURING INDUSTRY, 1938.

NOTE - This Directory gives only the names of the firms which have been included in the Fertilizer Manufacturing Industry, and is not intended to be a complete list of the concerns which manufacture mixed fertilizers or fertilizer materials.

Names of Firms

Location of Plants

PRINCE EDWARD ISLAND -

Island Fertilizer Company Limited

Charlottetown

NOVA SCOTIA -

Canadian Industries Limited

Pier 9, Halifax

Colonial Fertilizer Company

Nesbit Street, Windsor

Cornwallis Fertilizer Company

Port Williams

NEW BRUNSWICK -

Canada Packers Limited (Fertilizer Division)

Bayside Drive, East Saint John

International Fertilizers Limited

East Saint John

Summers Fertilizer Company, Inc.

Prince William Street, St. Stephen

QUEBEC -

Agricultural Chemicals Limited

Chambly

Canada Packers Limited

6000 St. Patrick Street, Montreal

Canadian Industries Limited

Beloeil

International Fertilizers Limited

National Harbour Board, Shed 29,

Quebec

Saguenay Fertilizers Company

Rivière du Moulin, Chicoutimi

ONTARIO -

Agricultural Chemicals Limited

Marsh Street, Port Hope

Canada Packers Limited

St. Clair Avenue West, Toronto

Canadian Industries Limited

King Street East, Chatham

Canadian Industries Limited

Burlington Street, Hamilton

Grose Fertilizers & Chemicals Limited

4004 Dundas Street West, Toronto

Lincoln Supply Company

2 Race Street, St. Catharines

Port Dover Fertilizers

Port Dover

Scottish Fertilizers Limited

Welland

Stone, William, Sons, Limited, and

National Fertilizers Limited

Ingersoll

Witts Fertilizer Works

Norwich

BRITISH COLUMBIA -

Buckerfields, Limited

New Westminster

Canadian Industries Limited

New Westminster

Consolidated Mining and Smelting Company of

Canada, Limited

Trail

Globe Fertilizer Company Limited

Foot Gcompton Road, Vancouver.

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