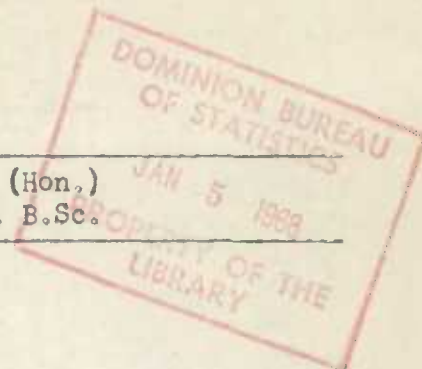


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DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
MINING, METALLURGICAL AND CHEMICAL BRANCH
OTTAWA - CANADA

Dominion Statistician: R. H. Coats, LL.D., F.R.S.C., F.S.S. (Hon.)
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CHEMICALS AND ALLIED PRODUCTS

THE FERTILIZER MANUFACTURING INDUSTRY, 1934.

Production from plants in Canada engaged primarily in the manufacture of fertilizers was valued at \$5,467,154 in 1934 compared with \$4,286,051 in 1933. In addition, fertilizer materials such as calcium cyanamide, ammonium sulphate, animal tankage, fish fertilizers, etc., were made in establishments which have been classified under other industries; in 1934 the production of these commodities totalled 155,511 tons valued at \$3,018,148 at the works as against 84,514 tons worth \$1,702,529 in 1933.

Only 20 plants in Canada produced fertilizers as their major product during 1934; 7 were in Ontario, 3 in New Brunswick, 2 in Nova Scotia, 3 in British Columbia, 4 in Quebec, and 1 in Prince Edward Island. Capital employed in these plants declined slightly to \$15,452,733 in 1934 from \$15,918,787 but the number of employees increased to 776 from 667 in 1933. Salaries and wages advanced to \$946,178 from \$776,647 in 1933.

The total production of mixed fertilizers in Canada was 138,750 tons worth \$3,517,193 at the factories; this total includes 125,328 tons at \$3,148,379 made in fertilizer works and 13,422 tons at \$368,814 made in slaughtering and meatpacking plants and in glue factories. In 1933 the corresponding total was 106,421 tons at \$2,777,702 and in 1932, 95,857 tons at \$2,447,407.

Superphosphate was actually manufactured by 2 companies but in 4 different plants, one at New Westminster, B.C., one at Trail, B.C., one at Hamilton, Ont., and one at Beloeil, P.Q. Production figures cannot be published separately.

Imports and exports of fertilizer materials are shown in Table 12.

The Bureau has made a special survey of the Fertilizer Trade in Canada for the year ended June 30, 1934, and has issued a pamphlet giving details of actual sales in Canada by classes and by provinces. The pamphlet may be obtained free upon request to the Dominion Bureau of Statistics, Ottawa. Summary information as to sales of fertilizers has been reprinted in Tables 13 and 14 of this bulletin.

Table 1 - PRINCIPAL STATISTICS OF THE FERTILIZER MANUFACTURING INDUSTRY, 1920 - 1934.

Years	No. of plants	Capital employed	Average number of employees	Salaries and wages	Cost of materials at works	Selling value of products at works	Value added by manufacturing
		\$		\$	\$	\$	\$
1920	16	3,839,923	402	437,438	2,388,818	3,788,027	1,399,209
1921	15	3,209,240	274	369,653	1,696,205	2,677,735	981,350
1922	17	3,935,467	343	348,879	1,098,230	1,981,418	883,188
1923	18	3,616,001	329	310,441	831,470	1,487,244	655,774
1924	14	2,072,488	166	159,310	730,158	1,277,145	546,987
1925	13	2,095,608	201	205,173	1,045,294	1,437,787	392,493
1926	12	1,891,054	221	210,427	1,047,641	1,449,589	401,948
1927	12	1,998,811	233	224,564	1,200,030	1,844,032	644,002
1928	12	2,131,905	251	281,109	1,446,800	2,189,986	743,186
1929	12	2,991,783	251	265,650	1,450,253	2,258,780	808,527
1930	14	4,139,498	261	262,928	1,647,478	2,504,573	857,095
1931	18	15,615,119	636	848,256	3,053,016	4,251,840	1,198,824
1932	19	17,083,478	748	1,097,812	2,616,333	4,006,187	1,389,854
1933	20	15,918,787	667	776,647	2,796,726	4,286,051	1,489,325
1934	20	15,452,733	776	946,178	3,647,660	5,467,154	1,819,494

Table 2 - PRINCIPAL STATISTICS, BY PROVINCES, 1933 and 1934.

Provinces	No. of plants	Capital employed	Average number of employees	Salaries and wages	Cost of materials at works	Selling value of products at works	Value added by manufacturing
		\$		\$	\$	\$	\$
<u>1933</u>							
New Brunswick	4	605,253	64	67,969	376,252	590,279	214,027
Quebec	3	808,988	41	66,818	367,736	501,871	134,135
Ontario	7	2,352,696	187	181,768	860,945	1,379,857	518,912
British Columbia	3	11,322,064	303	398,927	861,139	1,331,154	470,015
Prince Edward Island	1)						
Nova Scotia	2)	829,786	72	61,165	330,654	482,890	152,236
CANADA	20	15,918,787	667	776,647	2,796,726	4,286,051	1,489,325
<u>1934</u>							
New Brunswick	3	639,406	73	66,763	347,365	560,972	213,607
Quebec	4	1,175,309	66	79,282	523,308	763,917	240,609
Ontario	7	2,001,999	205	228,271	1,025,049	1,683,751	658,702
British Columbia	3	10,898,300	362	509,912	1,333,334	1,874,121	540,787
Prince Edward Island	1)						
Nova Scotia	2)	737,719	70	61,950	418,604	584,393	165,789
CANADA	20	15,452,733	776	946,178	3,647,660	5,467,154	1,819,494

Table 3 - CAPITAL EMPLOYED, BY PROVINCES, 1933 and 1934.

Provinces	Present value	Inventory value	Inventory	Operating	TOTAL CAPITAL EMPLOYED
	of lands, build- ings, machinery and equipment	of materials on hand, stocks in process, fuel and miscellaneous supplies on hand	value of finished products on hand	capital (cash, bills and accounts re- ceivable, etc.)	
	\$	\$	\$	\$	\$
1933					
New Brunswick	208,037	90,784	116,224	190,208	605,253
Quebec	359,269	192,893	39,867	216,959	808,988
Ontario	909,003	605,565	239,888	598,240	3,352,696
British Columbia ..	8,861,746	1,090,705	1,028,479	341,134	11,322,064
Other provinces ..	256,425	136,455	15,014	421,892	829,786
CANADA	10,594,480	2,116,402	1,439,472	1,768,433	15,918,787
1934					
New Brunswick	202,615	70,240	113,815	252,736	639,406
Quebec	546,840	277,624	76,626	274,219	1,175,309
Ontario	700,786	471,775	180,446	648,992	2,001,999
British Columbia..	9,046,437	502,120	1,259,731	90,012	10,898,300
Other provinces ..	233,248	109,369	42,468	352,634	737,719
CANADA	10,729,926	1,431,128	1,673,086	1,618,593	15,452,733

Table 4 - EMPLOYEES, SALARIES AND WAGES, BY PROVINCES, 1933 and 1934.

Provinces	AVERAGE NUMBER OF EMPLOYEES					Salaries	Wages	TOTAL SALARIES AND WAGES
	On salaries		On wages		TOTAL			
	Male	Female	Male	Female				
					\$	\$	\$	
1933								
New Brunswick	8	1	55	...	64	23,200	44,769	67,969
Quebec	13	3	25	...	41	34,321	32,497	66,818
Ontario	49	10	128	...	187	98,455	83,313	181,768
British Columbia ..	54	7	242	...	303	113,742	285,185	398,927
Other provinces ..	18	3	51	...	72	28,864	32,301	61,165
CANADA	142	24	501	...	667	298,582	478,065	776,647
1934								
New Brunswick	10	1	62	...	73	24,638	42,125	66,763
Quebec	23	4	39	...	66	37,978	41,304	79,282
Ontario	52	18	135	...	205	121,545	106,726	228,271
British Columbia ..	64	10	288	...	362	119,316	390,596	509,912
Other provinces ..	16	3	51	...	70	27,811	34,139	61,950
CANADA	165	36	575	...	776	331,288	614,890	946,178

Table 5 - WAGE-EARNERS, BY MONTHS, 1933 and 1934.

Months	1933			1934		
	Male	Female	TOTAL	Male	Female	TOTAL
January	507	...	507	399	...	399
February	543	...	543	531	...	531
March	537	...	537	601	...	601
April	524	...	524	888	...	888
May	829	...	829	1,046	...	1,046
June	446	...	446	615	...	615
July	425	...	425	467	...	467
August	432	...	432	472	...	472
September	445	...	445	465	...	465
October	402	...	402	399	...	399
November	442	...	442	484	...	484
December	485	...	485	542	...	542
AVERAGE	501	...	501	575	...	575

Table 6 - FUEL AND ELECTRICITY USED, 1933 and 1934.

Kinds	Unit of measure	1 9 3 3		1 9 3 4	
		Quantity	Value	Quantity	Value
			\$		\$
Anthracite coal	short ton	18	264	29	422
Bituminous coal - Canadian ...	short ton	944	4,725	2,330	10,374
Imported ...	short ton	36	159	153	634
Coke	short ton	19	109	11	104
Gasoline	Imp. gal.	2,794	803	3,477	842
Kerosene or coal oil	Imp. gal.	...	...	272	87
Fuel oil	Imp. gal.	180	19	...	...
Electricity purchased	K.W.H.	195,983,722	316,770	207,251,349	336,253
TOTAL	xxx	...	322,849	...	348,716

Table 7 - POWER EQUIPMENT, 1933 and 1934.

Kinds	1 9 3 3		1 9 3 4	
	Number of units	Total rated horse power	Number of units	Total rated horse power
Steam engines and steam turbines	1	20	2	40
Gasoline, gas and oil engines	3	60	4	80
Total Primary Equipment	4	80	6	120
Electric motors operated by purchased power	537	18,865	681	22,995
Total Power Equipment	541	18,945	687	23,115
Total Electric Motors	537	18,865	681	22,995

Table 8 - MATERIALS USED IN THE FERTILIZER MANUFACTURING INDUSTRY, 1933 and 1934.

Materials	1 9 3 3		1 9 3 4	
	Quantity	Cost at works	Quantity	Cost at works
	short tons	\$	short tons	\$
Ammonium phosphate	618	24,388	433	21,406
Ammonium sulphate	10,497	240,718	12,812	312,614
Basic slag	31	706	2,069	4,468
Bone meal and bone flour	182	3,377	293	6,080
Calcium cyanamide	1,035	27,823	1,630	44,468
Calcium nitrate and nitrochalk	123	5,770	200	5,149
Dried blood	78	2,859	100	4,524
Fish meal or scrap	169	4,336	524	11,017
Lime or land plaster	597	4,253	2,318	11,017
Kainite and potash manure salts	4,914	92,422	5,822	103,781
Phosphate rock	21,961	164,614	48,007	396,133
Potassium chloride (muriate of potash)	8,320	322,439	10,283	362,460
Potassium sulphate (sulphate of potash)	1,515	63,184	1,979	76,474
Sodium nitrate	2,167	64,409	3,719	104,110
Superphosphate	59,443	657,123	73,182	839,980
Sulphuric acid, 66° Be	79,631	772,334	96,775	996,267
Tankage	1,528	27,016	1,353	23,524
Whale meat, bone and blood	4	124	29	1,008
All other materials .....	...	69,473	...	36,756
Containers (barrels, bags, etc.) .....	...	249,358	...	286,424
TOTAL .....	...	2,796,726	...	3,647,660

Table 9 - PRODUCTS OF THE FERTILIZER MANUFACTURING INDUSTRY, 1933 and 1934.

NOTE - Figures in this table are for the Fertilizer Manufacturing Industry which includes only the concerns which were chiefly engaged in the manufacture of fertilizers (see directory). For the total output of mixed fertilizers in Canada, see Table 10.

Products Made	1 9 3 3		1 9 3 4	
	Quantity	Selling value at works	Quantity	Selling value at works
Complete fertilizer	102,108	2,626,030	125,328	3,148,379
All other products (x) .....	..	1,660,021	..	2,318,775
TOTAL .....	..	4,286,051	..	5,467,154

(x) Includes superphosphate, ammonium sulphate, ammonium phosphate, etc.

Table 10 - PRODUCTION OF FERTILIZERS AND FERTILIZER MATERIALS IN OTHER MANUFACTURING INDUSTRIES, 1933 and 1934.

Industries	Products	1 9 3 3		1 9 3 4	
		Quantity short tons	Selling value at works	Quantity short tons	Selling value at works
Acids, alkalies and salts ..	Calcium cyanamide	44,497	828,920	94,624	1,802,202
Slaughtering and meat-	Mixed fertilizers	3,815	141,803	12,843	357,234
packing	Animal tankage ..	10,996	310,956	12,837	343,224
Coke and gas	Ammonium sulphate	16,723	318,973	20,512	413,729
Adhesives	Mixed fertilizers	498	9,869	579	11,580
Fisheries	Herring fertilizer	7,598	83,016	13,485	72,511
	Other fish fertilizer	387	8,992	631	17,668
TOTAL		84,514	1,702,529	155,511	3,018,148

Table 11 - TOTAL PRODUCTION OF MIXED FERTILIZERS IN CANADA FROM ALL INDUSTRIAL GROUPS, 1921 - 1934.

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

Calendar Years	Quantity Tons	Selling value at works
1921	46,900	2,399,855
1922	40,843	1,818,136
1923	37,587	1,366,343
1924	38,126	1,539,003
1925	47,076	1,663,129
1926	56,888	2,043,093
1927	72,112	2,552,421
1928	76,180	3,017,648
1929	75,164	3,098,567
1930	78,158	2,548,226
1931	113,632	3,247,694
1932	95,857	2,447,407
1933	106,421	2,777,702
1934	138,750	3,517,193

Table 12 - IMPORTS INTO CANADA AND EXPORTS OF FERTILIZERS AND FERTILIZER MATERIALS, Calendar Years 1933 and 1934.

	Unit of measure	1 9 3 3		1 9 3 4	
		Quantity	Value \$	Quantity	Value \$
<u>IMPORTS</u>					
Tankage	ton	971	7,355	663	9,483
Bone dust, charred bone, bone ash, bone meal, and bone flour	ton	1,245	47,452	1,012	43,353
Fish offal or refuse	ton	190	5,188	302	10,304
Ammonium sulphate	ton	4,156	100,415	11,046	245,372
Basic slag, crushed or ground	ton	4,599	46,546	3,395	38,744
Cyanamide	cwt.	1	4	...	...
Kainite, and other German potash salts ...	ton	4,189	71,340	3,417	17,112
Potash, muriate of, crude	ton	14,018	497,890	22,739	489,999
Potash, sulphate of, crude	ton	2,447	103,202	1,697	41,496
Soda, nitrate of	ton	15,786	414,879	26,071	637,421
Superphosphate	ton	54,437	503,474	79,286	775,578
Fertilizers, compounded or manufactured, n.o.p.	ton	2,926	63,707	6,224	164,219
<u>EXPORTS</u>					
Tankage	ton	13,190	314,134	11,831	272,605
Bone dust and meal	ton	59	1,003	312	8,711
Fish meal	ton	7,538	287,392	12,296	484,865
Fish offal or refuse	ton	425	15,870	745	26,184
Ammonium sulphate	ton	62,383	1,081,392	57,204	1,144,164
Cyanamide	ton	56,923	1,234,007	91,927	1,946,504
Fertilizers, manufactured	ton	21,334	585,085	25,351	694,389

Table 13 - COMPARATIVE TABLE SHOWING TOTAL SALES IN CANADA OF FERTILIZER MATERIALS AND MIXED FERTILIZERS FOR THE FERTILIZER YEARS ENDING JUNE 30, 1933 and 1934.

Provinces	Fertilizer Materials		Mixed Fertilizers	
	1933 short tons	1934 short tons	1933 short tons	1934 short tons
Prince Edward Island	7,025	9,644	6,200	7,842
Nova Scotia	11,320	11,534	12,036	14,222
New Brunswick	20,200	16,584	12,927	12,841
Quebec	19,598	24,994	10,333	15,404
Ontario	15,868	25,840	37,924	38,912
Manitoba, Saskatchewan and Alberta ..	2,842	4,924	72	68
British Columbia	5,521	5,435	4,541	6,607
CANADA	82,374	98,955	84,033	95,896
Sold for Export	121,839	153,017	15,503	13,228
GRAND TOTAL	204,213	251,972	99,536	109,124

Table 14 - SALES OF FERTILIZERS IN CANADA EXCEPT FOR MANUFACTURING PURPOSES, DURING THE YEAR ENDED
 JUNE 30, 1934.
 (short tons)

Fertilizers	P.E.I.	N.S.	N.B.	Que.	Ont.	Man., Sask., and Alberta	B.C.	TOTAL SOLD IN CANADA	EXPORTED FROM CANADA	GRAND TOTAL
Nitrate of soda	361	1,124	1,702	283	422	10	221	4,123	180	4,303
Sulphate of ammonia	1,345	1,488	1,677	3,305	1,073	53	949	9,890	71,442	81,332
Cyanamide .....	...	319	...	102	801	...	5	1,227	71,802	73,029
Nitrochalk	25	15	2	5	31	...	1	79	6	85
Calcium nitrate .....	...	720	...	22	3	...	...	745	...	745
Bone phosphate .....	...	...	...	...	...	...	2	2	...	2
Superphosphate	6,343	5,396	10,033	16,845	20,641	14	970	60,242	2,953	63,195
Natural phosphate rock .....	...	...	40	...	5	...	1	46	...	46
Basic slag .....	...	1,805	190	1,015	...	...	83	3,093	4	3,097
Bone meal and bone flour .....	...	128	24	22	486	47	520	1,227	...	1,227
Muriate of potash	1,570	517	2,770	2,733	327	4	310	8,231	218	8,449
Sulphate of potash .....	...	...	...	160	91	1	117	369	41	410
Potash manure salts and kainite .....	...	...	...	...	...	...	10	10	...	10
Tankage .....	...	10	126	206	605	28	398	1,373	1,023	2,396
Sheep manure .....	...	12	1	35	279	...	59	386	...	386
Dried blood .....	...	...	1	...	133	47	216	397	413	810
Whale products .....	...	...	...	...	...	...	462	462	...	462
Fish meal .....	...	...	18	...	63	...	912	993	40	1,033
Ammonium phosphate .....	...	...	...	22	201	4,720	199	5,142	4,859	10,001
Other fertilizer materials .....	...	...	...	239	679	...	...	918	36	954
Total Fertilizers	9,644	11,534	16,584	24,994	25,480	4,924	5,435	98,955	153,017	251,972
Total mixed fertilizers	7,842	14,222	12,841	15,404	38,912	68	6,607	95,896	13,228	109,124
GRAND TOTAL, 1934	17,486	25,756	29,425	40,398	64,752	4,992	12,042	194,851	166,245	361,096
GRAND TOTAL, 1933	13,225	23,356	33,127	29,931	53,792	2,914	10,062	166,407	137,342	303,749

DIRECTORY OF FIRMS INCLUDED IN THE FERTILIZER MANUFACTURING INDUSTRY, 1934.

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 of fertilizer materials.

Names of FirmsLocation of PlantsPRINCE EDWARD ISLAND -

The Island Fertilizer Co. Ltd.	Charlottetown
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NOVA SCOTIA -

Colonial Fertilizer Company	Windsor
Canadian Industries Limited	Halifax

NEW BRUNSWICK -

Canada Packers Limited	Saint John
International Fertilizers Limited	Saint John
Summers Fertilizer Co. Inc.	St. Stephen

QUEBEC -

Canadian Industries Limited	Beloeil
International Fertilizers Limited	Quebec
Lavigueur, Arthur	Montreal
Saguenay Fertilizers Co.	Chicoutimi

ONTARIO -

Agricultural Chemicals Limited	Port Hope
Canada Packers Limited	Toronto
Canadian Fertilizer Company Ltd.	Chatham
Canadian Industries Limited	Hamilton
Scottish Fertilizers Limited	Welland
William Stone Sons, Limited, and National Fertilizers Limited	Ingersoll
Witts Fertilizer Works	Norwich

BRITISH COLUMBIA -

Canadian Industries Limited	New Westminster
Consolidated Mining and Smelting Co. of Canada, Ltd.	Trail
Globe Fertilizer Co. Ltd.	Vancouver
