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

THE FERTILIZER TRADE IN CANADA

July 1, 1936—June 30, 1937

Reprinted from the Monthly Bulletin of Agricultural Statistics
January, 1938

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OTTAWA
J. O. PATENAUDE, I.S.O.
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1938

Price, 10 cents

THE FERTILIZER TRADE IN CANADA

JULY 1, 1936-JUNE 30, 1937

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

Each year the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics, in co-operation with the Fertilizer Division of the Federal Department of Agriculture, makes a survey of the Canadian trade in fertilizers. The period covered is known as the "fertilizer year" and ends June 30. The present report covers the year ending June 30, 1937.

The list of vendors to whom schedules were sent was furnished by the Department of Agriculture and was made up of all firms or individuals in the trade, who must sell under the provisions of the Fertilizers Act. To avoid duplication, the schedule was accompanied by this complete list with instructions not to include sales to manufacturers or dealers and others named therein.

The results of the survey for the period under review indicate a marked improvement over the preceding twelve months. Substantial increases were evident in the manufacture, sales and exports of both mixed fertilizers and fertilizer materials. The names of the concerns reporting are listed on pages 5 and 6. An analysis of the records show that 19 plants made mixed fertilizers; 24 plants made fertilizer materials; 5 made both; 17 reported as dealers only; and there were 32 importers and 19 exporters.

Every province in the Dominion showed a gain in the consumption of mixed fertilizers, though there was a decrease of 13 per cent in Nova Scotia and 7 per cent in Quebec in the amount of fertilizer materials used. Ontario was the largest purchaser of both mixed fertilizers and fertilizer materials. Quebec was next in order. Nova Scotia used more mixed fertilizers than either of the other two Maritime Provinces, but New Brunswick purchased more fertilizer materials than did Nova Scotia or Prince Edward Island. The consumption of mixed fertilizers rose 31 per cent in British Columbia and sales of materials for consumption within the province rose to 5,974 tons from 4,170 tons during the previous year.

Production.—The total output of fertilizers reached 579,196 short tons, an increase of 33 per cent over the preceding year. Of this total, 229,888 tons were mixed fertilizers; 162,509 tons calcium cyanamide; 79,556 tons sulphate of ammonia; 66,967 tons superphosphate; 32,151 tons ammonium phosphate; bone meal, tankage, dried blood, whale products and fish meal made up the remainder.

Imports.—Imports of fertilizers totalled 267,951 tons against 198,092 tons during the preceding fertilizer year. Mixed fertilizers constitute a very small proportion of the imports, only 135 tons having been brought in. Superphosphate, at 99,007 tons, was the largest item. Natural phosphate rock, at 74,982 tons, was next. Muriate of potash totalled 49,486 tons, an increase of 68 per cent. Other items on the list which were imported in larger quantities than during the preceding twelve months were ammonium sulphate, calcium cyanamide, nitrate of soda, basic slag, nitrochalk, sulphate of potash, sheep manure, and ammonium phosphate.

Exports.—Exports of fertilizers totalled 289,475 short tons, an increase of 39 per cent over the preceding fertilizer year. Fertilizer materials exported totalled 263,141 tons, an increase of 38 per cent, and mixtures amounted to 26,334 tons, an increase of 46 per cent. The principal fertilizer materials exported were sulphate of ammonia, 72,495 tons; calcium cyanamide, 151,268 tons; superphosphate, 9,103 tons; ammonium phosphate, 25,142 tons, and fish meal, 3,362 tons.

Sales.—Sales of fertilizer materials and mixed fertilizers, including exports and excluding sales for the production of mixed fertilizers, totalled 587,751 tons against 442,102 tons in the preceding year. Sales for Canadian consumption reached 298,276 tons, an increase of 27·6 per cent.

Tables III and IV show, in detail, the sales of fertilizer materials and mixed fertilizers by provinces and for export. A careful study of Table IV will indicate the most popular mixtures used in different parts of Canada. As in the previous year, a mixture containing 2 per cent nitrogen, 12 per cent phosphoric acid, and 6 per cent potash was in greatest demand. Of the total sold, Ontario consumers took 68 per cent; those in Quebec 20 per cent, and practically all of the remainder was divided among the three Maritime Provinces. A 4-8-10 mixture was second in demand. Of the 27,442 tons of this grade sold in Canada, nearly half was taken by Quebec agriculturists, 22 per cent went to Prince Edward Island, 19 per cent to Ontario, and, with the exception of some 12 tons which went to the Prairie Provinces, the remainder was taken by Nova Scotia and New Brunswick. This was the most popular grade in Prince Edward Island. Nova Scotia used more of a 9-5-7 than any other, though 5-10-5, 5-9-8, 4-8-4, and 2-12-6 were purchased in considerable volume. New Brunswick favoured a 4-6-10 but 4-8-13, 5-9-8, 5-8-12, 4-8-10, 2-10-4 and 2-12-6 were used extensively also. A greater variety of mixtures was used in Quebec and Ontario than in the other provinces. Farmers and gardeners in British Columbia showed a preference for mixtures on a 3-10-8, 4-10-10, 5-10-5 and 6-10-10 basis.

Attention is drawn to Tables V and VI which give the plant food value of the fertilizer materials and mixed fertilizers sold in the various provinces during the year.

I.—Total Sales of Fertilizer Materials and Mixed Fertilizers for the Fertilizer Years ended June 30, 1936 and 1937

(Short tons)

Provinces	Fertilizer materials			Mixed fertilizers		
	1936	1937	Percentage increase + decrease −	1936	1937	Percentage increase + decrease −
	tons	tons	p.c.	tons	tons	p.c.
Prince Edward Island	10,167	10,759	+ 5·82	7,759	11,292	+45·53
Nova Scotia	12,907	11,161	−13·53	21,463	23,421	+ 9·12
New Brunswick	12,897	16,133	+25·09	14,490	19,699	+35·95
Quebec	24,298	22,526	− 7·29	27,438	36,237	+32·07
Ontario	23,688	31,330	+32·26	60,261	92,770	+53·95
Manitoba, Saskatchewan and Alberta	8,350	9,110	+ 9·10	88	170	+93·18
British Columbia	4,172	5,974	+43·26	5,862	7,694	+31·25
Canada	**96,479**	**106,993**	**+10·90**	**137,361**	**191,283**	**+39·26**
Exported	190,268	263,141	+38·30	17,994	26,334	+46·35
Grand Total	**286,747**	**370,134**	**+29·08**	**155,355**	**217,617**	**+40·08**

II.—Production in Canada, Imports and Exports of Fertilizers, as Reported by the Manufacturers and Importers during the Years ended June 30, 1936 and 1937

(Short tons)

Items	1936			1937		
	Manufactured	Imported	Exported	Manufactured	Imported	Exported
Mixed fertilizers	160,839	40	17,994	229,888	135	26,334
Sulphate of ammonia	86,711	4,483	52,980	79,556	6,932	72,495
Calcium cyanamide	116,057	37	116,358	162,509	185	151,268
Calcium nitrate	–	1,847	1,175	–	100	–
Nitrate of soda	–	9,884	181	–	12,301	187
Superphosphate*	44,951	80,593	8,799	66,967	99,007	9,103
Basic slag	–	8,373	5	–	10,436	9
Nitrochalk	–	95	2	–	495	31
Natural phosphate rock	–	52,571	–	–	74,982	–
Bone meal or bone flour	1,071	215	43	1,055	122	33
Muriate of potash	–	29,528	124	–	49,486	96
Sulphate of potash	–	4,276	94	–	7,516	16
Potash manure salts and kainite	–	810	–	–	50	–
Tankage	2,010	1,035	838	1,862	1,424	917
Sheep manure	–	570	–	–	680	–
Dried blood	1,650	–	219	654	–	106
Whale products	527	150	100	840	–	376
Fish meal	5,439	359	280	3,714	135	3,362
Ammonium phosphate	17,518	1,772	9,070	32,151	3,653	25,142
Other materials	53	1,454	–	–	312	–
Total	**436,826**	**198,002**	**208,262**	**579,196**	**267,951**	**289,475**

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

III.—Sales of Fertilizers, except for Manufacturing Purposes, during the Year ended June 30, 1937

(Short tons)

Fertilizers	P.E.I.	N.S.	N.B.	Que.	Ont.	Man., Sask. and Alta.	B.C.	Total sold in Canada	Exported from Canada	Grand Total
Nitrate of soda	247	2,211	1,783	243	875	23	228	5,610	187	5,797
Sulphate of ammonia	2,133	1,335	1,625	2,572	916	131	842	9,554	72,495	82,049
Calcium cyanamide	–	547	2	78	911	–	132	1,670	151,268	152,938
Nitrochalk	13	3	–	–	–	–	–	16	31	47
Calcium nitrate	–	–	–	–	–	–	12	12	–	12
Superphosphate	6,555	2,102	8,739	14,389	23,839	535	1,219	57,378	9,103	66,481
Natural phosphate rock	1	8	–	26	98	–	21	154	–	154
Basic slag	–	4,436	1,170	2,757	–	–	27	8,390	9	8,399
Bone meal or bone flour	–	118	40	41	661	182	720	1,762	33	1,795
Bone phosphate	–	–	–	–	1	–	20	21	–	21
Muriate of potash	1,805	367	2,670	2,044	1,283	–	448	8,617	96	8,713
Sulphate of potash	5	–	56	139	136	5	119	460	16	476
Potash manure salts and kainite	–	–	–	–	–	–	–	–	–	–
Tankage	–	3	31	95	464	477	164	1,234	917	2,151
Sheep manure	–	29	1	140	551	29	72	822	–	822
Dried blood	–	–	–	–	57	97	170	324	106	430
Whale products	–	–	–	–	–	–	557	557	376	933
Fish meal	–	–	15	–	–	–	665	680	3,362	4,042
Ammonium phosphate	–	–	–	–	1,162	7,629	537	9,328	25,142	34,470
Other fertilizer materials	–	2	1	2	376	2	21	404	–	404
Total fertilizers	**10,759**	**11,161**	**16,133**	**22,526**	**31,330**	**9,110**	**5,974**	**106,993**	**263,141**	**370,134**
Total mixed fertilizers	11,292	23,421	19,699	36,237	92,770	170	7,694	191,283	26,334	217,617
Grand Total, 1937	**22,051**	**34,582**	**35,832**	**58,763**	**124,100**	**9,280**	**13,668**	**298,276**	**289,475**	**587,751**
Grand Total, 1936	**17,926**	**34,370**	**27,287**	**51,736**	**83,949**	**8,438**	**10,034**	**233,840**	**208,262**	**442,102**

IV.—Mixed Fertilizers sold during the Year ended June 30, 1937

(Short tons)

Formulae			P.E.I.	N.S.	N.B.	Que.	Ont.	Man., Sask., Alta.	B.C.	Canada	Exported from Canada	Grand Total
N	P_2O_5	K_2O										
0	10	10	-	-	-	162	1	-	-	163	-	163
0	10	16	-	-	-	-	-	-	379	379	-	379
0	12	6	-	-	-	11	11,216	-	-	11,227	-	11,227
0	12	10	-	-	-	-	1,997	-	147	2,144	-	2,144
0	12	14	-	-	-	-	95	-	-	95	-	95
0	12	15	-	-	-	-	1,411	-	1	1,412	-	1,412
0	16	6	4	268	63	462	385	-	-	1,182	9	1,191
1	12	8	-	-	-	88	-	-	-	88	-	88
2	8	4	-	-	-	335	3,050	-	-	3,385	-	3,385
2	8	5	-	-	-	-	2,695	-	-	2,695	-	2,695
2	8	10	-	-	-	190	1,005	-	-	1,195	2	1,197
2	8	16	-	-	-	6	602	-	-	608	-	608
2	10	4	181	1,768	2,273	7	-	-	-	4,229	366	4,595
2	10	8	-	-	-	-	13,161	-	-	13,161	-	13,161
2	10	12	-	-	-	-	85	-	-	85	-	85
2	12	6	1,995	2,546	1,423	10,052	33,864	8	18	49,906	207	50,113
2	12	10	-	-	-	2,066	3,471	-	1	5,538	-	5,538
2	13	6	-	-	-	-	1,098	-	-	1,098	-	1,098
2	16	6	-	-	-	129	3,583	-	48	3,760	-	3,760
3	7	10	-	-	-	-	-	-	62	62	-	62
3	8	4	-	-	-	-	237	-	-	237	29	266
3	8	5	-	-	-	12	39	-	-	51	-	51
3	8	15	-	-	-	800	-	-	-	800	-	800
3	10	5	-	-	-	-	1,586	-	-	1,586	-	1,586
3	10	6	-	-	-	-	1,814	-	11	1,825	-	1,825
3	10	8	-	-	-	-	18	15	2,706	2,739	-	2,739
3	12	5	-	-	-	-	60	-	-	60	-	60
3	12	8	-	-	-	-	84	-	-	84	-	84
4	6	10	-	1,568	4,502	56	-	-	-	6,126	516	6,642
4	8	4	-	2,651	74	197	9	-	-	2,931	198	3,129
4	8	6	-	-	-	77	1,974	-	-	2,051	-	2,051
4	8	7	573	1,841	563	65	-	-	-	3,042	576	3,618
4	8	10	6,062	1,410	1,842	13,001	5,115	12	-	27,442	2,793	30,235
4	8	13	1,364	482	3,254	11	-	-	-	5,111	118	5,229
4	8	15	-	-	-	286	-	-	-	286	-	286
4	9	4	-	-	-	52	130	-	-	182	-	182
4	9	6	-	-	-	-	52	-	-	52	-	52
4	9	10	-	-	-	-	53	-	-	53	-	53
4	10	8	-	11	7	41	53	12	4	128	1	129
4	10	10	-	-	-	1,250	-	4	1,917	3,171	90	3,261
4	12	4	1	2	2	41	400	-	-	446	-	446
4	12	6	-	-	-	26	310	-	-	336	-	336
4	12	8	-	-	-	-	65	-	-	65	-	65
5	6	9	-	-	-	55	-	-	-	55	-	55
5	8	7	50	30	2	830	1,562	-	-	2,474	443	2,917
5	8	10	300	75	786	166	-	-	-	1,327	5,185	6,512
5	8	12	3	86	1,914	2,426	3	-	-	4,432	4,030	8,462
5	9	8	621	2,201	2,477	4	-	-	-	5,303	4,526	9,829
5	10	5	128	3,852	81	4	141	-	732	4,938	184	5,122
5	10	10	6	-	318	717	-	-	-	1,041	751	1,792
6	7	4	-	-	20	83	-	-	531	634	9	643
6	7	10	-	-	-	-	-	-	143	143	-	143
6	8	10	-	-	-	2,182	174	-	-	2,356	-	2,356
6	10	10	-	-	-	-	-	-	687	687	-	687
7	5	2	-	7	-	24	73	3	13	120	2	122
7	13	11	-	-	-	-	-	-	-	-	90	90
7	13	16	-	-	-	-	-	-	-	-	1,254	1,254
8	9	5	-	-	-	-	-	41	14	55	-	55
8	16	14	-	-	25	-	-	-	-	25	618	643
8	16	16	-	-	-	-	-	-	-	-	109	109
8	16	20	-	-	42	44	5	-	-	91	4,117	4,208
9	5	7	-	4,693	10	117	129	-	-	4,849	-	4,849
9	10	5	-	-	-	-	-	39	32	71	-	71
10	5	2	-	2	-	40	38	-	-	80	1	81
12	6	5	-	-	-	-	-	-	-	-	50	50
25	8	5	-	-	-	-	72	-	-	72	-	72
Other mixtures			4	28	21	122	855	36	248	1,314	60	1,374
Total			11,292	23,421	19,699	36,237	92,770	170	7,694	191,283	26,334	217,617

V.—Nitrogen, Phosphoric Acid and Potash contained in mixed fertilizers sold in Canada, during the Years ended June 30, 1936 and 1937

(Short tons)

Provinces	1936				1937			
	Total tonnage	Nitrogen	Phosphoric acid	Potash	Total tonnage	Nitrogen	Phosphoric acid	Potash
	tons	lb.	lb.	lb.	tons	lb.	lb.	lb.
Prince Edward Island	7,759	564,440	1,383,640	1,397,620	11,292	837,840	1,991,420	2,082,780
Nova Scotia	21,463	2,056,940	3,583,020	2,722,220	23,421	2,265,660	3,924,160	3,096,900
New Brunswick	14,490	1,094,080	2,344,480	2,664,840	19,699	1,543,380	3,261,540	3,728,400
Quebec	27,438	1,905,640	5,277,480	4,772,600	36,237	2,507,400	7,118,840	6,772,540
Ontario	60,261	2,501,720	13,092,680	8,034,040	92,770	3,666,480	20,369,249	12,725,720
Manitoba, Saskatchewan and Alta.	88	7,780	20,740	12,300	170	105,660	43,640	22,720
British Columbia	5,862	422,220	1,149,000	1,002,220	7,694	501,920	1,481,080	1,208,580
Total Canada	**137,361**	**8,552,820**	**26,854,040**	**20,605,840**	**191,283**	**11,428,340**	**38,189,929**	**29,637,640**
Exported from Canada	17,994	1,968,920	3,668,860	4,088,740	26,334	2,868,400	5,265,560	6,113,600
Grand Total	**155,355**	**10,521,740**	**30,522,900**	**24,694,580**	**217,617**	**14,296,740**	**43,455,489**	**35,751,240**
Miscellaneous (no analysis given)	454	-	-	-	787	-	-	-

VI.—Nitrogen, Phosphoric Acid and Potash contained in fertilizer materials sold in Canada, during the Years ended June 30, 1936 and 1937

(Short tons)

Provinces	1936				1937			
	Total tonnage	Nitrogen	Phosphoric acid	Potash	Total tonnage	Nitrogen	Phosphoric acid	Potash
	tons	lb.	lb.	lb.	tons	lb.	lb.	lb.
Prince Edward Island	10,167	543,980	2,621,520	897,000	10,759	974,380	2,306,360	1,811,200
Nova Scotia	12,907	1,700,540	2,376,480	1,188,760	11,161	1,489,500	2,292,800	374,180
New Brunswick	12,897	994,560	2,855,300	2,117,020	16,133	1,235,100	3,641,920	2,727,780
Quebec	24,298	890,340	7,204,580	2,139,580	22,526	1,160,940	8,443,800	2,180,440
Ontario	23,688	1,643,260	6,575,660	1,428,480	31,330	1,463,660	10,135,260	1,583,980
Manitoba, Saskatchewan and Alta.	8,350	1,563,760	7,473,060	5,600	9,110	1,553,380	7,773,900	5,380
British Columbia	4,172	607,400	819,300	365,980	5,974	910,960	1,273,320	563,680
Total Canada	**96,479**	**7,943,840**	**29,925,900**	**8,142,420**	**106,993**	**9,087,920**	**35,867,360**	**9,246,640**
Exported from Canada	190,268	75,470,940	8,147,800	210,640	263,141	105,042,140	18,643,300	111,360
Grand Total	**286,747**	**81,414,780**	**38,073,700**	**8,353,060**	**370,134**	**114,130,060**	**54,510,660**	**9,358,000**

VII.—Reporting Companies

Nature of Trade*	Names	Addresses
m.m.f.; i.	Agricultural Chemicals, Ltd	Port Hope, Ont.
m.s.a.; e.	Algoma Steel Corporation, Ltd	Sault Ste. Marie, Ont.
d.; i.	Associated Shippers Inc	Charlottetown, P.E.I.
d.	Baisley, W. A. & Co	Winona, Ont.
d.	Bégin, P. E	Levis, Que.
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.; e.	" "	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.; o.; i.	" "	Montreal, Que.
m.m.f.; i.; e.	" "	St. John, N.B.
m.m.f.; i.	Canadian Fertilizer Co., Ltd	Chatham, Ont.
m.m.f.; s.p.; i.; e.	Canadian Industries, Limited	Montreal, Que., Plants at Halifax, N.S., Beloeil, Que., Hamilton, Ont., and New Westminster, B.C.
m.o.; e.	Canadian Packing Co., Ltd	Peterborough, Ont.

VII.—Reporting Companies—concluded

Nature of Trade*	Names	Addresses
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.o.; e.	Consolidated Whaling Corp	Victoria, B.C.
d.	Co-opérative Fédérée de Québec	130 St. Paul St. E., Montreal, Que.
m.s.a.	Dominion Steel & Coal Corp. Ltd	Sydney, N.S.
m.o.; e.	Dumart's Limited	Kitchener, Ont.
d.	The T. Eaton Co., Ltd	Winnipeg, Man. and Toronto, Ont.
d.	Fry-Cadbury, Ltd	2025 Masson St., Montreal, Que.
m.o.; e.	Gainers Limited	South Edmonton, Alta.
i.	George, W. J. Company	120 King St. E., Toronto.
m.o.; i.	The Globe Fertilizer Co	Vancouver, B.C.
i.	Grose Fertilizers and Chemicals Ltd	West Toronto, Ont.
m.s.a.; e.	Hamilton By-Product Coke Ovens, Ltd	Hamilton, Ont.
m.o.	Harris W. Co., Limited	200 Keating St., Toronto, Ont.
	International Agricultural Corp	708 Stock Exchange Bldg., Buffalo, N.Y., U.S.A.
m.m.f.; i.	International Fertilizers Ltd	71 St. Peter St., Quebec, Que.
m.m.f.; i.; e.	International Fertilizers Ltd	Saint John, N.B.
m.m.f.; i.; e.	Island Fertilizer Co., Ltd	Charlottetown, P.E.I.
	King Calcium Products	Campbellville, Ont.
d.	Lincoln Supply Co	St. Catharines, Ont.
d.	MacDonald, Kenneth & Sons	Ottawa, Ont.
d.	Macrae's Grocery & Feed	Mission City, B.C.
m.m.f.	Manchester Products	Galt, Ont.
m.m.f.; m.o.	Marquis (Estate F. Canac Marquis)	3 rue Courcelette, Quebec, Que.
	Milwaukee Sewerage Commission	Milwaukee, Wis., U.S.A.
d.	Mineral Colloids (Canada) Ltd	137 Wellington St. W., Toronto.
m.m.f.; i.	Misner, J. H. Ltd	Port Dover, Ont.
m.s.a.	Montreal Coke Manufacturing Co	P.O. Box 1660, Montreal, Que.
d.	Mount MacKay Feed Co	Fort William, Ont.
d.	Multel Soil Service Ltd	2239-30th Ave. E., Vancouver, B.C.
m.o.; e.	Nelson Bros. Fisheries, Ltd	Vancouver, B.C.
d.	New Brunswick Agricultural Societies	East Centreville, N.B.
m.c.; e.; i.	North American Cyanamid Co	Niagara Falls, Ont.
d.	Paterson, R. Downing	89 Water St., Saint John, N.B.
d.; i.	P.E.I. Potato Growers' Assoc., Inc	Charlottetown, P.E.I.
i.	Potash Company of Canada	814 Royal Bank Bldg., Montreal, Que.
i.	Pulverized Manure Co	Chicago, U.S.A.
i.	Rennie, Wm. Seeds Co	Toronto, Ont.
d.	Saguenay Fertilizer Company	Chicoutimi, Que.
d.	St. Catharines Cold Storage & Forwarding Co., Ltd	Davidson St., St. Catharines, Ont.
d.	Sayer and Son, Ltd	509 Richards St., Vancouver, B.C.
m.o.	Schneiders Limited, J. M	321 Courtland Ave. E., Kitchener, Ont.
d.; i.	Scott and Peden	Victoria, B.C.
m.m.f.; i.	Scottish Fertilizers Ltd	Welland, Ont.
m.s.a.	Steel Company of Canada, Ltd	Hamilton, Ont.
m.m.f.; i.	Stone, Wm. and Sons, Limited	Ingersoll, Ont.
m.m.f.; i.; e.	Summers Fertilizer Co., Ltd	St. Stephen, N.B.
d.	Swift Canadian Company, Limited	Keele & St. Clair, West Toronto, Ont.
m.m.f.; i.	Toronto Chemical & Fertilizer Co	248 Keele St., Toronto, Ont.
d.	United Farmers' Cooperative Co., Limited	Toronto, Ont.
d.; i.	United Fruit Companies of Nova Scotia, Ltd	Kentville, N.S.
d.; i.	Witts Fertilizer Works	Norwich, Ont.
d.	Wright, Norman S. & Co. Ltd	268 King St. W., Toronto, Ont.

*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.

The Use of Fertilizers in Canada

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

The use of fertilizers in Canada continues to occupy an important place in the economic production of farm crops as the interest shown by the farmer in the employment of them has increased to a very considerable extent during recent years. There is a demand on the part of the agriculturist for information with respect to the nature and functions of these materials and the kind of mixtures which are best suited for the various crops grown on his soil and under particular climatic conditions. This demand is being met by advice and recommendations supplied by federal and provincial agricultural institutions and by the activities of provincial fertilizer councils or advisory boards.

The nature of the soil, treatment of it in past years, as well as the crop to be grown should be known in order to advise intelligently with respect to the employment of fertilizers. In recent years more attention appears to be given to the outstanding characteristics of the soil, e.g., its texture, organic matter content, soil reaction and deficiencies or excesses of certain elements. Thus we find that, as a preliminary step, detailed soil surveys have been made in order to supply this information in districts devoted to the culture of specialized crops. These include surveys of the tobacco and apple growing districts in Ontario and Quebec, of muck lands in Quebec, and of apple growing districts in the Annapolis valley, in Nova Scotia. The data obtained in these surveys have formed a useful basis on which to plan fertilizer field trials to study further the soil's plant food requirements. Rapid field chemical tests are useful adjuncts to the results from field experiments for the determination of fertilizer needs. These tests are increasing in popularity and when used by officials having a knowledge of the special characteristics of the soils of a district they are of value in indicating the available plant food supply. Indiscriminate use of them, however, on all types of soil is not advisable. Their reliability should first be thoroughly checked by field trials, since any one of these tests developed for use on a particular soil type may not give dependable results when used on a different type of soil and under different climatic conditions.

Mention may be made of the importance of fertilizer applications for the growth of pasture crops. Experimental data in Canada and also in the major stock raising and dairying countries of the world have shown that the yield and quality of pasture herbage has been increased appreciably by the use of fertilizers. Further data with respect to the effect of the different types of fertilizers and the varying stages of maturity on the composition of pasture grasses and legumes are being sought by the Experimental Farms System in experiments recently inaugurated at Ottawa, Ontario and in the Maritime Provinces.

The employment of the most suitable fertilizer for any particular crop is important from the standpoint of profit, and farmers, particularly those who have not had considerable experience in the use of these materials, are advised to consult district representatives or officials of their nearest agricultural college or experimental farm before making a selection. The recommendations of fertilizer councils or advisory boards are usually published in pamphlet form and are readily obtainable. Attention is drawn to publication 585 "Manures, Fertilizers and Soil Amendments" dealing with the nature, functions and use of fertilizers and recently published by the Division of Chemistry, Experimental Farms Branch, Department of Agriculture.

The Fertilizers Act

By Grant S. Peart,
Chief, Fertilizer Division, Department of Agriculture

Only a few years ago many farmers and not a few of the agricultural experts depreciated chemical fertilizers as being unnecessary and regarded most of the sellers of them as racketeers preying on the country people. There was undoubtedly much justification for this because fertilizers in the old days often contained little or no plant food and, therefore, could not produce good results. The situation has changed, for the very good reason that modern fertilizers usually increase crop yields and improve the quality of crops with profit to the farmer. The Fertilizers Act is largely responsible for this change because it has demanded high standards of plant food content. Failure on the part of vendors to meet guaranteed analyses is rare nowadays due to the penalties provided in the Act.

Another factor contributing to better fertilizers is the recent general improvement in the technique and processes of manufacture. Modern manufacturing machinery results in uniform analyses and improved physical condition as compared with the product of old type machinery and the wheel barrow and shovel method of mixing.

At one time the average farmer was not able to appraise the usefulness of the various brands from the guaranteed nitrogen, phosphoric acid and potash content, but each year more farmers are studying the scientific feeding of crops, and buying accordingly. The Fertilizers Act has made it possible for farmers to buy suitable formulae and analyses for the different crops and soils by requiring guaranteed analyses, and preventing the sale of fertilizers containing inferior ingredients. Manufacturers are doing their part in co-operating with the advisory boards and experimental farms in making the kinds of fertilizers best suited to crop production in Canada.

The latest recommendations of the advisory boards with respect to the use of the different fertilizers may be obtained free from Provincial Departments of Agriculture.

Fertilizers of doubtful plant food content and those of inferior mechanical condition, which will not feed satisfactorily through a drill, should be avoided. They are almost invariably offered for sale by the unscrupulous type of manufacturer who lacks sufficient knowledge of the manufacture and use of fertilizers for such a specialized business. Manufacturers who study their business with a view to staying in it do not deliberately hurt their reputation by selling unsatisfactory products, and are, therefore, more dependable. In any case, buyers are advised to purchase subject to guaranteed analysis of the plant foods plus satisfactory mechanical condition. Delivery should not be accepted when the bags are improperly labelled, or not labelled at all; or when the guarantee stated on the bags or labels is lower than that of the fertilizer ordered; or when the mechanical condition is bad, as indicated by a high moisture content or inadequate screening. Refusal in such cases is the right of the buyer and will assist the Department of Agriculture in its efforts to improve the quality of fertilizers sold in Canada.

It should be emphasized that only registered brands of the mixed fertilizers are subject to registration and inspection, and the buyer takes his own chances on the honesty of the manufacturer when he buys under prescription. Registered fertilizers are approved by the Department of Agriculture subject to a definite guaranteed analysis which is checked regularly so as to ensure that the guarantee is met. There is a wide choice of registered fertilizers suitable for practically all soil conditions and crop requirements without resorting to prescription buying.

During the past year some fertilizer concerns have emphasized for sales purposes, other minerals in addition to the plant foods, nitrogen, phosphoric acid and potash. These include calcium, magnesium and sulphur which are used by plants in relatively large amounts, and boron, copper, manganese, iodine, zinc, iron, etc., which are required in small amounts. While it may be true that some soils have become deficient in one or more of these minerals after years of cropping, it is believed that most soils contain enough of them naturally for ordinary crop needs. When, however, there is a calcium or magnesium deficiency, dolomitic limestone, finely ground, is a cheap corrective. Standard sulphate of ammonia and superphosphate which are the most common ingredients of mixed fertilizers also contain sufficient sulphur for most crops. Magnesium, boron, copper, zinc, iodine, etc., are rarely required and when required may be corrected by a single application of the deficient substance.

Whenever these other minerals are offered, the buyer should demand a definite guarantee of their content, then advise the Department of Agriculture so that the matter may be investigated under the provisions of the Fertilizers Act.

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