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THE
FERTILIZER MANUFACTURING INDUSTRY
IN
CANADA
1945



OTTAWA
1947

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ANNUAL INDUSTRY REPORTCHEMICALS AND ALLIED PRODUCTS GROUPTHE FERTILIZER MANUFACTURING INDUSTRY, 1945

Production by factories in Canada which were engaged principally in the manufacture of fertilizers was valued at \$34,505,756 in 1945 compared with \$31,188,945 in 1944. In addition, there was a production of 269,616 tons of cyanamide, ammonium sulphate, mixed fertilizers and fish fertilizers valued at \$7,741,640 in 1945, and 211,002 tons at \$6,951,145 in 1944 by establishments which were classified to other industrial groups. The quantity of fish used as fertilizer in 1945 amounted to 42,128 barrels valued at \$51,018.

There was no change in 1945 in the number of plants in Canada which were occupied chiefly in the manufacture of fertilizers. Of the 26 works in operation, 9 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. The average number of workers employed decreased from 2,204 to 2,146, with a corresponding decrease in the total salaries and wages from \$4,610,420 to \$4,418,916.

Total production of mixed fertilizers in 1945 from all industries amounted to 539,462 tons worth \$16,256,250 at factory prices and included 535,588 tons at \$16,077,430 made by plants in the fertilizer manufacturing industry and 3,874 tons at \$178,820 made in the meat packing industries. In 1944 the corresponding total was 542,520 tons at \$15,585,502 and in 1943 it was 507,816 tons at \$15,039,197.

Superphosphate was manufactured in 1945 by Canadian Industries Limited at McMasterville, Quebec; Hamilton, Ontario; and New Westminster, British Columbia, and by Consolidated Mining and Smelting Company of Canada Ltd. at Trail, British Columbia. 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, British Columbia, and also by the following coke manufacturers: Algoma Steel Corporation Limited, at Sault Ste. Marie, Ontario; Dominion Steel and Coal Corporation, Ltd., at Sydney, Nova Scotia; Hamilton By-Product Coke Ovens, Limited, at Hamilton, Ontario; Montreal Coke and Manufacturing Company, at Montreal, Quebec, and The Steel Company of Canada, Limited, at Hamilton, Ontario. Production during the calendar year 1945 amounted to 218,827 tons; imports totalled 105 tons, and exports amounted to 181,189 tons. Ammonium phosphate was made only by the Consolidated Mining and Smelting Company of Canada, Limited, at Trail, British Columbia.

A special survey of the fertilizer trade in Canada during the fertilizer year ended June 30, 1946 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 645,325 tons of mixtures and materials were sold in Canada during the year ended June 30, 1946, compared with 575,066 tons during the preceding twelve-month period.

Fertilizers

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Table 1 - PRINCIPAL STATISTICS OF THE FERTILIZER MANUFACTURING INDUSTRY, 1935-1945

Year	Number of plants	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
			\$	\$	\$	\$
1935	19	996	1,239,337	344,131	4,362,594	6,075,616
1936	20	930	1,196,286	443,627	4,996,084	7,075,831
1937	20	1,023	1,447,625	506,965	6,693,841	10,266,953
1938	26	1,232	1,560,873	654,359	8,344,853	12,841,300
1939	27	1,211	1,819,612	706,003	8,140,498	13,165,164
1940	26	1,392	2,142,890	760,783	9,525,143	15,103,819
1941	27	1,748	2,865,837	1,064,818	9,419,584	15,188,645
1942	26	1,973	3,413,722	1,164,650	13,112,322	21,140,397
1943	26	2,204	4,314,742	1,141,339	19,036,806	27,105,357
1944	26	2,226	4,610,420	1,162,992	17,690,683	31,188,945
1945	26	2,146	4,418,916	1,116,081	18,708,175	34,505,756
Per cent change, 1945 from 1944 .....	..	-3.6	-4.1	-4.0	+5.8	+10.6

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, 1944 and 1945

Province	Number of plants	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
			\$	\$	\$	\$
1944						
Prince Edward Island	1)					
Nova Scotia..	3)	148	211,047	11,218	1,858,700	2,514,463
New Brunswick	3	199	317,933	10,834	2,305,203	3,048,747
Quebec	5	334	696,677	30,330	4,299,753	5,880,179
Ontario	9	449	812,168	45,606	4,976,057	6,750,046
British Columbia ...	5	1,096	2,572,595	1,065,004	4,250,970	12,995,510
CANADA ...	26	2,226	4,610,420	1,162,992	17,690,683	31,188,945
1945						
Prince Edward Island	1)					
Nova Scotia..	3)	149	214,893	11,500	1,958,855	2,589,975
New Brunswick	3	186	313,127	12,319	2,471,615	3,550,907
Quebec	5	354	684,339	34,692	4,033,381	5,434,479
Ontario	9	417	798,030	38,780	5,227,166	7,028,743
British Columbia ...	5	1,040	2,408,527	1,018,790	5,017,158	15,901,652
CANADA ...	26	2,146	4,418,916	1,116,081	18,708,175	34,505,756

Fertilizers

Table 3 - EMPLOYEES, SALARIES AND WAGES, BY PROVINCES, 1944 and 1945

Province	Average Number of Employees					Salaries \$	Wages \$	TOTAL SALARIES and WAGES \$
	On Salaries		On Wages		Total			
	Male	Female	Male	Female				
<u>1944</u>								
New Brunswick ..	16	10	171	2	199	57,840	360,093	317,933
Quebec	52	31	250	1	334	215,280	481,397	696,677
Ontario	84	62	303	...	449	329,054	483,114	812,168
British Columbia	106	34	828	128	1,096	421,348	2,151,247	2,572,595
Other provinces.	24	10	114	...	148	79,892	131,155	211,047
CANADA	282	147	1,666	131	2,226	1,103,414	3,507,006	4,610,420
<u>1945</u>								
New Brunswick ..	14	9	161	2	186	55,552	257,575	313,127
Quebec	62	37	255	...	354	243,262	441,077	684,339
Ontario	87	57	272	1	417	340,798	457,232	798,030
British Columbia	105	34	779	122	1,040	435,659	1,972,868	2,408,527
Other provinces.	25	12	112	...	149	80,381	134,512	214,893
CANADA	293	149	1,579	125	2,146	1,155,652	3,263,264	4,418,916

Table 4 - WAGE-EARNERS, BY MONTHS, 1944 and 1945 (On the last work day of each month)

Month	1944			1945		
	Male	Female	Total	Male	Female	Total
January	1,799	106	1,905	1,613	147	1,760
February	2,005	108	2,113	1,743	146	1,889
March	2,015	108	2,123	1,910	146	2,056
April	1,984	118	2,102	1,959	152	2,111
May	1,703	148	1,851	1,648	144	1,792
June	1,504	145	1,649	1,449	147	1,596
July	1,445	150	1,595	1,372	138	1,510
August	1,501	145	1,646	1,368	133	1,501
September	1,418	140	1,558	1,402	128	1,530
October	1,470	135	1,605	1,429	107	1,536
November	1,567	137	1,704	1,535	74	1,609
December	1,448	133	1,581	1,536	39	1,575
AVERAGE	1,666	131	1,797	1,580	125	1,705

Table 5 - HOURS WORKED PER WEEK BY WAGE-EARNERS, 1944 and 1945 (In one week of month of highest employment; overtime included)

Hours worked per week	Number of Wage-earners			
	1944		1945	
	Male	Female	Male	Female
30 hours or less	287	6	380	3
31-43 hours	338	36	315	50
44 hours	56	4	57	3
45-47 hours	102	4	45	3
48 hours	576	52	338	52
49-50 hours	104	12	82	...
51-54 hours	250	2	96	...
55 hours	41	...	40	2
56-64 hours	428	34	424	36
65 hours and over	181	...	297	...
TOTAL	2,363	150	2,074	149
Total wages paid during week \$	76,176	3,230	66,950	5,090

Fertilizers

Table 6 - FUEL AND ELECTRICITY USED, 1944 and 1945

Kind	Unit of measure	1 9 4 4		1 9 4 5	
		Quantity	Cost at works	Quantity	Cost at works
Anthracite coal	ton	125	1,769	164	2,193
Bituminous coal--Canadian	ton	12,071	69,470	1,506	13,078
Imported	ton	1,172	9,679	41	354
Coke	ton	67	797	77	923
Gasoline	Imp.gal.	26,442	6,531	80,496	22,379
Kerosene	Imp.gal.	28,746	9,163	1,691	407
Fuel oil	Imp.gal.	2,500	278	95,855	11,397
Other fuel .....	...	...	82	...	80
Electricity purchased ...	K.W.H.	611,431,176	1,065,223	646,227,267	1,065,290
TOTAL .....	...	...	1,162,992	...	1,116,081

Table 7 - POWER EQUIPMENT, 1944 and 1945

	Ordinarily in Use		In Reserve or Idle	
	Number of units	Total rated horse power	Number of units	Total rated horse power
<u>1 9 4 4</u>				
Steam engines and turbines ...	2	55	...	...
Gasoline, gas and oil engines.	2	95	...	...
Electric motors operated by purchased power	1,402	30,228	195	3,417
TOTAL	1,406	30,378	195	3,417
Stationary power boilers	1	15	...	...
Motor-generator sets	1	7	...	...
<u>1 9 4 5</u>				
Steam engines and turbines ...	2	55	...	...
Gasoline, gas and oil engines.	4	135	1	2
Electric motors operated by purchased power	1,482	30,508	193	3,274
TOTAL	1,488	30,698	194	3,276
Stationary power boilers	1	15	...	...
Motor-generator sets	5	857	...	...

Table 8 - MATERIALS USED IN THE FERTILIZER MANUFACTURING INDUSTRY, 1944 and 1945

Material	1 9 4 4		1 9 4 5	
	Quantity	Cost at works	Quantity	Cost at works
	Short tons	\$	Short tons	\$
Ammonia, anhydrous	1,005	114,562	1,724	95,944
Ammonia liquor	526	45,847	1,061	49,736
Ammonium nitrate	17,714	928,904	15,494	826,190
Ammonium phosphate	1,946	90,873	3,938	205,628
Ammonium sulphate (sulphate of ammonia)	38,578	1,308,989	40,309	1,369,266
Bone char	57	1,319	133	2,974
Bone meal and bone flour	278	13,126	146	6,249
Calcium cyanamide (cyanamid) ..	10,424	405,959	10,366	408,146
Dried blood	949	44,023	850	42,220
Fish meal and scrap	124	7,181	110	6,820
Lime or land plaster	14,043	51,211	5,789	18,519
Magnesium oxide	231	10,773	1,793	7,861

Table 8 - MATERIALS USED IN THE FERTILIZER MANUFACTURING INDUSTRY, 1944 and 1945(Con.)

Material	1 9 4 4		1 9 4 5	
	Quantity	Cost at works	Quantity	Cost at works
	Short tons	\$	Short tons	\$
Kainite and potash manure salts	17,735	415,722	10,979	209,894
Phosphate rock	337,632	3,817,626	365,195	4,230,410
Potassium chloride (muriate of potash)				
50%	4,620	164,327	7,727	267,474
60%	48,243	1,916,439	62,003	2,429,074
Potassium nitrate (nitrate of potash)	16	1,198	...	...
Potassium sulphate (sulphate of potash)	6,853	291,246	3,853	176,339
Sodium nitrate (nitrate of soda)	499	14,901	399	18,121
Sulphuric acid, 66° Be	418,838	2,111,037	488,894	2,122,805
Superphosphate: 16%-20%	226,369	3,633,380	210,720	3,546,525
38%-45%	4,815	172,279	9,703	215,904
Ammoniated	2,988	69,676	...	...
Tankage	1,537	45,896	1,711	39,685
Whale meat, bone and blood	18	681	220	10,660
Basic slag .....	...	...	6,218	11,153
Magnesium sulphate .....	...	...	431	16,628
Potassium magnesium sulphate (sulphate of potash magnesia) .....	...	...	1,624	59,042
All other materials .....	...	421,420	...	503,212
Containers and shipping materials .....	...	1,592,088	...	1,811,696
TOTAL .....	...	17,690,683	...	18,708,175

Table 9 - PRODUCTS OF THE FERTILIZER MANUFACTURING INDUSTRY, CALENDAR YEARS 1944 and 1945

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 10.

Product	1 9 4 4		1 9 4 5	
	Quantity	Selling value at works	Quantity	Selling value at works
	tons	\$	tons	\$
Mixed fertilizers	537,590	15,401,911	535,588	16,077,430
Superphosphate, ammonium phosphate and ammonium sulphate (completely manufactured)(x)	501,115	14,950,698	549,180	17,594,160
Superphosphate, milled and screened only: 16%-18%	150	3,150	384	8,610
20%	20,143	459,406	8,279	184,234
38%-45% .....	...	...	120	2,760
Ammonium sulphate, milled and screened only	552	24,988	1,770	58,306
Muriate of potash, milled and screened only: 50%	1,201	55,531	1,116	52,091
60%	2,082	106,320	2,263	109,906
Nitrate of soda, milled and screened only	27	1,404	82	4,117
All other products .....	...	185,537	...	414,142
TOTAL .....	...	31,188,945	...	34,505,756

NOTE: For Footnote see Page 6.

Footnote to Table 9 -

(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 10 - TOTAL PRODUCTION OF MIXED FERTILIZERS IN CANADA, FROM ALL INDUSTRIAL GROUPS, CALENDAR YEARS 1925-1945

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

Year	Quantity tons	Selling value at works \$	Year	Quantity tons	Selling value at works \$
1925	47,076	1,663,129	1936	175,703	4,222,587
1926	56,888	2,043,093	1937	243,802	6,130,523
1927	72,112	2,552,421	1938	288,634	7,426,494
1928	76,180	3,017,648	1939	279,425	7,223,177
1929	75,164	3,098,567	1940	302,842	8,154,305
1930	78,158	2,548,226	1941	297,539	8,617,040
1931	113,632	3,247,694	1942	406,141	12,480,300
1932	95,857	2,447,407	1943	507,816	15,039,197
1933	106,421	2,777,702	1944	542,520	15,585,502
1934	138,750	3,517,193	1945	539,462	16,256,250
1935	145,844	3,442,017			

Table 11 - PRODUCTION IN CANADA, IMPORTS AND EXPORTS OF AMMONIUM SULPHATE, 1935-1945

Year	Production	Imports	Exports
		(tons)	
1935	67,362	4,280	45,055
1936	98,483	5,729	83,835
1937	87,621	3,230	56,485
1938	119,520	5,911	77,191
1939	129,865	3,217	109,260
1940	115,679	355	72,485
1941	98,662	57	59,480
1942	116,796	5,045	79,236
1943	196,404	39	141,080
1944	209,578	104	167,496
1945	218,827	105	181,189

Table 12 - SALES OF FERTILIZERS, EXCEPT FOR MANUFACTURING PURPOSES, YEAR ENDED JUNE 30, 1946 (Short tons)

Kind	Prince Edward Island	Nova Scotia	New Brun- swick	Quebec	Ontario	Manitoba, Saskat- chewan and Alberta	British Columbia	Total sold in Canada	Exported from Canada
<u>Fertilizer Materials</u>									
Nitrate of soda .....	...	...	1	20	692	1	48	762	345
Sulphate of ammonia ...	1,051	649	546	170	318	653	6,873	10,260	188,558
Cyanamide	17	277	142	115	988	...	163	1,702	(a)
Ammonium nitrate	864	1,830	1,030	469	1,119	6	767	6,085	235,889
Ammonium phosphate -									
11-48-0 .....	...	...	7	12	1,277	25,084	3,846	30,226	(a)
16-20-0 .....	...	...	...	...	69	2,005	8,924	10,998	(a)
2-20-0 .....	...	...	...	...	...	...	40	40	...
Superphosphate (b)	3,952	2,262	3,109	10,522	9,588	7	1,371	30,811	861
Bone meal or bone flour	...	...	5	...	838	174	603	1,620	...
Muriate of potash -									
50%	60	52	844	46	361	...	...	1,363	...
60%	998	44	123	21	778	1	422	2,387	213
Sulphate of potash ....	...	1	...	...	5	2	74	82	...
Tankage .....	...	...	1	...	...	400	452	853	807
Sheep manure .....	...	58	...	295	664	...	356	1,373	...
Dried blood .....	...	...	...	...	10	11	152	173	...
Whale products .....	...	...	...	...	...	...	76	76	...
Fish meal .....	...	...	...	...	...	...	135	135	...
Other fertilizer materials .....	...	...	11	543	160	2,393	586	3,693	...
TOTAL	6,942	5,173	5,819	12,213	16,867	30,737	24,888	102,639	566,002
Total Mixed Fertilizers	51,560	37,351	78,494	138,178	219,159	465	17,479	542,686	50,504
GRAND TOTAL 1946 ...	58,502	42,524	84,313	150,391	236,026	31,202	42,367	645,325	616,506
GRAND TOTAL 1945 ...	48,054	41,829	73,818	146,144	211,526	28,698	24,997	575,066	532,556

(a) Not available for publication.

(b) Includes 18%, 19%, 20% and 43% superphosphate.

Fertilizer

Table 13 - TOTAL SALES IN CANADA OF FERTILIZER MATERIALS AND MIXED FERTILIZERS FOR THE YEARS ENDED JUNE 30, 1945 and 1946

Province	Year Ended June 30	
	1945	1946
	(Tons of 2,000 pounds)	
<u>Fertilizer Materials -</u>		
Prince Edward Island	8,035	6,942
Nova Scotia	5,221	5,173
New Brunswick	7,128	5,819
Quebec	11,386	12,213
Ontario	21,247	16,867
Manitoba, Saskatchewan and Alberta	28,335	30,737
British Columbia	10,633	24,888
CANADA	91,985	102,639
<u>Mixed Fertilizers -</u>		
Prince Edward Island	40,019	51,560
Nova Scotia	36,608	37,351
New Brunswick	66,690	78,494
Quebec	134,758	138,178
Ontario	190,279	219,159
Manitoba, Saskatchewan and Alberta	363	465
British Columbia	14,364	17,479
CANADA	483,081	542,686

LIST OF FIRMS IN THE FERTILIZER INDUSTRY, 1945

Name	Location of Plant
<u>Prince Edward Island -</u>	
The Island Fertilizer Co. Ltd.	Charlottetown
<u>Nova Scotia -</u>	
Canadian Industries Limited (Fertilizer Div.)	Pier 9, Halifax
Cornwallis Fertilizer Co.	Port Williams
Colonial Fertilizer Co. Ltd.	Nesbit St., Windsor
<u>New Brunswick -</u>	
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
<u>Quebec -</u>	
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, 1945
(Concluded)

Name	Location of Plant
<u>Ontario -</u>	
Agricultural Chemicals Ltd.	Marsh St., Port Hope
Canada Packers Limited	2200 St. Clair Ave. W., Toronto
Canadian Industries Limited (Fertilizer Div.)	King St. E., Chatham
Canadian Industries Limited (Fertilizer Div.)	Burlington & Ottawa Sts., Hamilton
Misner Seeds & Fertilizer	Port Dover
Canada Packers Limited	Welland
Stone, William, Sons Ltd.	Ingersoll
United Farmers Co-Operative Co. Limited	4004 Dundas St. W., Toronto
Witts Fertilizer Works Ltd.	Norwich
<u>British Columbia -</u>	
Buckerfield's Limited	P.O. Box 219, Vancouver
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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