

THE WESTERN CANADIAN FERTILIZER INDUSTRY

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W. E. Janke

The fertilizer industry in Western Canada has had another commendable performance under trying times of World supply shortages, increased demands and exalating prices. The industry put forth a great effort in meeting the demands for fertilizer by the Western Canadian farmer and at the lowest price in the world.

The fertilizer shipments into Western Canada for the past two seasons is given in Table 1. Fertilizer use has increased dramatically since the low ebb of 522,000 tons in 1970 to the present level of 1,359,015 tons in 1974/75. This past season is 83,165 tons or 6.5% higher than in 1973/74. In actual plant nutrient content the increase this year was 5.6% of which nitrogen had the largest increase with 7.5% followed by phosphate at 4.0% and potash at 2.2%. A reduction in fertilizer use occurred in British Columbia which is related to the low economics in live-stock production while increases occurred in all the other provinces where the grain economy was satisfactory. There appears to be a greater amount of product in inventory this year than has occurred for the past number of years. This increased inventory is quite significant in that the industry had offshore and United States orders at more advantageous prices which were not filled last fall in order that the Canadian anticipated requirement could be filled. The Western Canadian farmer did not consume as much as was requested by him and the politicians. Who should bear the responsibility of the lost revenue? The political cry in the fall of 1974 was that still more fertilizer product should have been kept in Western Canada.

What does the future look like for fertilizer? The increased expansion of nitrogen production in Western Canada will not be forthcoming until the 1976/77 season so that this nutrient will be in tight supply both in Canada and the United States. The phosphorus picture has changed throughout the world with increased phosphate rock supplies along with expansion in phosphoric acid production. This should result in adequate supplies of phosphate in 1975/76. The fertilizer availability for the 1975/76 season is given in Table 2. The demand is based on a 7 percent growth rate over the 1974/75 shipments. Production capacity in Western Canada has increased through debottlenecking from a previous 2.5 million to 2.6 million tons.

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W. E. Janke, Research Agronomist and Market Co-ordinator, Sherritt Gordon Mines Limited, Edmónton, President WCFA.

Fertilizer prices in the United States have been declining with the return of adequate supplies of fertilizer materials, In relation to Canadian prices the United States prices which originally were higher have fallen in line with prices in Canada. Costs of fertilizer production are still increasing with gas prices going up and labor cost in Canada presently at somewhat higher levels than counterparts in the United States.

How much can the farmer afford to pay for fertilizer and still get a return on his investment? The provincial soil testing laboratories indicate that the application of 60 pounds of actual nitrogen (N) on soils testing low + in available nitrogen should give the following yield increases:

Wheat - 10 Bus. per acre  
 Barley - 20 Bus. per acre  
 Rapeseed - 7 Bus. per acre

To obtain a return of \$2.00 for each dollar invested in fertilizer, the following price for a crop must be received in relation to the specified cost of N;

<u>Cost of N per lb.</u>	<u>Cost of 60 lbs. N</u>	<u>Price per Bus. required to obtain \$2 return per \$1 invested in fertilizer</u>		
		<u>Wheat</u>	<u>Barley</u>	<u>Rapeseed</u>
.10	\$ 6.00	1.20	.60	1.71
.15	9.00	1.80	.90	2.57
.20	12.00	2.40	1.20	3.43
.25	15.00	3.00	1.50	4.29
.30	18.00	3.60	1.80	5.14

The present cost for N varies depending on product but is somewhere between 15¢ and 20¢ per lb. of N. The price for the crops indicated are presently about \$3.50 - 3.75 for wheat, \$2.00 - 2.10 for barley and \$6.00 - 6.15 for rapeseed. Present returns are thus about \$3 for every dollar invested in fertilizer. The maximum level of fertilizer application is considered to be when \$1.50 return is obtained for every dollar invested in fertilizer. This return is considered adequate to allow for crop production risk factors.

At todays crop prices, a \$2 for \$1 invested level can be obtained with the use of nitrogen up to costs of 30¢ per lb. of N.

TABLE 1

ACTUAL FERTILIZER SHIPMENTS (July 1 - June 30) TO  
WESTERN CANADA 1973/74 and 1974/75

FERTILIZER MATERIALS	MAN.		SASK.		ALTA.		B.C.		TOTAL	
	1973/74	1974/75	1973/74	1974/75	1973/74	1974/75	1973/74	1974/75	1973/74	1974/75
46-0-0	12,667	26,735	4,717	7,524	40,879	52,584	3,400	4,597	61,663	91,440
21-0-0	10,668	12,668	5,951	4,888	31,450	36,943	5,390	3,973	53,459	58,472
34-0-0	66,744	79,900	21,210	28,874	100,952	98,913	13,313	14,509	202,219	222,196
82-0-0	21,323	15,250	1,378	1,376	55,925	64,959	-	-	78,626	81,585
Nitrogen Solutions	39,541	18,589	740	230	2,295	1,447	-	-	42,576	20,266
<u>AMMONIUM NITRATE PHOSPHATE</u>										
23-23-0	43,383	46,230	61,154	70,443	55,773	56,223	2,186	1,591	162,496	174,487
27-14-0	9,960	8,104	945	1,506	7,629	7,775	345	432	18,879	17,817
Other	31,547	31,809	6,931	5,654	21,127	18,727	1,490	1,177	61,095	57,367
<u>AMMONIUM PHOSPHATE</u>										
11-48-0	65,949	84,130	109,764	154,539	120,419	149,067	3,503	5,283	299,635	393,019
11-55-0	41,416	35,727	29,243	17,855	56,105	39,380	6,748	3,909	133,512	97,371
16-20-0	7,260	9,232	9,191	11,255	34,214	39,004	11,816	13,629	62,481	73,120
18-46-0	362	-	424	20	1,066	808	15,432	1,829	17,284	2,657
Other	10,865	8,195	11,724	7,227	10,096	5,606	589	472	33,274	21,500
Triple Superphosphate	-	-	-	-	-	96	-	-	-	96
Muriate of Potash	5,514	6,907	1,332	336	9,299	11,661	14,595	10,338	30,740	29,242
Sulphate of Potash	20	40	-	-	77	-	397	500	494	540
Sulphate of Potash Magnesia	18	53	-	-	305	296	1,595	762	1,918	1,111
Other Fert. Materials	3,579	3,269	708	1,147	4,246	4,501	6,966	7,812	15,499	16,729
	<u>370,816</u>	<u>386,838</u>	<u>265,412</u>	<u>312,874</u>	<u>551,857</u>	<u>588,490</u>	<u>87,765</u>	<u>70,813</u>	<u>1,275,850</u>	<u>1,359,015</u>
Nitrogen Nutrients	94,839	95,816	46,299	55,240	153,198	167,203	14,625	12,841	308,961	332,100
change	+2.1%		+19.3%		+9.1%		-12.2%		+7.5%	
Phosphate Nutrients	79,767	83,465	94,178	107,641	121,078	123,006	17,179	10,456	312,202	324,568
change	+4.6%		+14.3%		+1.6%		-39.1%		+4.0%	
Potash Nutrients	3,859	4,694	906	376	5,607	7,757	9,858	7,846	20,230	20,673
Change	+21.6%		-58.5%		+38.3%		-20.4%		+2.2%	
TOTAL	<u>178,465</u>	<u>184,975</u>	<u>141,383</u>	<u>163,257</u>	<u>279,883</u>	<u>297,966</u>	<u>41,662</u>	<u>31,143</u>	<u>641,393</u>	<u>677,341</u>
TOTAL CHANGE	+ 3.6%		+15.5%		+ 6.5%		-25.2%		+5.6%	

TABLE 2

FERTILIZER AVAILABILITY 1975/76 SEASON

BELOW ARE FERTILIZER TONNAGES COMMITTED TO THE FOUR WESTERN CANADIAN PROVINCES WHICH THE WESTERN FERTILIZER MANUFACTURERS BELIEVE WILL MORE THAN SATISFY ESTIMATED DEMAND\* IN THE 1975/76 SEASON.

\* DEMAND IS ESTIMATED AT 1974/75 SHIPMENTS PLUS 7 PERCENT GROWTH.

	D O M E S T I C				TOTAL	U.S.A.	OFFSHORE	TOTAL
	B.C.	ALBERTA	SASKATCHEWAN	MANITOBA				
46-0-0	11,651	65,551	10,409	40,259	127,870	77,100	5,500	210,470
21-0-0	3,300	34,502	10,509	11,756	60,067	209,000	-----	269,067
34-0-0	17,507	127,995	38,364	95,818	279,684	98,900	-----	378,584
82-0-0	-----	86,685	3,698	22,993	113,376	10,400	-----	123,776
28-0-0	-----	200	-----	-----	200	-----	-----	200
<u>A.N.P.</u>								
1:1:0	1,771	69,396	68,716	68,016	207,899	-----	-----	207,899
2:1:0	400	26,013	4,061	30,570	61,044	2,000	-----	63,044
<u>N.P.</u>								
11-48-0	6,930	172,320	158,238	94,638	432,126	52,096	-----	484,222
11-55-0	1,550	58,029	11,850	53,250	124,679	187,377	1,879	313,935
16-20-0	13,390	47,043	8,963	10,161	79,557	120,498	-----	200,055
18-46-0	763	764	-----	-----	1,527	181,525	126,565	309,617
Other	3,000	18,933	12,670	11,825	46,428	5,575	-----	52,003
Normal Superphosphate	512	-----	-----	-----	512	-----	-----	512
Triple Superphosphate	-----	139	225	1,368	1,732	-----	-----	1,732
Muriate of Potash	-----	755	251	251	1,257	-----	-----	1,257
Sulphate of Potash	535	535	356	356	1,782	-----	-----	1,782
Other	6,300	1,400	600	1,300	9,600	6,200	-----	15,800
TOTAL	67,609	710,260	328,910	442,561	1,549,340	950,671	133,944	2,633,955

Source: C.F.I. Nov. 1975  
W.C.F.L. Statistics Committee