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CANADA—DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
MINING, METALLURGICAL AND CHEMICAL INDUSTRIES

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THE FERTILIZER TRADE IN CANADA

July 1, 1938—June 30, 1939

*Reprinted from the Monthly Bulletin of Agricultural Statistics
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Minister of Trade and Commerce



OTTAWA
J. O. PATENAUDE, I.S.O.
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UNITED STATES
DEPARTMENT OF
THE ARMY
WASHINGTON, D. C.
OFFICE OF THE
CHIEF OF STAFF

THE REPORT OF THE
COMMISSION

ON THE
MATTER OF

THE FERTILIZER TRADE IN CANADA

July 1, 1938-June 30, 1939

By W. H. LOSEE, B.Sc.
Chief of the Mining, Metallurgical
and Chemical Branch

Production of fertilizers and fertilizer materials totalled 540,302 short tons during the fertilizer year ended June 30, 1939, compared with 516,459 short tons during the preceding twelve months. These totals do not include calcium cyanamide, the figures of which are not available for publication. The total is made up of 286,605 short tons of mixtures and 253,697 short tons of fertilizer materials, as against 246,676 tons of mixtures and 269,783 tons of fertilizer materials during the same period in 1937-38. To secure these data, schedules were mailed to a list of vendors furnished by the Fertilizer Division of the Federal Department of Agriculture. In order to avoid duplication, each company reporting was furnished with this list and instructed to omit sales to manufacturers or dealers named thereon.

Imports of fertilizers totalled 343,283 tons against 371,920 tons during the preceding fertilizer year. The largest items in the list of imports included superphosphate amounting to 111,385 tons; natural phosphate rock 100,387 tons; muriate of potash 76,532 tons; nitrate of soda 16,114 tons; and sulphate of potash 12,383 tons.

Exports of fertilizers totalled 169,696 tons (excluding calcium cyanamide) and were made up of 134,435 tons of fertilizer materials and 35,261 tons of mixtures. The principal items were sulphate of ammonia amounting to 96,991 tons, a gain of 34 per cent over the exports of this commodity for the preceding year; ammonium phosphate 22,693 tons; and superphosphate 8,611 tons.

Sales.—Sales of fertilizer materials and mixed fertilizers, including exports but excluding calcium cyanamide, totalled 503,699 short tons as compared with 473,719 tons during the preceding twelve months. Sales of fertilizer materials in Canada, at 101,077 tons, dropped 5.3 per cent, but the sales of mixed fertilizers increased 7.5 per cent to 232,926 tons. Every province, except Nova Scotia and British Columbia, purchased less fertilizer materials than in the previous year. The sales in Nova Scotia rose 29 per cent to 12,147 tons and in British Columbia 3.4 per cent to 5,166 tons. The greatest drop, 15 per cent, was in Quebec, but this was largely offset by a 13 per cent increase in the purchase of mixed fertilizers.

Sales of fertilizer materials were greater in Ontario than in any other province. Of the total, Ontario purchased 28 per cent, Quebec 21 per cent, New Brunswick 14 per cent, Nova Scotia 12 per cent, Prince Edward Island 13 per cent, the Prairie Provinces 7 per cent and British Columbia 5 per cent. Superphosphate continued to be the outstanding fertilizer material sold and comprised over 50 per cent of the total. Ontario was the principal consumer, followed by Quebec, Prince Edward Island, New Brunswick, Nova Scotia and British Columbia. More sulphate of ammonia was sold in Prince Edward Island than in any other province in Canada; New Brunswick, Quebec, Nova Scotia, Ontario and British Columbia follow in the order named. Ammonium phosphate was sold to the amount of 8,977 tons, 3,391 tons going to Alberta, 1,923 to Saskatchewan, 1,618 to Manitoba, and 1,443 to New Brunswick. Ammonium phosphate is made in Canada by only the Consolidated Mining and Smelting Company at Trail, B.C. and a substantial market is being worked up on the Prairies where many of the soils are somewhat deficient in phosphoric acid.

Mixed fertilizers sold in Canada totalled 232,926 tons as compared with 216,602 tons during the twelve months ended June 30, 1938. Of the total, 114,097 tons or 49 per cent were sold in Ontario; 55,648 tons or 24 per cent in Quebec; 23,084 tons or 10 per cent in New Brunswick; 10 per cent in Nova Scotia; 3.4 per cent in Prince Edward Island, the same proportion in British Columbia, and minor quantities in the Prairie Provinces.

The most popular mixture was one containing 2 per cent nitrogen, 12 per cent phosphoric acid and 6 per cent potash; 64,746 tons of this mixture were sold. Ontario took 57.5 per cent, Quebec 28 per cent, Nova Scotia 6 per cent, New Brunswick 5.5 per cent and Prince Edward Island 3 per cent. Sales of the 4:8:10 mixture were the next largest, the farmers of Quebec purchasing 53 per cent, while the remainder was distributed among the provinces of Ontario, Prince Edward Island, Nova Scotia and New Brunswick in the order named. Next on the list was a 2:10:8 mixture which amounted to 20,991 tons, practically all of which was sold in Ontario, and the same province was responsible for the purchase of 12,387 tons of the 0:12:6 mixture. A study of Table IV will give the reader some idea of the various other brands used and the provincial distribution of the sales.

Exports of mixed fertilizers totalled 35,261 tons, about the same as in 1938.

A computation was made of the plant food value in the mixed fertilizers and in fertilizer materials sold in Canada. These data are set forth in Tables V and VI.

The names of the concerns which reported are listed in Table VII. An analysis of the records shows that 22 plants made mixed fertilizers; 24 plants manufactured fertilizer materials; 6 made both materials and mixtures; there were 28 importers and 15 exporters.

THE USE OF FERTILIZERS IN CANADA

By C. H. ROBINSON, B.A., Dominion Agricultural Chemist

Much investigational work to obtain information regarding the various phases of fertilizer employment has been conducted by Federal and Provincial agricultural institutions and by officials of the larger fertilizer manufacturing concerns. The results of these investigations have been discussed in various publications such as bulletins, reports, circulars, press articles, etc., and thus the public has been kept informed regarding the latest findings which influence fertilizer usage. Attention has been drawn to the importance of the proper placement of the fertilizer in relation to the seed, the need of supplying certain minor elements such as boron, sulphur, magnesium, etc., to meet special soil conditions, a suitable ratio of the plant food elements supplied by the fertilizer mixture, and the assistance which can be obtained from the use of rapid methods of analysis of soils to obtain some knowledge of their available plant food supply. While all the above are important, it should be kept in mind that the supply of soil organic matter and the soil reaction are factors which influence the increases in crop yields obtained from the application of fertilizers.

The most useful source of organic matter for soils is barnyard manure, which is also a most valuable source of plant food elements. Unfortunately, a great many farmers have no true realization of the importance of an adequate supply of manure in maintaining the organic matter supply in their soils. Very often no attempt is made to properly care for the manure with the result that its organic matter is dissipated and much of the nitrogen and potash is lost through leaching and fermentation. This situation is much to be regretted since it has been shown that best results from fertilizers are usually obtained when they are applied in conjunction with manure.

Many soils in Canada, particularly in the more humid districts, are quite strongly acid. Investigational work has shown that a lessening of the soil acidity is often essential if satisfactory results from the use of fertilizers are to be had. More attention has been given to this fact in recent years and it is now possible for farmers to obtain ground limestone (the most commonly used soil amendment) at low cost. Manufacturers are aware of the importance of a suitable soil reaction for enhancing the results from the use of fertilizers and, therefore, in compounding certain of their mixtures they add sufficient quantities of acid correcting materials (e.g. ground limestone) as fillers to ensure a neutral residual effect in the soil to which the fertilizers are applied.

**I.—Sales of Fertilizer Materials and Mixed Fertilizers for the Fertilizer Years ended
June 30, 1938 and 1939**

(Short tons)

Provinces	Fertilizer materials			Mixed fertilizers		
	1938	1939	Percentage increase + decrease —	1938	1939	Percentage increase + decrease —
	tons			tons		
Prince Edward Island.....	12,923	12,725	— 1·5	8,692	8,124	— 6·5
Nova Scotia.....	9,416	12,147	+ 29·0	22,444	22,706	+ 1·2
New Brunswick.....	16,058	14,554	— 9·4	22,561	23,084	+ 2·3
Quebec.....	24,878	21,126	— 15·1	49,118	55,648	+ 13·3
Ontario.....	28,812	28,072	— 2·6	105,101	114,097	+ 8·6
Manitoba.....	2,040	1,680	— 17·6	125	214	+ 71·2
Saskatchewan.....	2,618	1,964	— 25·0	259	482	+ 86·1
Alberta.....	5,033	3,643	— 27·6	357	410	+ 14·8
British Columbia.....	4,996	5,166	+ 3·4	7,945	8,161	+ 2·7
Canada.....	106,774	101,077	— 5·3	216,602	232,926	+ 7·5
Exported.....	115,086*	134,435*	—	35,257	35,261	—
Grand Total.....	221,860*	235,512*	—	251,859	268,187	—

* Does not include calcium cyanamide.

**II.—Production in Canada, Imports and Exports of Fertilizers, as Reported by the Manufacturers
and Importers during the Years ended June 30, 1938 and 1939**

(Short tons)

Items	1938			1939		
	Manu- factured	Imported	Exported	Manu- factured	Imported	Exported
Mixed fertilizers.....	246,676	1,495	35,257	286,605	295	35,261
Sulphate of ammonia.....	107,123	4,082	71,863	124,861	6,465	96,991
Calcium nitrate.....	—	665	56	—	1,083	214
Nitrate of soda.....	—	12,790	284	—	16,114	565
Superphosphate*.....	99,141	104,171	11,016	87,738	111,385	8,611
Basic slag.....	—	5,688	5	—	4,898	16
Nitrochalk.....	—	49	—	—	—	—
Natural phosphate rock.....	—	148,174	—	—	100,387	—
Bone meal or bone flour.....	519	446	6	1,074	565	—
Muriate of potash.....	—	75,371	718	—	76,532	344
Sulphate of potash.....	—	10,666	32	—	12,383	—
Potash manure salts and kainite.....	—	—	—	—	—	131
Tankage.....	1,029	2,156	531	755	2,604	399
Sheep manure.....	—	819	—	—	708	2
Dried blood.....	505	40	227	806	144	135
Whale products.....	796	80	252	786	—	399
Fish meal.....	3,430	605	3,122	3,913	218	3,913
Ammonium phosphate.....	56,990	2,873	26,974	32,845	5,545	22,693
Soya bean meal.....	—	40	—	—	539	—
Other materials.....	250	1,710	—	919	3,418	22
Total†.....	516,459	371,920	150,343	540,302	343,283	169,696

* Contains 16%, 18%, 20%, 45% and 48% superphosphate.

† Does not include calcium cyanamide.

**III.—Sales of Fertilizers, except for Manufacturing Purposes, during the Year ended
June 30, 1939**

(Short tons)

Fertilizers	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total sold in Canada	Export- ed from Canada
Nitrate of soda.....	565	3,326	1,734	388	628	7	2	35	185	6,870	565
Sulphate of ammonia....	1,899	1,253	1,659	1,468	1,171	15	18	102	815	8,400	96,991
Calcium cyanamide.....	1	596	9	65	941	-	-	-	100	1,712	"
Nitrochalk.....	13	4	1	3	-	-	-	-	-	21	-
Calcium nitrate.....	-	48	-	-	1	-	-	-	-	49	214
Superphosphate.....	7,640	3,313	7,488	13,823	20,111	5	15	66	1,260	53,721	8,611
Natural phosphate rock..	-	-	-	15	-	-	-	-	1	16	-
Basic slag.....	-	3,192	654	3,283	2	-	-	-	88	7,219	16
Bone meal or bone flour..	1	50	29	-	637	-	-	30	382	1,129	-
Bone phosphate.....	-	29	2	46	64	-	-	-	45	186	2
Muriate of potash.....	2,606	293	2,682	1,401	1,294	3	-	-	364	8,643	344
Sulphate of potash.....	-	-	107	187	132	-	-	1	107	534	-
Tankage.....	-	2	36	-	247	-	-	-	106	391	399
Sheep manure.....	-	41	2	130	396	-	-	-	86	655	2
Dried blood.....	-	-	-	-	120	32	-	18	80	250	135
Whale products.....	-	-	125	-	-	-	-	-	230	355	399
Fish meal.....	-	-	-	-	1	-	-	-	640	647	3,013
Ammonium phosphate...	-	-	26	1	1,443	1,618	1,923	3,391	575	8,977	22,693
Other fertilizer materials	-	-	-	316	884	-	6	-	96	1,302	22
Total fertilizers.....	12,725	12,147	14,554	21,126	28,072	1,680	1,964	3,643	5,166	101,077	-
Total mixed fertiliz- ers.....	8,124	22,706	23,084	55,648	114,097	214	482	410	8,161	232,926	35,261
Grand Total, 1939..	20,849	34,853	37,638	76,774	142,169	1,894	2,446	4,053	13,327	334,003	-
Grand Total, 1938..	21,615	31,860	38,619	73,996	133,913	2,165	2,877	5,390	12,941	323,376	-

* Not available for publication.

IV.—Mixed Fertilizers Sold during the Year ended June 30, 1939

(Short tons)

Formulae			P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada	Export- ed from Canada
N	P ₂ O ₅	K ₂ O											
0	10	10	-	-	-	271	3	-	-	-	-	274	-
0	10	10	-	-	-	-	-	-	-	-	537	537	-
0	12	6	-	-	-	-	12,387	-	-	-	-	12,387	-
0	12	10	-	-	-	3	4,806	-	-	-	109	4,918	-
0	12	14	-	-	-	-	397	-	-	-	-	397	-
0	12	15	-	-	-	-	2,349	-	-	-	-	2,359	-
0	16	6	16	84	24	2,061	889	-	-	-	17	3,091	-
0	16	10	-	-	-	76	2	-	-	-	1	79	-
2	8	4	-	-	-	177	233	-	-	-	-	410	-
2	8	5	-	-	-	-	201	-	-	-	-	201	-
2	8	10	-	-	-	110	1,863	-	-	-	-	1,973	-
2	8	16	-	-	-	3	148	-	-	-	-	151	-
2	8	24	-	-	-	1	64	-	-	-	-	65	-
2	10	4	2	1,032	2,078	11	23	-	-	-	-	3,146	248
2	10	8	-	-	-	25	20,902	-	-	-	64	20,991	-
2	12	2	-	-	-	70	-	-	-	-	-	70	-
2	12	6	1,871	4,033	3,673	17,919	37,250	-	-	-	-	64,746	262
2	12	8	-	-	-	1,033	56	-	-	-	-	1,089	-
2	12	10	-	-	-	6,397	9,152	-	-	-	24	15,573	-
2	16	6	-	5	-	658	4,297	1	-	1	94	5,056	-
2	19	0	-	-	-	-	3	183	475	293	15	969	-
3	8	4	-	-	-	-	36	-	-	-	-	36	33
3	8	5	-	-	-	-	531	-	-	-	-	531	-
3	8	15	-	-	-	579	-	-	-	-	-	579	-
3	10	5	-	-	-	-	1,251	-	-	-	-	1,251	-
3	10	6	-	-	-	-	1,348	-	-	-	-	1,348	-
3	10	8	-	-	-	-	3,453	-	-	14	1,779	5,246	-
3	11	0	-	-	-	85	-	-	-	-	-	85	-
3	18	0	-	-	-	-	-	-	-	-	-	-	84
4	6	10	14	1,062	3,969	-	-	-	-	-	-	5,045	216
4	8	4	8	1,728	60	97	26	-	-	-	-	1,919	150
4	8	6	-	-	-	37	1,913	-	-	-	-	1,950	-
4	8	7	319	1,272	455	26	-	1	-	1	13	2,087	823
4	8	10	4,155	2,100	1,421	17,318	7,458	7	2	-	-	32,461	3,610
4	8	13	1,026	658	3,137	-	-	-	-	-	-	4,821	81
4	8	15	-	-	52	250	-	-	-	-	-	308	-
4	9	4	-	-	-	-	154	-	-	-	-	154	-
4	9	5	-	-	-	-	65	-	-	-	-	65	-
4	10	8	-	11	8	38	57	4	-	4	2	127	-
4	10	10	-	-	-	822	1	-	-	18	3,108	3,949	-
4	12	4	-	-	-	15	390	-	-	-	25	430	-
4	12	6	-	-	-	20	439	2	-	-	-	461	-
4	24	12	-	-	-	46	108	-	-	-	5	159	-
5	8	7	-	-	-	767	778	-	-	-	-	1,545	29
5	8	10	15	3	2,683	881	19	-	-	-	-	3,601	8,144
5	8	12	40	57	2,938	2,210	-	-	-	-	-	5,245	8,793
5	9	8	584	2,331	2,075	-	-	-	-	-	-	4,990	2,426
5	10	5	74	3,775	168	1	195	1	-	1	606	4,821	251
5	10	10	-	5	61	851	-	-	-	-	-	917	800
5	12	2	-	-	-	31	6	-	-	-	22	59	-
5	12	8	-	-	-	-	-	-	-	-	-	-	650
6	7	4	-	-	-	-	-	-	-	-	686	686	-
6	7	10	-	-	-	14	-	-	-	-	291	305	-
6	8	10	-	-	-	2,320	177	-	-	-	-	2,497	-
6	10	10	-	-	-	-	-	-	-	-	635	635	-
6	12	18	-	-	-	-	-	-	-	-	-	-	90
7	4	7	-	-	-	-	51	-	-	-	-	51	-
7	5	2	-	2	-	22	61	2	-	-	13	100	2
8	5	0	-	-	-	-	-	-	-	65	-	65	-
8	5	2	-	-	-	-	42	8	-	-	-	50	-
7	13	16	-	-	-	-	-	-	-	-	-	-	2,252
8	16	14	-	-	20	-	-	-	-	-	-	20	508
8	16	16	-	-	-	-	-	-	-	-	-	-	205
8	16	20	-	12	236	36	2	-	-	-	-	286	5,462
9	5	7	-	4,502	26	216	30	-	-	-	-	4,774	-
10	5	2	-	9	-	39	35	-	-	-	-	83	1
Other mixtures			-	25	-	106	446	5	1	15	104	702	133
Total			8,124	22,706	23,984	55,648	114,097	214	482	410	8,161	232,976	35,261

V.—Nitrogen, Phosphoric Acid and Potash contained in mixed fertilizers sold in Canada, during the Years ended June 30, 1938 and 1939

Provinces	1938				1939			
	Total tonnage	Nitrogen	Phosphoric acid	Potash	Total tonnage	Nitrogen	Phosphoric acid	Potash
	tons	lb.	lb.	lb.	tons	lb.	lb.	lb.
Prince Edward Island.....	8,692	630,300	1,552,300	1,577,540	8,124	587,980	1,466,240	1,485,900
Nova Scotia.....	22,444	2,142,820	3,840,880	3,022,820	22,706	2,183,240	3,899,040	3,106,020
New Brunswick.....	22,561	1,808,660	3,814,780	4,209,500	23,084	1,799,300	4,011,780	4,299,680
Quebec.....	49,118	3,196,800	9,883,260	8,555,320	55,648	3,523,240	11,678,480	9,512,080
Ontario.....	105,101	4,068,860	23,471,540	15,540,520	114,097	4,271,680	25,335,520	16,945,460
Manitoba.....	125	6,400	45,980	3,100	214	11,040	76,280	3,900
Saskatchewan.....	259	10,720	97,060	1,440	482	19,660	182,160	1,220
Alberta.....	357	16,580	135,400	4,600	410	26,580	130,720	8,320
British Columbia.....	7,945	613,320	1,528,220	1,363,480	8,161	640,120	1,606,100	1,452,500
Total Canada.....	216,602	12,494,460	44,369,420	34,294,320	232,926	13,062,840	48,286,320	36,815,090
Exported from Canada.....	35,257	3,888,420	7,100,820	8,003,940	35,261	3,014,980	5,518,140	6,855,900

VI.—Nitrogen, Phosphoric Acid and Potash contained in fertilizer materials sold in Canada, during the Years ended June 30, 1938 and 1939

Provinces	1938				1939			
	Total tonnage	Nitrogen	Phosphoric acid	Potash	Total tonnage	Nitrogen	Phosphoric acid	Potash
	tons	lb.	lb.	lb.	tons	lb.	lb.	lb.
Prince Edward Island.....	12,923	1,026,660	2,867,760	2,301,000	12,725	944,760	2,964,760	2,608,800
Nova Scotia.....	9,416	1,480,340	1,713,340	368,320	12,147	1,842,460	2,384,020	207,020
New Brunswick.....	16,058	1,373,180	3,431,560	3,053,880	14,554	1,263,100	3,095,720	3,261,760
Quebec.....	24,878	1,104,320	7,353,640	1,887,520	21,126	784,580	6,374,800	1,583,120
Ontario.....	28,812	1,217,960	9,594,600	1,450,700	28,072	1,599,280	9,230,520	1,638,560
Manitoba.....	2,040	440,170	1,883,840	1,340	1,680	372,940	1,551,340	3,000
Saskatchewan.....	2,618	561,420	2,407,760	-	1,964	433,880	1,831,140	-
Alberta.....	5,033	1,087,480	4,353,120	1,000	3,643	818,780	3,232,000	960
British Columbia.....	4,996	725,750	975,420	493,780	5,166	784,220	1,299,980	408,440
Total Canada.....	106,774	9,017,286	34,641,040	9,557,540	101,077	8,844,000	31,964,880	9,861,660
Exported from Canada.....	*	100,450,320	19,213,160	750,000	*	103,171,070	16,622,580	400,040
Grand Total.....	361,643	199,467,606	53,854,200	10,307,540	-	112,015,070	48,587,460	10,261,700

* Not available for publication.

VII.—Reporting Companies

Nature of Trade*	Names	Addresses
d.	Agricultural and Horticultural Supplies Ltd.....	631 Seymour St., Vancouver, B.C.
m.m.f.; i.	Agricultural Chemicals, Ltd.....	Port Hope, Ont.
d.	Aldershot Distributing Co-op. Co. Ltd.....	Aldershot, Ont.
m.s.a.; e.	Algoma Steel Corporation, Ltd.....	Sault Ste. Marie, Ont.
d.	Brackman-Kerr Milling Co.....	Box 920, New Westminster, B.C.
m.m.f.; i.	Buckerfield's, Limited.....	Vancouver, B.C.
m.o.; e.	Burns, P. and Company.....	Calgary, Alta.
m.o.; e.	"	Edmonton, Alta.
m.o.	"	Regina, Sask.
m.o.; e.	"	Winnipeg, Man.
m.m.f.; o.; i.	"	Vancouver, B.C.
m.m.f.; o.; i.	Canada Packers Limited.....	West Toronto, Ont.
m.m.f.; i.	"	Montreal, Que.
m.m.f.; i.; e.	"	St. John, N.B.
m.m.f.; s.p.; i.; e.	Canadian Industries, Limited.....	Montreal, Que., Plants at Halifax, N.S., Belœil, Que., Hamilton, Ont., and New Westminster, B.C.
d.; i.	Case, A. H.....	Buffalo, N.Y., U.S.A.
m.m.f.; i.	Chase, Geo. A.....	Port Williams, N.S.
m.m.f.; i.; e.	Colonial Fertilizer Works.....	Windsor, N.S.
m.a.p.; s.p.; s.a.; e.; i.	Consolidated Mining & Smelting Co. of Canada, Ltd.	Trail, B.C.

*m.—Manufacturing.
m.a.p.—Manufacturing ammonium phosphate.
m.c.—Manufacturing cyanamide.
m.m.f.—Manufacturing mixed fertilizers.
m.o.—Manufacturing organics.
m.s.a.—Manufacturing sulphate of ammonia.
m.s.p.—Manufacturing superphosphate.
e.—Exports.
i.—Imports.
d.—Dealer.

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