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DEPARTMENT OF TRADE AND COMMERCE

DOMINION BUREAU OF STATISTICS

CENSUS OF INDUSTRY

MINING, METALLURGICAL & CHEMICAL BRANCH

THE FERTILIZER MANUFACTURING INDUSTRY IN CANADA 1943

OTTAWA
1945

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ANNUAL INDUSTRY REPORT CHEMICALS AND ALLIED PRODUCTS GROUP

THE FERTILIZER MANUFACTURING INDUSTRY, 1943

Production by factories in Canada which were engaged principally in the manufacture of fertilizers was valued at $27,105,357 in 1943 compared with $21,140,397 in 1942. In addition, there was a production of 199,895 tons of cyanamide, ammonium sulphate, mixed fertilizers and fish fertilizers valued at $6,738,725 in 1943 and 212,760 tons at $6,246,443 in 1942 by establishments which were classified to other industrial groups.

During 1943 a total of 26 plants in Canada were occupied chiefly in making fertilizers; 9 of these were located in Ontario, 5 in British Columbia, 5 in Quebec, 3 in New Brunswick, 3 in Nova Scotia and 1 in Prince Edward Island. Capital employed in these works decreased to $17,913,098 from $19,722,341 in 1942; the number of workers advanced to 2,204 from 1,973 and salaries and wages advanced to $4,314,742 from $3,413,722.

Total production of mixed fertilizers in 1943 from all industries amounted to 507,816 tons worth $15,039,197 at factory prices and included 503,565 tons at $14,826,634 made by plants in the fertilizer manufacturing industry and 4,251 tons at $212,563 made in the meat-packing and glue factories. In 1942 the corresponding total was 406,141 tons at $12,480,300 and in 1941 it was 297,539 tons at $8,617,040.

Superphosphate was manufactured in 1943 by Canadian Industries Limited at McMasterville, Que., Hamilton, Ont. and New Westminster, B.C., and by Consolidated Mining and Smelting Company of Canada Ltd., 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 and Manufacturing Company, at Montreal, Que.; and The Steel Company of Canada, Limited, at Hamilton, Ont. Production during the calendar year 1943 amounted to 196,405 tons; imports totalled 39 tons, and exports amounted to 141,080 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, 1944 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 12 and 13 of this bulletin. A total of 535,534 tons of mixtures and materials were sold in Canada during the year ended June 30, 1944, compared with 489,769 tons during the preceding twelve-month period.

Table 1 - PRINCIPAL STATISTICS OF THE FERTILIZER MANUFACTURING INDUSTRY, 1933-1943

Year	Number 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
		$		$	$	$	$
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
1939	27	17,561,474	1,211	1,819,612	706,003	8,140,498	13,165,164
1940	26	19,050,457	1,392	2,142,890	760,783	9,525,143	15,103,819
1941	27	20,110,569	1,748	2,865,837	1,064,818	9,419,584	15,188,645
1942	26	19,722,341	1,973	3,413,722	1,164,650	13,112,322	21,140,397
1943	26	17,913,098	2,204	4,314,742	1,141,339	19,036,806	27,105,357
Per cent change 1943 from 1942	..	-9.2	+11.7	+26.4	-2.0	+45.1	+28.2

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, 1942 and 1943

Province	Number 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
		$		$	$	$	$
1 9 4 2							
Prince Edward Island	1)	1,965,562	168	201,563	9,607	1,689,427	2,427,838
Nova Scotia..	3)						
New Brunswick	3	2,175,810	176	214,012	16,317	1,834,125	2,600,702
Quebec	5	3,021,232	244	407,197	19,656	2,555,855	3,593,285
Ontario	9	4,263,754	409	698,057	39,534	4,053,067	5,955,571
British Columbia ...	5	8,295,983	976	1,892,893	1,079,536	2,979,848	6,563,001
CANADA ...	26	19,722,341	1,973	3,413,722	1,164,650	13,112,322	21,140,397
1 9 4 3							
Prince Edward Island	1)	1,991,470	128	179,115	9,484	1,699,405	2,353,109
Nova Scotia..	3)						
New Brunswick	3	1,979,365	211	291,140	13,739	2,282,806	3,033,322
Quebec	5	2,572,474	354	563,911	20,312	3,706,692	5,205,336
Ontario	9	4,208,943	422	757,883	44,164	4,394,970	6,081,925
British Columbia ...	5	7,160,846	1,089	2,522,693	1,053,640	6,952,933	10,431,665
CANADA ...	26	17,913,098	2,204	4,314,742	1,141,339	19,036,806	27,105,357

Table 3 - CAPITAL EMPLOYED, BY PROVINCES, 1942 and 1943 (On the last day of the year)

Province	Present value of land, buildings, machinery and equipment	Value of Inventories: Raw materials and other supplies on hand and stocks in process	Value of Inventories: Finished products on hand	Cash, bills and accounts receivable, etc.	TOTAL CAPITAL EMPLOYED
	$	$	$	$	$
1942					
New Brunswick ..	292,378	813,393	597,983	472,056	2,175,810
Quebec	1,167,152	1,118,041	341,225	394,814	3,021,232
Ontario	1,378,497	1,627,346	587,684	670,227	4,263,754
British Columbia	6,395,074	744,312	612,125	544,472	8,295,983
Other provinces.	356,303	691,099	367,614	550,546	1,965,562
CANADA	9,589,404	4,994,191	2,506,631	2,632,115	19,722,341
1943					
New Brunswick ..	288,364	522,106	749,902	418,993	1,979,365
Quebec	943,869	843,211	326,478	458,916	2,572,474
Ontario	1,317,028	1,311,249	835,881	744,785	4,208,943
British Columbia	4,241,672	1,560,192	1,303,624	55,358	7,160,846
Other provinces.	486,568	678,676	363,501	462,725	1,991,470
CANADA	7,277,501	4,915,434	3,579,386	2,140,777	17,913,098

Table 4 - EMPLOYEES, SALARIES AND WAGES, BY PROVINCES, 1942 and 1943

Province	Average Number of Employees: On Salaries: Male	On Salaries: Female	On Wages: Male	On Wages: Female	Total	Salaries	Wages	TOTAL SALARIES and WAGES
						$	$	$
1942								
New Brunswick ..	22	8	146	...	176	47,621	166,391	214,012
Quebec	58	24	162	...	244	194,907	212,290	407,197
Ontario	90	52	265	2	409	321,215	376,842	698,057
British Columbia	63	23	889	1	976	244,386	1,648,507	1,892,893
Other provinces.	28	11	129	...	168	75,283	126,280	201,563
CANADA	261	118	1,591	3	1,973	883,412	2,530,310	3,413,722
1943								
New Brunswick ..	15	8	187	1	211	44,703	246,437	291,140
Quebec	58	31	264	1	354	209,254	354,657	563,911
Ontario	84	50	287	1	422	323,849	434,034	757,883
British Columbia	103	33	853	100	1,089	357,791	2,164,902	2,522,693
Other provinces.	21	7	100	...	128	59,667	119,448	179,115
CANADA	281	129	1,691	103	2,204	995,264	3,319,478	4,314,742

Table 5 - WAGE-EARNERS, BY MONTHS, 1942 and 1943 (On the last work-day of each month)

Month	1942 Male	1942 Female	1942 Total	1943 Male	1943 Female	1943 Total
January	1,306	2	1,308	1,821	63	1,884
February	1,451	4	1,455	1,919	68	1,987
March	1,844	5	1,849	2,211	83	2,294
April	1,827	5	1,832	2,201	98	2,299
May	1,886	3	1,889	1,872	89	1,961
June	1,445	3	1,448	1,411	92	1,503
July	1,529	3	1,532	1,291	107	1,398
August	1,456	3	1,459	1,399	120	1,519
September	1,461	2	1,463	1,380	138	1,518
October	1,470	2	1,472	1,384	138	1,522
November	1,634	2	1,636	1,659	114	1,773
December	1,785	2	1,787	1,738	110	1,848
AVERAGE	1,591	3	1,594	1,691	103	1,794

Table 6 - HOURS WORKED PER WEEK BY WAGE-EARNERS, 1942 and 1943 (In one week of month of highest employment; overtime included)

Hours worked per week	Number of Wage-Earners 1942 Male	1942 Female	1943 Male	1943 Female
30 hours or less	214	1	350	...
31-43 hours	70	3	151	2
44 hours	1,077	...	24	3
45-47 hours	71	...	89	3
48 hours	194	...	1,227	61
49-50 hours	41	...	50	...
51-54 hours	126	...	133	...
55 hours	55	...	68	...
56-64 hours	264	...	288	...
65 hours and over	437	...	264	...
TOTAL	2,549	4	2,644	69
Total wages paid during week .. $	78,247	41	87,840	1,986

Table 7 - FUEL AND ELECTRICITY USED, 1942 and 1943

Kind	Unit of measure	1942 Quantity	1942 Cost at works $	1943 Quantity	1943 Cost at works $
Anthracite coal	ton	1,230	6,675	806	4,390
Bituminous coal--Canadian	ton	7,010	36,374	11,054	73,299
Imported	ton	1,074	8,554	1,187	9,855
Coke	ton	14	161	29	396
Gasoline	Imp.gal.	42,712	12,496	17,629	4,254
Kerosene	Imp.gal.	...	...	28,057	8,930
Fuel oil	Imp.gal.	2,870	301	1,805	194
Other fuel	...	...	259	...	106
Electricity purchased ...	K.W.H.	669,755,247	1,099,830	633,903,692	1,039,915
TOTAL	...	...	1,164,650	...	1,141,339

Table 8 - POWER EQUIPMENT, 1942 and 1943

	Ordinarily in Use		In Reserve or Idle	
	Number of units	Total rated horse power	Number of units	Total rated horse power
1 9 4 2				
Steam engines and turbines ...	2	55	...	...
Gasoline, gas and oil engines.	3	180	1	20
Electric motors operated by purchased power	1,552	37,937	175	3,195
TOTAL	1,557	38,172	176	3,215
Stationary boilers	2	16	...	...
1 9 4 3				
Steam engines and turbines ...	2	55	...	...
Gasoline, gas and oil engines.	4	275	1	20
Electric motors operated by purchased power	1,438	32,969	32	394
TOTAL	1,444	33,299	33	414
Stationary boilers	...	...	...	...

Table 9 - MATERIALS USED IN THE FERTILIZER MANUFACTURING INDUSTRY, 1942 and 1943

Material	1 9 4 2		1 9 4 3	
	Quantity	Cost at works	Quantity	Cost at works
	Short tons	$	Short tons	$
Ammonium phosphate	3,358	179,240	3,890	196,838
Ammonium sulphate (sulphate of ammonia)	38,590	1,237,326	35,523	1,186,559
Bone char	251	10,453	139	5,501
Bone meal and bone flour	542	19,743	252	10,936
Calcium cyanamide (cyanamid)	6,584	264,245	9,498	368,245
Dried blood	846	41,757	572	29,994
Fish meal and scrap	840	10,720	20	1,020
Lime or land plaster	5,417	17,619	8,604	32,112
Kainite and potash manure salts	30,182	587,489	23,753	447,619
Phosphate rock	207,842	2,253,517	226,350	2,528,062
Potassium chloride (muriate of potash)				
50%	3,519	121,762	4,874	174,352
60%	38,129	1,564,962	46,626	1,794,703
Potassium nitrate (nitrate of potash)	90	876	...	...
Potassium sulphate (sulphate of potash)	4,525	196,754	5,480	248,702
Sodium nitrate (nitrate of soda)	7,590	283,700	1,370	57,597
Sulphuric acid, 66° Be	256,203	2,178,155	330,940	3,191,125
Superphosphate--16%-20%	175,310	2,632,765	204,591	3,500,584
38%-42%	2,911	115,525	9,749	345,443
Tankage	2,138	75,143	2,863	60,920
Whale meat, bone and blood	91	3,835	90	4,070
All other materials	...	381,645	...	3,339,331
Containers and shipping materials ...	...	935,091	...	1,513,093
TOTAL	...	13,112,322	...	19,036,806

Table 10 - PRODUCTS OF THE FERTILIZER MANUFACTURING INDUSTRY, CALENDAR YEARS 1942 and 1943

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. Some fertilizers were made also in the other industries; for the total output of mixed fertilizers in Canada, see Table 11.

Product	1942 Quantity	1942 Selling value at works	1943 Quantity	1943 Selling value at works
	tons	$	tons	$
Mixed fertilizers	402,520	12,317,340	503,565	14,826,634
Superphosphate, ammonium phosphate and ammonium sulphate (completely manufactured) (x)	258,766	6,971,096	372,342	11,410,416
Superphosphate, milled and screened only -- 16%-18%	295	6,200	90	1,890
20%	35,701	790,424	21,605	482,792
38%-45%	26	1,159	...	...
Ammonium sulphate, milled and screened only	2,085	84,823	1,678	66,607
Muriate of potash, milled and screened only	4,741	233,277	2,639	129,100
Nitrate of soda, milled and screened only	843	36,030	107	1,864
All other products	...	700,048	...	186,054
TOTAL	...	21,140,397	...	27,105,357

(x) 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 1923-1943

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

Year	Quantity	Selling value at works	Year	Quantity	Selling value at works
	tons	$		tons	$
1923	37,587	1,366,343	1935	145,844	3,442,017
1924	38,126	1,539,003	1936	175,703	4,222,587
1925	47,076	1,863,129	1937	243,802	6,130,523
1926	56,888	2,043,093	1938	288,634	7,426,494
1927	72,112	2,552,421	1939	279,425	7,223,177
1928	76,130	3,017,648	1940	302,842	8,154,305
1929	75,164	3,098,567	1941	297,539	8,617,040
1930	78,158	2,548,226	1942	406,141	12,480,300
1931	113,632	3,247,694	1943	507,816	15,039,197
1932	95,857	2,447,407			
1933	106,421	2,777,702			
1934	138,750	3,517,193			

Table 12 - SALES OF FERTILIZERS, EXCEPT FOR MANUFACTURING PURPOSES, YEAR ENDED JUNE 30, 1944 (Short tons)
(Preliminary Figures)

Kind	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba, Saskatchewan and Alberta	British Columbia	Total sold in Canada	Exported from Canada
Fertilizer Materials									
Nitrate of soda	...	2	52	69	1,018	10	119	1,270	325
Sulphate of ammonia ...	1,914	887	942	260	337	300	1,978	6,618	201,240
Cyanamide	183	684	222	18	1,047	...	254	2,408	(x)
Ammonium nitrate	307	1,369	804	246	427	4	186	3,343	161,887
Ammonium phosphate	...	...	...	1	1,843	11,911	3,155	16,910	116,263
Bone phosphate	...	...	...	...	...	...	...	...	...
Superphosphate	7,207	2,383	5,736	12,533	9,640	28	741	38,268	1,784
Natural phosphate rock.	...	...	...	115	45	...	61	221	...
Basic slag	...	...	...	...	...	...	...	...	...
Bone meal or bone flour	...	...	10	...	11	97	337	455	...
Muriate of potash	1,740	177	1,379	70	1,154	3	401	4,924	14
Sulphate of potash	...	...	7	...	36	3	102	148	...
Potash manure salts ...	...	...	...	...	61	...	...	61	...
Tankage	...	...	...	210	1,442	475	543	2,670	886
Sheep manure	...	114	55	280	538	1	62	1,050	19
Dried blood	...	1	...	...	4	37	305	347	...
Whale products	...	...	...	...	...	...	126	126	...
Fish meal.....	...	...	...	...	...	...	120	120	...
Other fertilizer materials	...	1	33	42	15	70	...	161	45
TOTAL	11,351	5,618	9,240	13,844	17,618	12,939	8,490	79,100	(x)
TOTAL MIXED FERTILIZERS	31,889	35,838	63,176	134,304	176,008	1,203	14,016	456,434	34,679
GRAND TOTAL 1944 ...	43,240	41,456	72,416	248,148	193,626	14,142	22,506	535,534	(x)
GRAND TOTAL 1943 ...	39,300	38,246	61,673	142,539	176,481	10,814	20,716	489,769	(x)

(x) Not available for publication.

Table 13 - TOTAL SALES IN CANADA OF FERTILIZER MATERIALS AND MIXED FERTILIZERS FOR THE YEARS ENDED JUNE 30, 1943 and 1944

Province	Year Ended June 30 1943	1944(x)
	(Tons of 2,000 pounds)	
Fertilizer Materials -		
Prince Edward Island	11,442	11,351
Nova Scotia	4,127	5,618
New Brunswick	8,296	9,240
Quebec	14,579	13,844
Ontario	16,768	17,618
Manitoba, Saskatchewan and Alberta	9,723	12,939
British Columbia	7,123	8,490
CANADA	72,070	79,100
Mixed Fertilizers -		
Prince Edward Island	27,858	31,889
Nova Scotia	34,119	35,838
New Brunswick	53,377	63,176
Quebec	127,960	134,304
Ontario	159,713	176,008
Manitoba, Saskatchewan and Alberta	1,085	1,203
British Columbia	13,587	14,016
CANADA	417,699	456,434

(x) Preliminary figures - subject to revision.

LIST OF FIRMS IN THE FERTILIZER INDUSTRY, 1943

Name	Location of Plant
Prince Edward Island -	
The Island Fertilizer Co. Ltd.	Charlottetown
Nova Scotia -	
Canadian Industries Limited (Fertilizer Div.)	Pier 9, Halifax
Chase, George, Limited	Port Williams
Colonial Fertilizer Co. Ltd.	Nesbit St., Windsor
New Brunswick -	
Canada Packers Limited (Fertilizer Div.)	Bayside Drive, East Saint John
International Fertilizers Limited	East Saint John
Summers Fertilizer Co. Inc.	Prince William St., St. Stephen
Quebec -	
Agricultural Chemicals Ltd.	Chambly
Canada Packers Limited	6000 St. Patrick St., Montreal
Canadian Industries Limited (Fertilizer Div.)	1490 Marlborough St., Montreal
Canadian Industries Limited (Fertilizer Div.)	McMasterville
International Fertilizers Limited	National Harbours Board, Shed #29, Quebec

LIST OF FIRMS IN THE FERTILIZER INDUSTRY, 1943
(Concluded)

Name	Location of Plant
Ontario -	
Agricultural Chemicals Ltd.	Marsh St., Port Hope
Canada Packers Limited	2300 St.Clair Ave. W., Toronto
Canadian Industries Limited (Fertilizer Div.)	King St. E., Chatham
Canadian Industries Limited (Fertilizer Div.)	Burlington & Ottawa Sts., Hamilton
Misner, J. H.	Port Dover
Scottish Fertilizers Limited	Welland
Stone, William, Sons Ltd. and National Fertilizers Ltd.	Pemberton St., Ingersoll
United Farmers Co-Operative Co. Ltd.	4004 Dundas St. W., Toronto
Witts Fertilizer Works	Norwich
British Columbia -	
Buckerfields Limited	foot of Columbia Ave., New Westminster
Canadian Industries Limited (Fertilizer Div.)	foot of 16th St., New Westminster
Consolidated Mining and Smelting Co. of Canada Limited	Trail
Globe Fertilizer Co. Ltd.	foot Crompton Road, Vancouver
Old Gardener Products Ltd.	319 W. Pender St., Vancouver

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