

Acting Dominion Statistician:	S. A. Cudmore, M.A. (Oxon.), F.S.S., F.R.S.C.
Chief - Mining, Metallurgical and Chemical Branch:	W. H. Losee, B.Sc.
Statistician - Metal and Chemical Products:	H. McLeod, B.Sc.

ANNUAL INDUSTRY REPORTCHEMICALS AND ALLIED PRODUCTS GROUPTHE FERTILIZER MANUFACTURING INDUSTRY, 1940

Production by factories in Canada which were engaged principally in the manufacture of fertilizers was valued at \$15,103,819 in 1940, an increase of 14.7 per cent over the \$13,165,164 reported for 1939. In addition, there was a production of 229,831 tons of cyanamide, ammonium sulphate, mixed fertilizers and fish fertilizers valued at \$4,914,731 in 1940 and 207,413 tons at \$4,351,364 in 1939 by establishments which were classified to other industrial groups.

During 1940 a total of 26 plants in Canada were occupied chiefly in making fertilizers and of these 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. Capital employed in these works increased to \$19,050,457 from \$17,561,474 in 1939, the number of workers advanced to 1,392 from 1,211, and salaries and wages advanced to \$2,142,890 from \$1,819,612.

Total production of mixed fertilizers in 1940 from all industries amounted to 302,842 tons worth \$8,154,305 at factory prices and included 298,220 tons at \$7,967,132 made by plants in the fertilizer manufacturing industry and 4,622 tons at \$187,173 made in the meat-packing and glue factories. In 1939 the corresponding total was 279,425 tons at \$7,223,177 and in 1938 the output amounted to 288,634 tons at \$7,426,494.

Superphosphate was manufactured in 1940 by Canadian Industries Limited at McMasterville, Que., Hamilton, Ont. and New Westminster, B.C., and by Consolidated Mining & 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 & 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, Que., and The Steel Company of Canada, Limited, at Hamilton, Ont. Production during the calendar year 1940 amounted to 115,679 tons; imports totalled 355 tons, and exports amounted to 72,485 tons. Ammonium phosphate was made only by the Consolidated Mining & 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, 1941, 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 324,201 tons of mixtures and materials were sold in Canada during the year ended June 30, 1941, compared with 346,721 tons during the preceding twelve-month period.

## Fertilizers

- 2 -

Table 1 - PRINCIPAL STATISTICS OF THE FERTILIZER MANUFACTURING INDUSTRY, 1929-1940

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	843,256	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	4,236,051
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	1,196,236	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
Per cent change - 1940 from 1939 ....	..	+8.5	+14.9	+17.8	+7.8	+15.9	+14.7

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, 1939 and 1940

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
		\$		\$	\$	\$	\$
<b>1939</b>							
New Brunswick...	3	1,219,348	101	132,517	12,878	1,173,915	1,805,493
Quebec .....	5	2,453,025	179	270,642	3,913	1,498,291	2,120,375
Ontario .....	10	3,829,941	359	505,748	23,184	2,568,783	3,752,835
British Columbia	5	9,115,176	446	780,155	660,057	2,027,144	4,219,038
Prince Edward Island .....	1)	944,984	126	130,550	5,971	872,365	1,267,423
Nova Scotia .....	3)						
CANADA ...	27	17,561,474	1,211	1,819,612	706,003	8,140,498	13,165,164
<b>1940</b>							
New Brunswick ..	3	1,571,808	138	160,920	19,066	1,453,012	2,022,091
Quebec .....	5	2,829,983	187	281,031	11,636	1,869,767	2,616,914
Ontario .....	9	4,458,323	391	574,512	33,170	2,804,050	4,107,877
British Columbia	5	9,088,159	544	975,777	690,977	2,468,489	5,046,302
Prince Edward Island .....	1)						
Island .....	1)	1,102,184	132	150,650	5,934	929,825	1,310,655
Nova Scotia .....	3)						
CANADA ...	26	19,050,457	1,392	2,142,890	760,783	9,525,143	15,103,819



Fertilizers

Table 3 - CAPITAL EMPLOYED, BY PROVINCES, 1939 and 1940

Province	Present value of land, buildings, machinery and equipment	Inventory value		Operating capital (cash, bills and accounts receiv- able, etc.)	TOTAL CAPITAL EMPLOYED
		of materials, supplies and finished prod- ucts on hand and stocks in process			
	\$	\$		\$	\$
<u>1939</u>					
New Brunswick ..	348,894	314,782		554,672	1,218,348
Quebec .....	905,398	914,563		663,064	2,453,025
Ontario .....	1,297,132	1,492,360		1,040,449	3,829,941
British Columbia	8,396,647	152,499		586,030	9,115,176
Other provinces.	225,255	236,293		483,436	944,984
CANADA ...	11,173,326	3,110,497		3,277,651	17,561,474
<u>1940</u>					
New Brunswick ..	476,421	494,042		601,345	1,571,808
Quebec .....	1,183,757	1,061,857		534,369	2,829,983
Ontario .....	1,306,218	1,962,104		1,190,001	4,458,323
British Columbia	8,407,028	150,558		530,573	9,088,159
Other provinces.	332,700	512,637		256,847	1,102,184
CANADA ...	11,706,124	4,131,198		3,163,135	19,050,457

Table 4 - EMPLOYEES, SALARIES AND WAGES, BY PROVINCES, 1939 and 1940

Province	Average number of employees				TOTAL	Salaries	Wages	TOTAL SALARIES and WAGES
	On salaries		On wages					
	Male	Female	Male	Female				
					\$	\$	\$	
<u>1939</u>								
New Brunswick...	15	3	83	...	101	41,536	90,981	132,517
Quebec .....	56	15	108	...	179	160,908	109,734	270,642
Ontario .....	112	44	203	...	359	283,792	221,956	505,748
British Columbia	64	10	368	4	446	180,848	599,307	780,155
Other provinces.	28	7	91	...	126	65,348	65,202	130,550
CANADA ...	275	79	853	4	1,211	732,432	1,087,180	1,819,612
<u>1940</u>								
New Brunswick ..	15	4	119	...	138	35,629	125,291	160,920
Quebec .....	57	14	116	...	187	156,705	124,326	281,031
Ontario .....	125	39	227	...	391	328,585	245,927	574,512
British Columbia	73	8	458	5	544	203,760	772,017	975,777
Other provinces.	26	7	99	...	132	66,100	84,550	150,650
CANADA ...	296	72	1,019	5	1,392	790,779	1,352,111	2,142,890

Fertilizers

Table 5 - WAGE-EARNERS, BY MONTHS, 1939 and 1940 (On the last day of each month or nearest work day)

Month	1 9 3 9			1 9 4 0		
	Male	Female	TOTAL	Male	Female	TOTAL
January .....	771	4	775	368	4	872
February .....	726	4	730	942	5	947
March .....	856	4	860	942	8	950
April .....	1,173	4	1,177	1,452	9	1,461
May .....	1,419	4	1,423	1,387	8	1,395
June .....	680	4	684	805	6	811
July .....	685	4	689	852	5	857
August .....	768	4	772	863	4	867
September .....	742	4	746	871	4	875
October .....	811	4	815	850	4	854
November .....	819	4	823	1,174	5	1,179
December .....	775	4	779	1,224	4	1,228
AVERAGE .....	853	4	857	1,019	5	1,024

Table 6 - HOURS WORKED PER WEEK BY WAGE-EARNERS, 1940 (In one week of highest employment; overtime included)

Regular hours worked per week	Number of wage-earners of total		Regular hours worked per week	Number of wage-earners of total	
	Per cent	Per cent		Per cent	Per cent
30 hours or less..	227	9.7	51 - 54 hours .....	184	7.9
31 - 43 hours ....	112	4.8	55 hours .....	40	1.7
44 hours .....	35	1.5	56 - 64 hours .....	373	15.9
45 - 47 hours ....	40	1.7	65 hours and over..	382	16.3
48 hours .....	845	36.1	TOTAL .....	2,341	100.0
49 - 50 hours ....	103	4.4	Total wages paid in selected week ....	\$60,335	

Table 7 - FUEL AND ELECTRICITY USED, 1939 and 1940

Kind	Unit of measure	1 9 3 9		1 9 4 0	
		Quantity	Cost at works	Quantity	Cost at works
Anthracite coal .....	ton	36	454	45	602
Bituminous coal - Canadian	ton	1,643	6,966	2,237	9,118
Imported	ton	1,082	6,972	940	6,837
Coke .....	ton	6	60	69	687
Gasoline .....	Imp. gal.	36,771	7,788	41,915	9,268
Fuel oil .....	Imp. gal.	1,940	165	4,933	500
Other fuel .....	...	...	120	...	84
Electricity purchased, .....	K.W.H.	429,832,755	683,478	453,128,407	733,687
TOTAL .....	...	...	706,003	...	760,783

Table 8 - POWER EQUIPMENT, 1939 and 1940

	Ordinarily in use		In reserve or idle	
	Number of units	Total rated horse power	Number of units	Total rated horse power
<b>1939</b>				
Diesel engines .....	1	42	...	...
Total primary equipment ...	1	42	...	...
Electric motors operated by purchased power .....	896	24,637	101	1,631
TOTAL .....	897	24,679	101	1,631
<b>1940</b>				
Steam engines and turbines .....	1	25	...	...
Gasoline, gas and oil engines ..	1	75	...	...
Total primary equipment ...	2	100	...	...
Electric motors operated by purchased power .....	750	18,082	107	1,536
TOTAL .....	752	18,182	107	1,536
Stationary boilers .....	2	16	...	...

Table 9 - MATERIALS USED IN THE FERTILIZER MANUFACTURING INDUSTRY, 1939 and 1940

Materials	1939		1940	
	Quantity	Cost at	Quantity	Cost at
	Short tons	works \$	Short tons	works \$
Ammonium phosphate .....	3,575	171,698	4,071	211,228
Ammonium sulphate (sulphate of ammonia)	21,828	597,694	28,484	811,656
Basic slag .....	5,467	148,806	70	1,092
Bone char .....	511	13,722	781	20,984
Bone meal and bone flour .....	191	5,385	234	7,451
Calcium cyanamide (cyanamid) .....	4,348	134,330	4,976	146,686
Calcium nitrate and nitrochalk .....	644	17,915	1,569	44,885
Dried blood .....	503	23,997	1,568	48,459
Fish meal or scrap .....	314	10,705	188	6,963
Lime or land plaster .....	7,110	24,077	7,970	20,117
Kainite and potash manure salts .....	128	2,569	...	1
Phosphate rock .....	96,319	711,508	143,667	1,262,847
Potassium chloride (muriate of potash)-				
50% .....	23,337	629,589	19,887	558,925
60% .....	16,983	528,970	24,015	789,488
Potassium nitrate (nitrate of potash) ..	53	2,049	23	1,338
Potassium sulphate (sulphate of potash)	4,452	166,322	5,220	206,809
Sodium nitrate (nitrate of soda) .....	9,532	269,291	3,446	289,695
Sulphuric acid, 66° Be .....	157,926	1,657,510	177,075	1,869,672
Superphosphate, 16 to 19% .....	41,847	487,094	13,145	144,642
Superphosphate, 20% .....	132,347	1,510,774	160,932	1,992,426
Superphosphate, 45% and over .....	655	22,558	968	38,547
Tankage .....	1,549	45,347	2,411	71,669
Whale meat, bone and blood .....	90	3,500	85	3,600
All other materials .....	...	353,810	...	294,285
Containers and shipping materials .....	...	601,278	...	681,678
TOTAL .....	...	8,140,498	...	9,525,143



Fertilizers

Table 10 - PRODUCTS OF THE FERTILIZER MANUFACTURING INDUSTRY, CALENDAR YEARS 1939 and 1940

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 9		1 9 4 0	
	Quantity tons	Selling value at works \$	Quantity tons	Selling value at works \$
Mixed fertilizers .....	275,608	7,068,293	298,220	7,967,132
Superphosphate, ammonium phosphate and ammonium sulphate (completely manufactured) (1) .....	236,464	4,918,088	255,913	5,957,548
Superphosphate, milled and screened only .....	8,921	142,682	3,808	73,342
16% .....				
20% .....	30,716	545,916	32,051	637,715
Ammonium sulphate, milled and screened only .....	3,450	112,027	2,330	80,859
Muriate of potash, milled and screened only .....	5,873	209,595	5,501	215,934
Nitrate of soda, milled and screened only .....	2,091	70,921	...	78,291
All other products .....	...	97,652	...	92,998
TOTAL .....	...	13,165,164	...	15,103,819

(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 - 1940

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

Calendar year	Quantity tons	Selling value at at works \$	Calendar year	Quantity tons	Selling value at at works \$
1922 .....	40,343	1,818,136	1932 .....	95,857	2,447,407
1923 .....	37,587	1,366,343	1933 .....	106,421	2,777,702
1924 .....	38,126	1,539,003	1934 .....	138,750	3,517,193
1925 .....	47,076	1,663,129	1935 .....	145,844	3,442,017
1926 .....	56,888	2,043,093	1936 .....	175,703	4,222,587
1927 .....	72,112	2,552,421	1937 .....	243,802	6,130,523
1928 .....	76,180	3,017,648	1938 .....	288,634	7,426,494
1929 .....	75,164	3,098,567	1939 .....	279,425	7,223,177
1930 .....	78,158	2,548,226	1940 .....	302,842	8,154,305

Fertilizers

Table 12 - IMPORTS INTO CANADA AND EXPORTS OF FERTILIZERS AND FERTILIZER MATERIALS, CALENDAR YEARS 1939 and 1940

	Unit of measure	1 9 3 9		1 9 4 0	
		Quantity	Value	Quantity	Value
		\$		\$	
<u>IMPORTS -</u>					
Tankage .....	ton	2,037	53,083	2,122	63,205
Bone dust, charred bone, bone ash, bone meal, and bone flour .....	ton	2,376	85,992	2,307	102,073
Fish offal or refuse .....	ton	509	40,189	327	85,003
Ammonium sulphate .....	ton	3,217	94,854	355	13,506
Basic slag, crushed or ground..	ton	4,779	46,705	2,608	4,008
Kainite, and other German potash salts .....	ton	5	187	250	1,515
Potash, muriate of, crude .....	ton	45,391	1,135,151	54,167	1,385,278
Potash, sulphate of, crude .....	ton	6,398	193,652	4,346	147,926
Soda, nitrate of .....	ton	40,131	1,148,575	44,138	1,293,707
Superphosphate .....	ton	104,126	979,052	99,686	982,337
Fertilizers, compounded or manufactured, not elsewhere specified .....	ton	8,289	237,832	2,718	84,094
Fertilizers, unmanufactured ...	ton	3,629	112,306	3,831	228,482
<u>EXPORTS -</u>					
Tankage .....	ton	11,971	401,413	15,701	463,829
Bone dust and meal .....	ton	123	4,772	382	11,955
Fish offal or refuse .....	ton	445	9,749	1,258	19,195
Ammonium sulphate .....	ton	109,260	2,508,364	72,485	2,172,049
Phosphate .....	ton	52,873	1,684,040	54,210	1,991,804
Fertilizers, manufactured, not elsewhere specified .....	ton	204,659	5,094,904	190,839	4,424,890

Table 13 - TOTAL SALES IN CANADA OF FERTILIZER MATERIALS AND MIXED FERTILIZERS FOR THE YEARS ENDED JUNE 30, 1940 and 1941

Province	Fertilizer Materials		Mixed Fertilizers	
	1940	1941	1940	1941
(Tons of 2,000 pounds)				
Prince Edward Island .....	10,415	11,934	13,358	11,041
Nova Scotia .....	7,094	6,283	22,474	21,666
New Brunswick .....	12,312	9,149	25,893	24,240
Quebec .....	11,921	11,810	70,004	76,516
Ontario .....	23,986	21,340	119,084	105,593
Manitoba, Saskatchewan and Alberta	10,320	8,289	1,579	1,273
British Columbia .....	4,690	5,729	8,691	9,332
CANADA .....	85,638	74,534	261,083	249,667

Table 14 - SALES OF FERTILIZERS IN CANADA, EXCEPT FOR MANUFACTURING PURPOSES, DURING THE YEAR ENDED JUNE 30, 1941

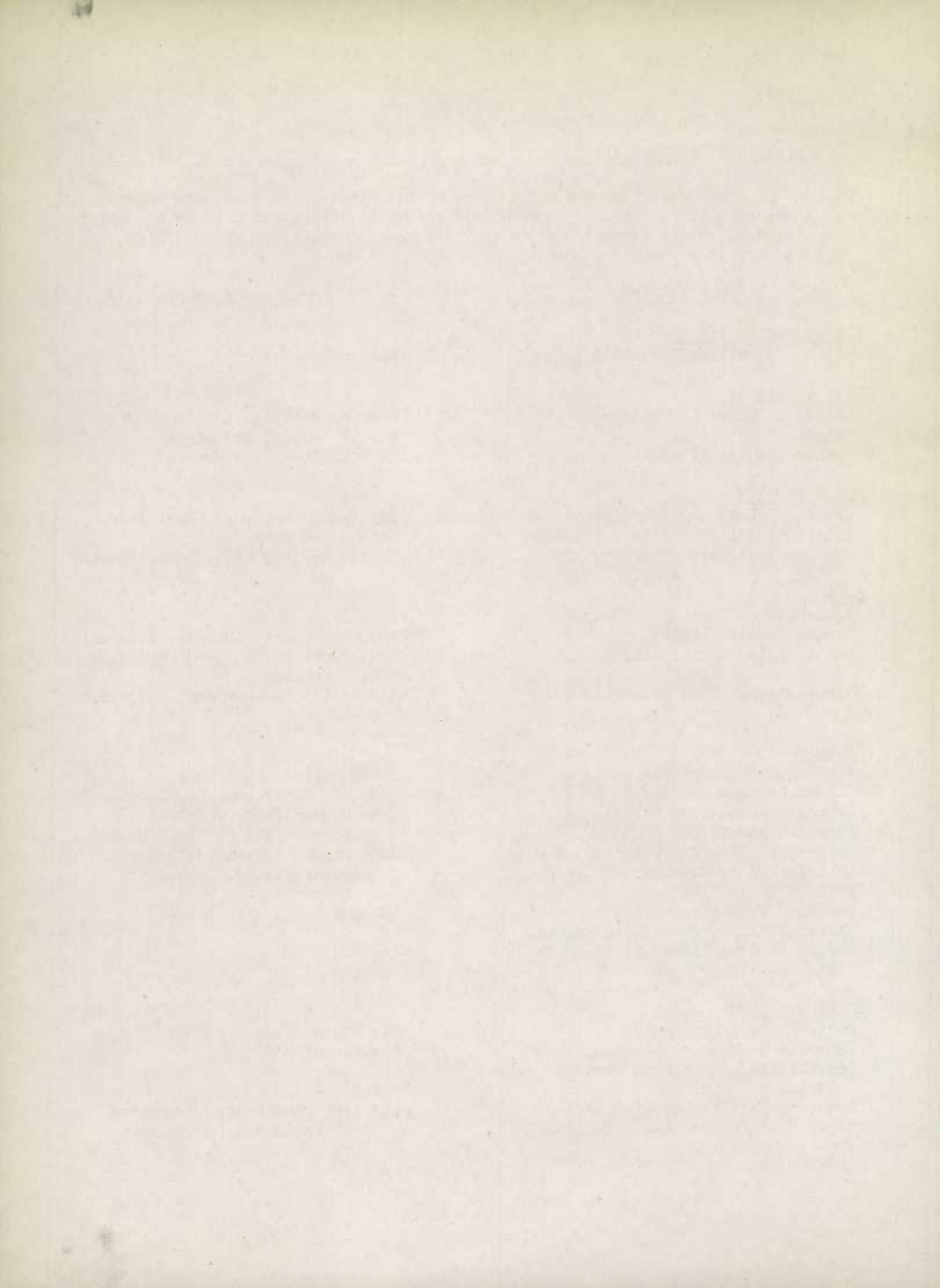
Fertilizers	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba, Saskatchewan and Alberta	British Columbia	TOTAL SOLD IN CANADA
(Tons of 2,000 pounds)								
Nitrate of soda .....	427	2,201	1,247	393	546	12	286	5,112
Sulphate of ammonia .....	742	726	1,153	561	685	128	897	4,892
Cyanamide .....	...	527	2	104	716	...	118	1,467
Superphosphate .....	8,180	2,590	5,458	9,781	12,895	7	913	39,824
Natural phosphate rock .....	...	...	...	...	...	...	.6	6
Basic slag .....	...	...	...	7	47	...	7	61
Bone meal or bone flour .....	...	140	7	48	510	114	498	1,317
Muriate of potash .....	2,583	75	1,269	458	2,642	3	395	7,438
Sulphate of potash .....	...	...	...	28	61	1	42	132
Tankage .....	...	1	11	67	365	256	395	1,095
Sheep manure .....	...	22	...	182	308	10	107	629
Dried blood .....	...	...	...	...	179	62	280	521
Whale products .....	...	...	...	...	...	...	408	408
Fish meal .....	...	...	2	...	1	...	557	560
Ammonium phosphate .....	2	1	...	5	1,809	8,586	681	10,084
Other fertilizer materials .....	...	...	...	176	576	110	139	1,001
<b>Total Fertilizer Materials ..</b>	<b>11,934</b>	<b>6,283</b>	<b>9,149</b>	<b>11,810</b>	<b>21,340</b>	<b>8,289</b>	<b>5,729</b>	<b>74,534</b>
<b>Total Mixed Fertilizers .....</b>	<b>11,041</b>	<b>21,672</b>	<b>24,240</b>	<b>76,516</b>	<b>104,193</b>	<b>1,273</b>	<b>9,332</b>	<b>248,267</b>
<b>GRAND TOTAL, 1941 .....</b>	<b>22,975</b>	<b>27,955</b>	<b>33,289</b>	<b>88,326</b>	<b>125,533</b>	<b>9,562</b>	<b>15,061</b>	<b>322,801</b>
<b>GRAND TOTAL, 1940 .....</b>	<b>23,773</b>	<b>29,568</b>	<b>38,205</b>	<b>81,925</b>	<b>147,970</b>	<b>11,899</b>	<b>13,381</b>	<b>346,721</b>



DIRECTORY OF FIRMS INCLUDED IN THE FERTILIZER MANUFACTURING INDUSTRY, 1940

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.

<u>Names of Firms</u>	<u>Location of Plants</u>
<u>PRINCE EDWARD ISLAND -</u>	
Island Fertilizer Company Limited	Charlottetown
<u>NOVA SCOTIA -</u>	
Canadian Industries Limited	Pier 9, Halifax
Colonial Fertilizer Company	Nesbit Street, Windsor
Cornwallis Fertilizer Company	Port Williams
<u>NEW BRUNSWICK -</u>	
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
<u>QUEBEC -</u>	
Agricultural Chemicals Limited	Chambly
Canada Packers Limited	6000 St. Patrick Street, Montreal
Canadian Industries Limited	McMasterville and 1490 Marlborough St., Montreal
International Fertilizers Limited	National Harbour Board, Shed 29, Quebec
<u>ONTARIO -</u>	
Agricultural Chemicals Limited	Marsh Street, Port Hope
Canada Packers Limited	2300 St. Clair Ave. W., Toronto
Canadian Industries Limited	King Street East, Chatham
Canadian Industries Limited	Burlington & Ottawa Sts., 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
<u>BRITISH COLUMBIA -</u>	
Buckerfield's, Limited	New Westminster
Canadian Industries Limited	New Westminster
Consolidated Mining and Smelting Company of Canada, Limited	Trail
Domestic Fertilizers Limited	319 West Pender St., Vancouver
Globe Fertilizer Company Limited	foot Crompton Road, Vancouver







STATISTICS CANADA LIBRARY  
BIBLIOTHÈQUE STATISTIQUE CANADA



1010650703