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The Canadian Grain Marketing System

Keith Peltier
and
Donald E. Anderson

Department of Agricultural Economics
Agricultural Experiment Station
North Dakota State University
Fargo, North Dakota

FOREWORD

This study was initiated as a Master's Thesis project under the North Central Regional Grain Marketing Committee (NC-139). Further data collection and analysis were carried out under a grant from the North Dakota Wheat Commission.

The authors are indebted to members of the Canadian Wheat Board, the Canadian Grains Commission, the Canada Grains Council, the Canadian International Grains Institute, and numerous members of the Canadian Grain Trade interviewed in this study.

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Highlights

This study was undertaken to provide a history of the grain marketing system in Canada, to provide a description of marketing institutions in Canada, and to examine differences in the structure and performance of the Canadian and United States grain marketing systems. The North Dakota and Manitoba wheat markets were used as a basis for evaluating market performance because of geographic and agricultural similarities.

A Canadian farmer sells his grain products under a quota system whereby the quantity of grain sold by the individual farmer depends on his farm size and the quota level established by the Canadian Wheat Board. The farmer received an initial payment for his grain upon delivery to the elevator. The final payment was received after interest, storage, elevator charges, and other costs were subtracted from the price received for the "pooled" grain.

Numerous governmental agencies participate in the grain marketing system in Canada, including the Canadian Wheat Board, the Canadian Grain Commission, the Canadian International Grains Institute, and the Canada Grains Council.

Rail rates from Manitoba and North Dakota were compared for similar distances to determine the transportation subsidies provided by the Canadian rate system. The average rate for 11 stations for wheat moving to the West Coast from North Dakota was 159.1¢/cwt., which was 125.6¢/cwt. more than the average Canadian rate from similar locations based on distance. The average rate from seven stations in Manitoba to the Great Lakes was 16.0¢/cwt., 67.2¢/cwt. lower than the average rate of 83.2¢/cwt. from seven similarly located stations in North Dakota.

Prices received by farmers for wheat in North Dakota and Manitoba over the study period were approximately the same; however, freight rates paid by the Canadian Wheat Board to move grain from the country elevator to export points were considerably lower in Canada than rates for comparable United States movements.

THE CANADIAN GRAIN MARKETING SYSTEM

by

Keith A. Peltier and Donald E. Anderson*

History of Grain Marketing in Canada

Canadian agriculture developed as a provisioner of great staple trades, such as wheat, fish, and timber. In the 1820's steel plows were introduced and by the 1830's supplies of wheat and flour were available for sale. Canadian agriculture reached a position as an exporter, particularly of wheat, by 1850.

During the early 1870's Canadians in the Prairie Provinces did considerable trading with Americans across the border. Concerned that this trading might lead to amalgamation of the territories with the United States, the Prime Minister of Canada authorized a transcontinental railroad be built as a means of keeping the far-flung territories together. In 1885 the last spike was driven and Canada had a railroad from Montreal to Vancouver.

To discourage United States railroads from constructing rail lines north into southern British Columbia, the Dominion Government entered into an agreement with the Canadian Pacific Railroad to build a railroad from Lethbridge, Alberta, to Nelson, British Columbia, through the Crows Nest Pass. The Dominion Government granted the railway a cash subsidy of \$3,404,700 and other benefits, and the Province of British Columbia gave a grant of 3,620,000 acres of land including mineral rights. The CPR also acquired the charter of the British Columbia Southern Railway, and acquired the Columbia and Western Railway for \$800,000. In addition the CPR received monopoly rights on rail transport in southern areas of Alberta and British Columbia. In return for the benefits received the CPR agreed in perpetuity to haul export shipments of grain and flour from all points west of Thunder Bay at a fixed reduction on current freight rates on export shipments.¹

*Peltier is former Graduate Student and Anderson is Professor, Department of Agricultural Economics.

¹Hamilton, F. W., Service at Cost, A History of Manitoba Pool Elevators, Modern Press, Saskatoon, Saskatchewan, 1975, p. 325.

As agriculture developed more land was put in production and yields increased. Farmers delivered their surplus grains to flat warehouses built along the tract. These flat warehouses were a forerunner of the country elevator with the vertical flow.

With the advent of the new system of handling grain, more box cars were allocated to the grain elevator companies. Farmers thought the railroads and grain companies were collaborating to spot cars at country elevators and not at the loading platforms of farms. This supposedly forced the farmer to haul grain to the elevator and accept the grade given by the local warehouseman.

Due to this concern, the Manitoba Grain Act of 1900 was passed which provided for regulation of grain dealers and increased competition at shipping points. In 1912 the Canada Grain Act was passed which set up the Board of Grain Commissioners; made inspection compulsory for carlots of grain en route to terminal elevators; and set up regulations regarding equipment, cleaning, and handling at terminal elevators.

A government controlled grain marketing system evolved in response to conditions brought about by World War I. The Board of Grain Supervisors was created in 1917 by the Canadian Government to market all coarse grain grown in 1917 and 1918. In 1918 the Board marketed only wheat and the Board's activities were terminated when the 1918 crop was sold.

In 1919 the first Canadian Wheat Board was created to sell the 1919 crop. The first Canadian Wheat Board remained active long enough to market the 1919 crop and then was dissolved. This Wheat Board initiated the concepts of initial and final payments, selling wheat at the highest possible price. (The Board of Grain Supervisors sold wheat at only government fixed prices.)

Grain was sold on the open market with no government price guarantees for the next 15 years. The return to normal trading after the dissolution of the Wheat Board coincided with a drop in prices and fluctuation on the open market. Farmers were convinced that a relationship existed between the ceasing of Wheat Board operations and the lowering of market prices. Voluntary Provincial Pools were formed in Alberta, Manitoba, and Saskatchewan since many farmers preferred the price stability created by a state controlled marketing system. In 1924 the three pools created the Central Selling Agency, which was to receive, handle, transport, store, market, and otherwise dispose of wheat purchased by the three pools.

The wheat pools and the Central Selling Agency met with some success until 1930 when serious financial problems resulting from the worldwide depression brought the government into the grain trade. The initial shock of the stock market crash brought about a sharp decline in the price of wheat. The sudden crash resulted in withdrawal of venture capital from the grain futures market, which caused further decline in grain prices. The price continued to drop to \$1.00/bu., which was equal to the initial payment by the pools. The banks who were underwriting the program issued an ultimatum to the pools that if the reserve margin fell below 15 percent the banks would foreclose.

The pools persuaded the Provincial governments to guarantee the loans, but as the price kept falling the banks became concerned again. The federal government guaranteed the pools loans from the lending banks at the request of the Provincial Governments. In return, the federal government appointed a manager to run the Central Selling Agency. The manager disposed of the stocks of the three pools until 1935 when the Canadian Wheat Board was created.

Most producers wanted price stability. In 1935 the Canadian Wheat Board was established by the Canadian Wheat Board Act of 1935. The Wheat Board Act called for the creation of a new Canadian Wheat Board to be responsible for "marketing in an orderly manner, grain grown in Canada."² At the start grain was defined as wheat. The Board started out as an alternative marketing agency. If the Board's price was below the open market price the farmers utilized the open market price. If the Board's price was above the open market then farmers sold their wheat to the Wheat Board.

In the years 1935-1938, the Board's price was below the open market price most of the time. In 1939 prices had fallen, supplies had risen, and demand remained low, so the Wheat Board bought the entire crop that year. Faced with a severe loss on the 1938 crop and recommendation of the Turgeon Commission (commission appointed because the opposition feared that "Liberal" policies would change marketing policies) that the government should remain

²Canadian Wheat Board, "About the Canadian Wheat Board," Information Department, Winnipeg, Manitoba, pp. 4-5.

outside the grain trade, the government tried to get out of the marketing business. The proposal to liquidate the Wheat Board met with heavy opposition both from farmers and Parliament so the Wheat Board was retained.

In 1940, after three large wheat crops in a row, the Wheat Board was again faced with serious marketing problems. In order to secure an equitable sharing of available elevator space by all the farmers, the Wheat Board was given the power to regulate deliveries of all kinds of grain to country, mill, transfer, and terminal elevators. In 1943, by an amendment to the Wheat Board Act, the Wheat Board ceased to be an alternative marketing option and became the sole buyer and seller of Canadian wheat. Trading in wheat futures was discontinued and the Wheat Board acquired all stocks of unsold wheat that were in commercial positions.

The Wheat Board Act was amended in 1949 to include oats and barley along with wheat. In 1967 the Wheat Board was made into a permanent Crown Corporation. It remained essentially unchanged until 1974 when western farmers were allowed the option of selling feed wheat, oats for nonhuman consumption, and barley for feed through the open market.

A new trade policy was developed in 1946 with the negotiation of the British Wheat Agreement. Under this agreement Canada would supply the United Kingdom with 600 million bushels over four years, with the price fixed at \$1.55/bu. basis No. 1 Northern delivered Thunder Bay for the crop years 1946-1947 and 1947-1948.³ A five-year pool was formed for the purpose of satisfying the terms of the contract. Due to Canadian and world crop conditions the agreement was inadequate for the Canadians who were forced to sell their wheat to Britain at almost a dollar under the market price.

Canada entered into an International Wheat Agreement in 1949. The agreement guaranteed that Australia, Canada, the United States, France, and Uruguay would sell the wheat importing countries 456,283,389 bushels of wheat annually for a period of four crop years.⁴ In succeeding years the International Wheat Agreement was renewed several times, but for three-year rather than four-year terms. In 1971 the International Wheat Agreement again came into play although no agreement on pricing provision was reached. The agreement was extended to July of 1976.

³Britnell, G. E., and V. C. Rowke, Canadian Agriculture in War and Peace 1935-1950, Stanford University Press, Stanford, California, 1962, p. 500.

⁴MacGibbon, D. A., The Canadian Grain Trade, 1931-1951, University of Toronto Press, Toronto, Ontario, 1952, p. 27.

From the beginning of World War II government policy in Canada, with respect to both prices and production of most farm products, was greatly influenced and, in many instances, clearly determined by export contacts with the United Kingdom. Assistance to agriculture has been consistently recognized as a function of government at all times in the areas which now form the Dominion of Canada.

Description of Canadian Grain Marketing Institutions

Canadian Wheat Board

In 1935 the Canadian Wheat Board was established as an agency of the Canadian government (Figure 1). The Wheat Board Act called for the creation of a new Canadian Wheat Board to be responsible for "marketing in an orderly manner, in interprovincial and export trade, grain grown in Canada."⁵ At the start grain was defined as wheat. In 1949 the Act was amended to include oats and barley. In 1974 farmers in Western Canada were allowed the option of selling feed wheat, oats, and barley for feed through the open market.

The Canadian Wheat Board was an idea which developed in the Prairie Provinces because of a demand on the part of farmers for a centralized marketing agency.

The Wheat Board is the marketing agency for prairie grown wheat, barley, and oats. The Wheat Board operates in the three prairie provinces of Manitoba, Alberta, Saskatchewan, and the Peace River area of British Columbia. It is not involved in the marketing of grain grown outside of the prairies nor in grain sold from farmer to farmer or farmer to feedlot. It regulates only interprovincial and international movement of grain.

The Canadian Wheat Board is headed by a five-man board of commissioners appointed by the Governor in Council (Governor General acting on advice from the Prime Minister and his Cabinet). A Chief Commissioner, an Assistant Chief Commissioner, and three commissioners comprise the Wheat Board. There is no specific criteria for the appointment of commissioners, although the commissioners are usually familiar with the grain trade. As a Crown Agency, the Wheat Board reports to Parliament through a minister of the Federal Cabinet. Its primary concern, however, lies with the prairie grain

⁵Canadian Wheat Board, op. cit.

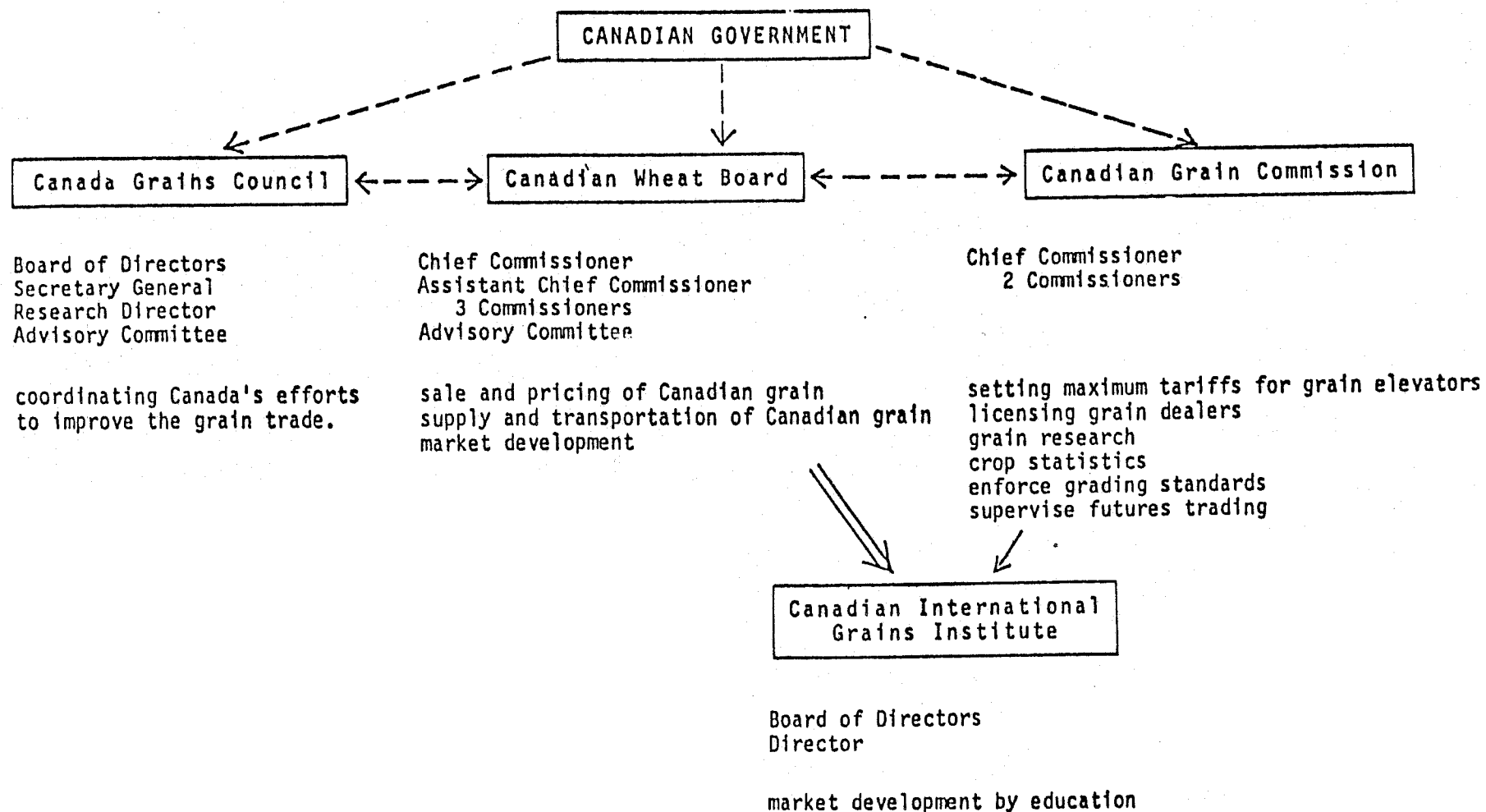


Figure 1. Principal Canadian Grain Trade Agencies

producer who pays the cost of Wheat Board operations through a deduction from his grain receipts. Wheat Board policies and operations are developed and carried out in close consultation with an Advisory Committee. The Advisory Committee is appointed by the Governor in Council under a policy whereby members of the Advisory Committee are chosen by mailed ballot of producers eligible to vote. Eleven members are elected from eleven equal voting strength districts.

The Wheat Board's primary functions cover sales and pricing, transportation, and market development. The Wheat Board prices and sells wheat, barley, and oats for export.

Feed barley, feed wheat, and feed oats for nonhuman consumption were under Wheat Board jurisdiction for pricing and sales until 1973. The Wheat Board controls transportation of all grains from primary elevators to domestic processing plants and terminals at export ports. The Board's authority to control transportation came from the Canada Grain Act which gave the Governor in Council the power to give any government agency the right to allocate railroad cars for grain transportation. This authority was delegated to the Canadian Wheat Board in an order of Council dated March 9, 1971.⁶ Exceptions to this transportation control are the transport of mustard, buckwheat, and peas (less than 1 percent of total grain movement). While the Wheat Board is responsible for transporting grain, it owns no physical facilities for handling or transporting grain.

The Canadian Wheat Board's assigned task involves three specific objectives:⁷

- 1) To market as much grain as possible at the best price that can be obtained,
- 2) To provide prairie grain producers with price stability, and
- 3) To ensure that each grain producer gets his fair share of the available markets each year.

The Canadian Wheat Board is involved in every phase and aspect of marketing. Economic conditions in Canada and abroad are monitored and information on crop production is gathered and recorded. Policy implications are

⁶Canadian International Grains Institute, Grains and Oilseeds: Handling, Marketing, Processing, Winnipeg, Manitoba, May, 1975, p. 30.

⁷Canadian Wheat Board, op. cit.

noted concerning the effect they would have on Canada and the International market. Grain prices, along with the milling and feeding industry, are monitored so the Wheat Board can price the grain accordingly.

For the portion of Canadian wheat sales made overseas, the Canadian Wheat Board can make direct sales or authorize the private trading companies, acting as agents for the board, to make the sales. The private trading companies handle the sale of flax, rapeseed, rye, and domestic feed grains without Board jurisdiction.

The number of people employed by the Canadian Wheat Board at the end of the 1975-1976 crop year was 677. The average number of people employed from 1972 through July 31, 1976 was 707. Expenditures for 1975-1976 were \$11,848,140. The total expenditures in 1975-1976 included \$371,528 for market development which did not include travel expense and salaries. The market development expenditures included: customer mission program (\$51,505), feed grains market development--Japan (\$2,186), Canadian Wheat Board share of operating Grains Institute (\$287,393), and market development expense (\$30,894).⁸

Canadian Grain Commission

The Grain Commission is headed by a Chief Commissioner, who is appointed by the Governor in Council (Governor General acting on advice of the Prime Minister and his Cabinet) for a ten-year term. He is assisted by two other commissioners also appointed by the Governor in Council. The Governor in Council can appoint six assistant commissioners to act as representatives for the Commission. They provide a liaison between the Grain Commission, elevator managers, and producers. There is no advisory committee, although there are Eastern and Western Grade Standards Committees which advise the Commission on grading matters. Each commissioner is responsible for one of six divisions: executive, inspection, weighing, economics and statistics, grain research laboratory, and Canadian government elevators. In addition there is also a grain appeal tribunal, which examines appeals by persons dissatisfied with the grade assigned to their grain by an inspector on an official sample. The Commission is responsible to the Canadian Parliament through the Minister of Agriculture.

⁸Canadian Wheat Board, the Canadian Wheat Board Annual Report, 1975-1976.

The Commission is not directly connected with the Canada Grains Council or the Canadian Wheat Board. While the Grain Commission is one of the sponsors of the Grains Institute their only support is in the form of cooperation, as no money is provided.

The Grain Inspection Division of the Canadian Grain Commission inspects and grades samples of all grain in accordance with the Canada Grain Act. In Western Canada the Division samples and grades all grain received into or shipped from licensed terminal elevators. In Eastern Canada it is responsible for sampling and official grading of all Canadian grown grain loaded for export. The Grain Inspection Division also collects samples and prepares grade standard samples for the Grain Standards Committee. The Grading Standards Committee recommends specifications for grading standards for implementation by the Grain Commission. However, the grades cannot be established, amended, or changed except by Order of Governor Council on the Commission's recommendation. The Grain Inspection Division tests wheat for protein, issues the Certificate Final on export shipments, and supervises grain treatment. It also examines the condition of country elevators and reports to the Commission on its findings.

The Grain Weighing Division of the Grain Commission supervises weighing of all grain received and loaded out of terminal elevators, in addition to weighing grain upon request at processing facilities elevators. The Grain Weighing Division conducts audits of grain stocks in all elevators once every 30 months. The Weighing Division registers and cancels grain elevator receipts for grain and issues certificates of weight for box cars inspected by the Commission. The Weighing Division also handles any overages or shortages. Primary and process elevators must weigh the grain in their elevators to determine if they have an excess or shortage of grain on hand and report this information to the Grain Commission. If the overage at a terminal or transfer elevator is less than $\frac{1}{16}$ of 1 percent of the total grain of a specific grade handled between weigh-overs, then the overage becomes the property of the Grain Commission. If the overage is more than that it becomes the property of the Wheat Board, providing it is Board grain. Overages of non-Board grains become the property of the Grain Commission.

The Economics and Statistics Division serves as an advisor to the Canadian Grain Commission on economic matters, such as audits and tariffs. It compiles statistics dealing with grain and issues licenses to all the elevators and grain dealers.

The Grain Research Laboratory assesses the quality of the grain crop each year and checks the quality of grain shipped from elevator to terminal. The Research Laboratory assists plant breeders in developing new varieties and conducts applied and basic research in grain and matters related to the grain industry. The Laboratory Division tests experimental varieties and compares them with existing varieties and standards of quality. Information on the tests conducted by the lab is made available to the breeders to assist them in determining whether a proposed variety had potential to warrant further development. It also provides any technical assistance needed by the Canadian Wheat Board.

The Grain Commission manages six inland terminals located at Prince Rupert, British Columbia; Moose Jaw, Saskatchewan; Saskatoon, Saskatchewan; Edmonton, Alberta; Calgary, Alberta; and Lethbridge, Alberta. The Commission supervises futures trading under the Canadian Grain Act of 1971. The Commission also sets maximum tariffs or fees which an elevator operator can charge for services rendered. These services include receiving, elevating, shipping, cleaning, and drying.

On December 31, 1976, total staff exclusive of the Canadian Government Elevators was 835 compared with 880 at the end of 1975. The staff of the Canadian Government Elevators totaled 194, an increase of 3 since December 31, 1975. Expenditures for the year ending March 31, 1976, were \$25,526,000.⁹

Canada Grains Council

The Canada Grains Council was established in 1969 at the suggestion of the federal government to provide a liaison between the grain trade and the government. Membership is open to all nongovernment organizations engaged in producing, handling, transporting, processing, or marketing grain or grain products.

The Secretary General is in charge of the Canada Grains Council. His position is a permanent appointment by the Board of Directors. The Board of Directors consists of a cross-section of the Canadian grain industry including production, handling, processing, and marketing interests. There is also an ancillary group which acts in advisory capacity to the Board of

⁹Canadian Grain Commission, Report of the Canadian Grain Commission 1976.

Directors. The advisory committee includes representatives from Ag Canada; the Canadian Wheat Board; the Canadian Grain Commission; the Transportation Commission; the Department of Industry, Trade, and Commerce; the Grains Institute; and selected universities.

Canada Grains Council's primary function is coordinating Canada's efforts to improve the grain trade. The Council's functions are: 1) liaison within the grains industry, 2) liaison with the government, 3) market development, 4) coordination of grain research, 5) information services. The Canada Grains Council employed 16 people as of August 2, 1977. Expenditures for the year ending March 31, 1977, totaled \$254,735 compared with \$217,000 in 1975.

The Canada Grains Council has played an important part in market development for Canada. The council has sent technical missions to the Caribbean, Mexico, Central America, South America, and Southeast Asia. Market survey missions have been sent to the United Kingdom, Italy, Netherlands, Belgium, and North German ports to determine market potential. The major overseas market development thrust has been in the Pacific Rim area through participation in the Canada-Japan Feed Grain Seminar, the Korean Feed Seminar, and distribution of information.

Canadian International Grains Institute

The Grains Institute is headed by an executive director who is appointed by a five-man Board of Directors. The Board of Directors consists of one of the commissioners and a senior officer from the Wheat Board, a commissioner and senior officer from the Canadian Grain Commission, plus a representative from the Federal Government's Department of Industry, Trade, and Commerce. The executive director has three people report to him: the Director of Special Projects, Director of Marketing, and the Director of Technology. The Director of Special Projects is responsible for program coordination, communications, audio-visual support, elevator operations, and transportation. The Director of Marketing is responsible for commodity exchanges, grain trading, ocean freight, foreign exchange, and international trading. The Director of Technology heads milling, baking, flour testing, oilseed testing grading, and feed formulation.

The Canadian International Grains Institute is an educational institution for the grain industry in Canada. Their educational programs are directed in a wide range of activities. They have programs that deal with the grain producer and the domestic grain industry, including those involved in overseas promotion positions, and international buyers. In addition to education, the Institute serves as an agency to promote good will for the Canadian grain marketing system.

The staff of the Canadian International Grain Institute as of March 31, 1977, numbered 20 people. Total expenditures for the year ending March 31, 1977, totaled \$825,781 compared with \$736,372 in 1976. In 1977, \$154,974 was spent on market development. This included: travel expense; staff--including overseas programs (\$28,546); program expenses--including supplies (\$46,733); translation and interpreters (\$11,591) and overseas participants--travel, accommodation, and allowance (\$68,103).¹⁰ Since 1972 the Institute has had seven International Grain Industry Courses. The Institute has been involved in the China-Canada Grains Symposium, Bangladesh Grain Industry Course, and Algerian Grain Industry Course.

Description of Production and Utilization of Grains

Production

Wheat is Canada's largest crop, accounting for approximately one-half of the acres planted and bushels produced. Canada produced 866,064,000 bushels of wheat in 1976 (Table 1). Barley and oats follow in order of importance. Wheat, barley, and oats represent approximately 80 percent of the acres seeded to grain and approximately 80 percent of the bushels produced. (Table 1).

Geographic Dispersion of Production

Most of the small grains in Canada are produced in the Prairie Provinces of Manitoba, Alberta, and Saskatchewan. The Prairie Provinces produced 96.42 percent of the wheat, 75.48 percent of the oats, 93.88 percent of the barley, 90.18 percent of the rye, 99.18 percent of the flax, 99.61

¹⁰ Canadian International Grains Institute, Five-Year Report, April 1, 1972, to March 31, 1977.

TALBE 1. ACRES, YIELD, AND PRODUCTION OF CANADIAN GRAIN, 1976

Commodity	Acres (000's)	Average Yield (bushels/acre)	Bushels (000's)
All Wheat	27,529.2	31.5	866,064
Durum	3,250.0	31.1	101,000
Oats	6,055.0	53.9	326,148
Barley	10,771.2	44.2	475,583
Rye	799.0	28.0	22,346
Flax	875.0	13.8	12,100
Rapeseed	1,985.0	20.7	41,100
Corn	1,669.0	81.9	136,770
Soybeans	370.0	28.9	10,700
Total	53,303.4	--	1,991,811

SOURCE: Canada Grains Council, Canadian Grains Industry Statistical Handbook 76, Winnipeg, Manitoba, 1977, pp. 3-11.

percent of the rapeseed, and less than 1 percent of the corn grown in Canada (Table 2). Although Ontario is the leading producer of corn, Saskatchewan is the leading producer of all small grains.

TABLE 2. AVERAGE ANNUAL PRODUCTION OF PRINCIPAL CROPS BY PROVINCE AND COUNTRY, CANADA, 1966-1975

Commodity	Manitoba	Saskatchewan	Alberta	Canada
	----- 000's -----			
All Wheat	71,150	363,800	128,700	584,563
Oats	62,000	87,000	98,000	327,205
Barley	56,300	134,200	193,100	408,577
Rye	2,532	7,177	5,216	16,549
Flax	8,270	9,060	4,320	21,828
Rapeseed	6,620	24,660	19,460	50,940
Corn	370	--	--	97,086

SOURCE: Canada Grains Council, Canadian Grains Industry Statistical Handbook 76, Winnipeg, Manitoba, 1977, pp. 9-11.

Utilization

Approximately 73 percent of the wheat produced in Canada during the ten-year period 1966-1975 was exported. In 1975-1976 Canada exported 450.2 million bushels while production was 627.5 million bushels. Canada has exported an average of 428.3 million bushels of wheat for the ten-year period 1966-1975 (Table 3). Farmers have used an average of 303.7 million bushels of oats during the same time period for feed. Canada has exported an average of 125.6 million bushels for the 1966-1975 period and fed an average of 242.9 million bushels of barley.

TABLE 3. SUPPLY AND DISPOSITION OF CANADIAN WHEAT, OATS, AND BARLEY, TEN-YEAR AVERAGE, 1966-1975

Use	All Wheat	Oats	Barley
	<i>million bushels</i>		
Exports	428.3	6.8	125.6
Human Food	64.8	4.7	0.1
Seed	31.8	17.5	17.6
Industrial Use	1.0	--	19.3
Loss In Handling	1.6	0.1	0.5
Feed for Livestock	69.6	303.7	242.9
Carry Over, July 31	575.1	102.8	170.0
Opening Stocks,			
August 1	587.4	107.5	167.3
Production	584.6	327.2	408.6
Imports	--	0.9	--
Total Supplies	1,172.0	435.6	575.9

SOURCE: Canada Grains Council, Canadian Grains Industry Statistical Handbook 76, Winnipeg, Manitoba, pp. 29-30.

A large portion of the oats grown in Canada was used for livestock feed. In 1975-1976 Canada produced 289.6 million bushels of oats, while 244.1 million bushels was used as feed. Approximately 30 percent of the barley produced in Canada was exported. Feed for livestock accounted for approximately 50-60 percent of the disposition of barley, while malting use accounted for approximately 6 percent (Table 4).

TABLE 4. DISPOSITION OF CANADIAN WHEAT, BARLEY, AND OATS, TEN-YEAR AVERAGE, 1965-1974

Disposition	All Wheat		Barley		Oats	
	1,000 Bu.	Percent	1,000 Bu.	Percent	1,000 Bu.	Percent
Exported	415,395	70.80	102,902	26.58	6,146	1.81
Feed Mills	28,785	4.91	44,363	11.46	33,637	9.93
Flour Mills	88,150	15.02	136	0.03	4,659	1.38
Malt	--	--	23,413	6.05	--	--
Other ^a	54,423	9.27	216,368	55.88	294,199	86.88
Produced	586,753	100.00	387,182	100.00	338,641	100.00

^aResidual.

SOURCE: Canada Grains Council, Canadian Grains Industry Statistical Handbook 76, Winnipeg, Manitoba, 1977, pp. 65-66, 77.

A little less than one-half of the rye production has been traditionally exported. The ten-year average from 1966-1975 indicates that approximately 75 percent of the flax grown is exported. Approximately 60 percent of the rape-seed grown in Canada was exported for the ten-year period. Canada uses more corn for livestock feed than it produces. Canada imported an average of 29.3 million bushels of corn from 1966-1975. Canada has produced an average of 10.7 million bushels of soybeans for 1966-1975. The domestic crushing industry has crushed an average of 22.5 million bushels per year, importing an average of 14.0 million bushels.¹¹

Market Channels

Quota System

Canadian farmers market grain under a quota system. Quota acreage, which the base upon which permission to market grain is determined, is calculated by a formula based on land seeded to oilseed, forage, grain, plus land in summer fallow. The quantity of grain that a farmer may deliver at different periods is related to the size of his farm and the level of quota established by the Wheat Board. Each year before seeding, the Wheat Board sends a general summary of the Canadian production situation and marketing prospects to farmers. In addition the Wheat Board announces initial payments, minimum

¹¹Canadian Grain Industry, op. cit., p. 32.

quota levels, and desirable acreage needed for the year. After these figures are published the farmer's planting intentions are estimated and reported by Statistics Canada. A farmer usually divides his quota base according to the quantity of each grain that he expects to deliver. The farmer is not held responsible for his planting intention. However, he can only deliver on the basis of the quota acres he assigns to each of the crops. For example, he can split his quota among wheat, barley, and oats and plant only wheat.

A farmer can allocate any part of his quota base for delivery of any particular grain. For example, if a farmer has 1,000 acres of tillable land he can allocate 500 acres of his base to wheat, 300 acres to barley, and 200 acres to oats. The farmer can also allocate all 1,000 acres to wheat if he chooses. Other grains under quota are flax, rapeseed, and rye. The number of acres a farmer allocates determines the amount of grain the farmer can deliver to the elevator under the delivery quotas authorized by the Canadian Wheat Board.

The Wheat Board issues opening quotas for the beginning of the market year (August 1). The opening quota for wheat for the crop year 1977-1978 was three bushels per acre. After the opening quotas the Wheat Board issues delivery quotas for particular grains when supplies are needed at the ports or terminals. As of July 31, 1976, the Wheat Board had issued quotas for the 1975-1976 crop year of 20 bushels per acre of wheat, 50 bushels per acre of barley, and 50 bushels per acre of oats. The aforementioned farmer with 1,000 acres could have delivered 10,000 bushels of wheat, 15,000 bushels of barley, and 10,000 bushels of oats to the country elevator. Delivery quotas are not always the same in every geographic area as they can be allocated to specific areas. There is an attempt made by the Wheat Board to have quotas end up relatively equal for all parts of the producing area. Minimum guaranteed deliveries for 1976-1977 were: wheat except durum, 500 million bushels; durum wheat, 50 million bushels; barley, 200 million bushels; and oats, 20 million bushels. On the basis of the way farmers assigned acres in their permit books, in 1976-1977 there would be a minimum of 9-bushel quota on spring wheat, a 7-bushel quota on durum, a 13-bushel quota on barley, and a 5-bushel quota on oats. The Board usually has open quotas on non-Board deliveries of feed wheat, oats, and barley for nonhuman domestic use. Restrictions on country elevator stocks of domestic feed grains, amounting to 10 percent of a company's total capacity and 20 percent of a company's capacity at one delivery point, apply to delivery of feed grains.

The delivery permit book is part of the Wheat Board's quota system. The permit book is used by the Wheat Board to allocate elevator space under the quota system, and establishes a farmer's delivery opportunities. The permit book is designed to establish a grain producer's right to an equitable share of available elevator space. There are certain rules that a farmer must follow regarding the permit books:¹²

- 1) Every grain producer is entitled to a permit book for all the land that he operates. However, only one permit book will be issued for each farm or group of farms operated as a unit.
- 2) An actual producer, renting land on a share crop basis, has prior right to use of the permit book. However, the producer is entitled to deliver only his share of each quota that comes into effect and must make the permit available to the landowner so that he can deliver his share.
- 3) A farmer must have a permit book in his possession each time he makes a delivery and the elevator manager is required to record each delivery in the permit book at the time delivery is made.
- 4) Both the farmer and elevator manager must make sure that each delivery that is made does not exceed the quota in effect at the time the delivery is made. This applies even if grain is put into storage.

Producer Marketing

The Canadian farmer is restricted on his grain deliveries by the quota system of the Wheat Board. The farmer can deliver to the elevator only the number of quota bushels on quota grain (wheat, oats, barley, rye, rape, flax) times the number of acres the farmer allotted to the elevator planting intentions. There have been open quotas on non-Board delivery of feed grains; however, farmers are limited in delivery to the amount of available space the elevator has and how much feed grain is already in the elevator.

The farmer has other options he can pursue. He can sell his grain to other farmers or to feedlots. There are no delivery restrictions on these types of sales. In the case of rye, flax, and rapeseed the farmer can deliver

¹²Wheat Pool Budget, "Delivery Permit Books," Alberta Wheat Pool, Vol. 28, No. 30, July 29, 1977.

to distillers and crushers; however, there are quotas set on these deliveries. Quotas for 1977 on rye delivered to distillers and on flax and rapeseed delivered to crushers have been set at 15, 20, and 20 bushels, respectively.

The Canadian farmer receives an initial payment for his wheat, oats, and barley when he delivers it to the elevator. The farmer received a price basis in store Thunder Bay of Vancouver less railway freight and primary elevator tariff. The initial payment the farmer received in 1975-1976 was the Wheat Board initial payment (\$3.00) minus primary elevator tariff for handling and cleaning (maximum 13 5/8¢/bu.) minus transportation costs.

The Wheat Board achieves price stability through pooling. All monies received by the Wheat Board for sales of a particular kind and grade of grain are placed or "pooled" in a single fund. There are six grades combined in the pool for spring wheat. Three of the six grades are Numbers 1, 2, and 3 Canada Western Red Spring. The other three grades are Canada Utility Wheat, Numbers 1, 2, and 3. The grades are segregated on the basis of test weight, foreign material, and wheats of other classes. Durum has five grades that are included in the wheat: Numbers 1, 2, and 3 Canada Western Amber Durum, Extra Number 4 Canada Western Amber Durum, and Number 4 Canada Western Amber Durum. Barley has six grades included in the barley pool. A separate pool exists for malting barley. The six grades are Numbers 1 and 2 Canada Western six-row, Number 2 Canada Western two-row, and Numbers 1, 2, and 3 feed. Barley is separated on test weight, foreign material, wild oats, soundness, and heat damaged grain. Oats are graded on the basis of test weight, foreign materials, other grains, and wild oats. The six grades for the oats pool are: Numbers 1 and 2 Canada Western, Extra Number 3 Canada Western, Extra Number 1 feed, and Numbers 1 and 2 feed. The pooling period usually runs from August through October of the following year, although there is not a set time period for closing the pools.

Final payments from the pools to the farmers are based on the number of bushels of each grade of grain the farmer had delivered. The farmer's grain is graded at the country elevator when the grain is delivered.

The farmer also has the option of selling his non-Board grain on the cash market for going market price commonly referred to as the "street price." Because of shipping delays elevator companies cannot use current cash pricing for grain in store at terminals as a basis for determining the "street price."

Because of the time lags involved in the movement of grain from the country to terminal markets, "street prices" are based primarily on the current price on the Winnipeg Commodity Exchange of the futures contract for the month when the grain would be expected to be delivered.

The farmer has another option given him by the Prairie Grain Advance Payments Act. Under this program he can get an advance payment on the "prescribed quota" suggested by the Canadian Wheat Board at the beginning of the year. The payment has historically been a little more than one-half the expected total payment. There is a ceiling of \$15,000 per farmer on advance payments. There is no interest charged on the advance; however, if the farmer defaults (does not deliver the grain when called for) an interest charge is added. The farmer has to apply for the program; he does not automatically get the advance payment.

Country Elevator System

As of August 1, 1975, there were 4,165 primary elevators in Canada with a total capacity of 355,467,650 bushels. A primary elevator is an elevator for which the principal use is receiving grain directly from producers for either or both storage and forwarding. On August 1, 1976, there were 3,964 primary elevators with a capacity of 343,894,700 bushels. In 1975-1976 Canada's grain handling system received 882,899,000 bushels of grain from the farmers, or 222,729 bushels handled per elevator. The average storage capacity per elevator is 86,754 bushels.

Most of the elevators are owned by several large companies. The Alberta Wheat Pool had 789 primary elevators as of August 1, 1976, Cargill, 253; Manitoba Pool Elevators, 284; Pioneer Grain Company, 443; Saskatchewan Wheat Pool, 1,317; and United Grain Growers, 701. The Pools and United Grain Growers are all large cooperatives, while Cargill and Pioneer are privately owned firms. The three large pools and United Grain Growers represent approximately 80 percent of Canada's primary elevators.

When the Canadian farmer hauls his grain to the elevator, the elevator manager weighs the grain, determines dockage, and grades the grain. If the producer agrees with the grade assigned by the elevator manager, he is given a cash purchase ticket which is negotiable at any bank for grain he delivered. If the farmer does not agree with the grade, the elevator manager issues a

receipt showing the weight of the grain delivered. The manager then sends a sample to the Canadian Grain Commission to be graded and the grade assigned by the Canadian Grain Commission is final. The elevator manager then issues a cash purchase ticket on the basis of the grade assigned by the Commission.

Canadian elevator managers buy feed wheat, feed oats, feed barley, rye, flax, and rapeseed on behalf of their companies. Wheat, oats, and barley for export are bought on behalf of the Canadian Wheat Board. The elevator manager acts as an agent for the Board. Because many small Canadian communities do not have banks, the local elevator is often appointed to be the payor when the farmer wants to redeem his cash purchase ticket.

If the farmer decides he wants to store his grain at the elevator, providing there is room, he pays a rate set by the Canadian Grain Commission of 1/30¢/bu./day. The elevator manager issues a storage ticket instead of a cash receipt. Each week the elevator manager reports to the Wheat Board on the kind, quantity, and quality of the grains the manager has in the elevator.

After the grain is shipped and has arrived at the terminal, it is graded by the Canadian Grain Commission. Any difference in grading between the Grain Commission and the elevator is absorbed by the elevator. Elevator managers can blend lower grade grains together with higher grade grains in an attempt to come out with the higher grade. Most elevators are equipped with grain cleaning equipment (clippers, carters) and some have dryers. Most of the elevators offer farm supplies, such as fertilizer, feed, and chemical.

Terminal Elevators

The principal uses of a terminal elevator are the receiving of grain upon or after the official inspection and official weighing, cleaning, and storing of the grain before it is moved forward. There are 28 elevators in Canada that fit under this definition: 1 each in Prince Rupert, Churchill, Moose Jaw, Saskatoon, Calgary, Edmonton, and Lethbridge; 16 in Thunder Bay; and 5 in Vancouver. These 28 elevators are owned by 11 different firms. They have a capacity of 139,315,710 bushels with an average capacity per elevator of 4,975,561 bushels.

The Saskatchewan Wheat Pool owns six terminal elevators at Thunder Bay and one at Vancouver. The Saskatchewan Pool's total terminal space is 50 million bushels. In addition the Saskatchewan Pool also shares ownership of a terminal in Vancouver with Manitoba and Alberta Wheat Pools which provide an additional 7.1 million bushels of space. United Grain Growers has one terminal at Vancouver (3,645,000 bushels) and two terminals at Thunder Bay (8,250,000 and 3,250,000). The Alberta Wheat Pool has one terminal in British Columbia with a capacity of 7,300,000 bushels. The Manitoba Pool has three terminals at Thunder Bay with total capacity of 15,080,000 bushels. The Canadian Grain Commission operates six terminals owned by the government located at Moose Jaw, Saskatoon, Calgary, Edmonton, Lethbridge, and Prince Rupert with a total capacity of 19,350,000 bushels. The three pools and United Grain Growers control 68 percent of the total capacity of the licensed terminal elevators. Canadian government elevators control 14 percent of the capacity.

There are also 26 elevators in Canada that are defined as transfer elevators. A transfer elevator's principal use is the transfer of grain that has been officially inspected and officially weighed at another elevator and the receiving, cleaning, and storing of eastern grain or foreign grain. These transfer elevators are located along the Great Lakes and Saint Lawrence Seaway with a couple in the Maritime Provinces. The total capacity of these transfer elevators is 121,829,300 bushels, with an average capacity of 4,685,742 bushels.

All grain that is received and shipped by terminal elevators is weighed and graded under the supervision of the Canadian Grain Commission. In addition, each carlot of wheat received and each shipment for export is tested to determine the protein level. The Canadian terminal elevators clean the grain which consists of removing dockage and foreign material, such as chaff, weed seeds, and other grain. Low dockage grain is normally cleaned on one pass through the cleaning machines while grain with a high degree of dockage is sometimes cleaned twice.

The Canadian terminal elevators have reclaim systems which separate cracked and broken kernels from whole grain, and by-products from the screenings. These reclaimable by-products are kept in separate bins and are sometimes blended back into the grain. The Canadians have very strict regulations concerning the quality of the export grain. The quantity of

dockage allowable in export shipment of grain is very low. All Canadian grain must pass through cleaners before export, and all prairie grain is cleared at terminals before reaching the transfer elevators. Cleaning of the grain at terminal elevators requires considerable bin space and also restricts throughput capacity. For these reasons most Canadian elevators require two cleaning shifts to keep up with the single shift of receiving and shipping personnel.

The Canadian Grain Commission provides for controlled segregation of Number 1 CW and Number 2 CW Red Spring Wheat by protein level. The protein separations are 11.5 percent, 12.5 percent, and 13.5 percent.

Terminals also function in blending grain, although the Canada Grain Act prohibits mixing of grades without permission of the Canadian Grain Commission. The terminal elevators work quite closely with the Commission, thus blending can be accomplished. Often considerable returns can result from blending.

Drying is available at all terminal elevators. The drying capacity of the terminal ranges from 500 to 4,000 bushels/day/elevator. Shipping and storage are also important functions of terminal elevators.

Tariffs

The Canadian Grain Commission sets the maximum rates for elevation, cleaning, and drying. The maximum tariffs were revised effective September 1, 1976, for each grain to accommodate the switch to metric units of measurement for grain. The maximum charge for elevation of wheat at primary elevators is 13 5/8/bu., raised from 12¢/bu. (Table 5). The maximum cleaning tariff for wheat at primary elevators was raised from 5¢/bu. to 5 1/2¢/bu. The maximum drying charge is 12¢/bu. and the maximum storage charge is 1/30¢/bu./day for primary and terminal elevators. Transfer elevators can charge up to 1/20¢/bu./day.

Transportation System

Railway

Canada is in a unique situation with respect to transportation of grain from the country elevator to the terminal market. The Canadian Government wanted a railroad built across Canada from east to west. In 1897 an

TABLE 5. MAXIMUM ELEVATION TARIFFS AT LICENSED ELEVATORS, CANADA, SEPTEMBER, 1976

Commodity	Primary	Terminal
	¢/bu.	¢/bu.
Wheat	13 5/8	6 1/8
Oats	12 5/8	5 3/4
Barley	13 1/2	6 1/8
Rye	12 3/4	6 1/8
Flax	15	7 7/8
Rapeseed	13 3/8	8 1/4

SOURCE: Canada Grains Council, Canadian Grains Industry Statistical Handbook 76, Winnipeg, Manitoba, 1977, pp. 202-204.

agreement called the Crows Nest Pass Agreement was reached between the government and the railroad. It contained the following provisions:¹³

- a. Reduction of existing rates by 3¢/cwt. on grain and flour moving from the west to Port Arthur (Thunder Bay) and points east.
- b. A reduction in the rates on a variety of westbound products.
- c. A government subsidy to the Canadian Pacific Railway. The subsidy was in the form of a cash grant of \$25 million, 25 million acres of land, turning over without charge 710 miles of line built at a cost of \$28 million to the government. In return the rates were to be held at the agreed level in perpetuity.
- d. The CPR gave the government some coal bearing land.

The Crows Nest Pass rates apply on grain and flour moving from any point on any railroad line west of Thunder Bay to Thunder Bay. These rates also apply on grain and flour moving to the West Coast and Churchill from the prairies.

The Feed Freight Assistance Policy was established during World War II to equalize the cost of feed grains throughout Canada. The freight assistance program subsidizes transportation costs from the Prairie Provinces to Eastern Canada and British Columbia. The program also subsidized Ontario wheat and corn

¹³ Kulshreshtha, Surendra N., A Current Perspective on the Prairie Grain Handling and Transportation System, Publication No. 269, Transportation Centre and Extension Division, University of Saskatchewan, Saskatoon, September, 1975, p. 14

shipped into Quebec and the Atlantic Provinces for livestock feed. The policy is still in effect but the area covered by the Policy has been narrowed.

North Dakota and Manitoba rates will be compared to determine the transportation subsidies provided by the Canadian Government. There are two rates used for shipping grain from North Dakota origins to the West Coast: domestic rates and export rates. The domestic rate from Fargo, North Dakota, in 1977, was 168.5¢/cwt.¹⁴ Almost no grain moved out of North Dakota under this rate. Grain shipped to the West Coast by the export rate from Fargo, North Dakota, was 159.5¢/cwt. on January 7, 1977.

The export rates from comparable North Dakota and Manitoba origins were compared. The export wheat rate from Williston, North Dakota, to the West Coast (Portland) was 155.0¢/cwt. which is a distance of 1,207.2 miles. A comparable Canadian origin is Broadview, Saskatchewan, which is 1,210.7 miles from Vancouver and has a rate of 29.0¢/cwt. (Table 6). The mean value of the 11 North Dakota stations was 159.1¢/cwt. compared to the mean value of the Canadian stations of 33.5¢/cwt. (Table 6).

Rates going east to Minneapolis and Duluth are classified as gathering rates. Rates are also classified as full service and restricted. Full service rates apply if a shipper desires or requires more than 34 hours for loading wheat (10 daylight hours plus an additional 24 hours). Restricted rates do not apply on shipments accorded en route inspection, sampling, diversion, or reconsignment privileges although one stop for storage, cleaning, blending, or milling is permitted. Most of the grain shipped in North Dakota is under the restricted rate category. Therefore, restricted gathering rates were used for comparative analysis.

The major Manitoba shipping point to the east is Thunder Bay. This was comparable to Duluth-Superior for North Dakota grain. The gathering rate from Rugby, North Dakota, was 69.5¢/cwt. (Table 7). The distance from Rugby to Duluth-Superior was 428.7 miles. The Canadian origin of comparable distance was Winnipeg, Manitoba, 420.0 miles from Thunder Bay with a rate of 14.0¢/cwt. Minot, North Dakota, was 485.5 miles from Duluth with a rate of 79.0¢/cwt. While Coney, Manitoba, the Canadian origin, had a distance of 481.1 miles and a rate of 16.0¢/cwt. Virden, Manitoba, was 600.3 miles from Thunder Bay

¹⁴Telephone call, Burlington Northern Freight Rate Department, October 12, 1977.

TABLE 6. WHEAT RATES FROM CANADIAN SHIPPING POINTS WESTBOUND TO VANCOUVER, BRITISH COLUMBIA, AND FROM COMPARABLE NORTH DAKOTA SHIPPING POINTS WESTBOUND TO OREGON AND WASHINGTON, 1977

North Dakota Origin	Mileage	Rate ¢/cwt.	Manitoba Origin	Mileage	Rate ¢/cwt.
Williston	1,207.2	155.0	Broadview	1,210.7	29.0
Powers Lake	1,299.7	159.5	Virden	1,294.4	31.0
Minot	1,327.3	159.5	Ashbury	1,329.5	32.0
Rugby	1,388.4	159.5	Austin	1,389.9	33.0
Sherwood	1,409.9	159.5	Coney	1,413.6	33.0
Churchs Ferry	1,426.6	159.5	Popular Point	1,434.2	34.0
Devils Lake	1,445.6	159.5	Meadows	1,452.6	34.0
Antler	1,468.6	159.5	Winnipeg	1,474.7	34.0
St. John	1,481.5	159.9	Parkview	1,485.7	35.0
Grand Forks	1,534.3	159.5	Winnipeg Beach	1,532.8	36.0
Langdon	1,582.9	159.5	Riverton	1,556.6	37.0
Mean Value		159.1			33.5

SOURCES: North Dakota Wheat Rates, Before the Interstate Commerce Commission, Ex Parte 270 (Sub. No. 9) Investigation of Railroad Freight Rate Structure - Grain and Grain Products, Verified Statement No.2, Affiant George H. Morin, Part I-B-Wheat, February 2, 1976, p. 53.

Minneapolis Grain Exchange Transportation Department, Grain Rate Book 13, January 1, 1977.

and had a rate of 18.0¢/cwt. Williston, the comparable North Dakota origin, was 605.6 miles from Duluth and had a rate of 98.0¢/cwt. The average rate from the seven North Dakota origins was 83.2¢/cwt. compared to seven Manitoba origins with a mean rate of 16.0¢/cwt.

In order to get grain to market, the Canadian Wheat Board had to devise some type of system to enable them to make sales commitments and carry out movement from country elevators to the ports as efficiently as possible. The Block Shipping System is the resulting system used to move grain by rail. The blocks are based on railway runs and only one railway operates in each block. Sometimes both railways service the same point, so some points are located in two different blocks. Each block contains about 400 miles (644 kilometers) of railway track, 40 shipping stations, and 125 primary elevators.¹⁵

¹⁵Canadian International Institute, op. cit., p. 140.

TABLE 7. WHEAT RATES FROM SELECTED CANADIAN SHIPPING POINTS TO THUNDER BAY, ONTARIO, AND FROM COMPARABLE NORTH DAKOTA SHIPPING POINTS TO DULUTH-SUPERIOR, 1977

North Dakota Origin	Rail Mileage	Rate	Manitoba Origin	Rail Mileage	Rate
		¢/cwt.			¢/cwt.
Rugby	428.7	69.5	Winnipeg	420.0	14.0
St. John	445.4	74.0	Meadows	442.4	15.0
Minot	485.5	79.0	Coney	481.1	16.0
Antler	508.9	83.0	Austin	504.8	16.0
Sherwood	529.8	88.5	Tupley	528.5	16.0
Powers Lake	565.3	90.5	Alexander	568.8	17.0
Williston	605.6	98.0	Viriden	600.3	18.0
Mean Value		83.2			16.0

SOURCES: North Dakota Wheat Rates, Before the Interstate Commerce Commission, Ex Parte 270 (Sub. No. 9), Investigation of Railroad Freight Rates Structure - Grain and Grain Products, Verified Statement No. 2, Affiant George H. Morin, Part I-B-Wheat, February 2, 1976, p. 53.

Minneapolis Grain Exchange Transportation Department, Grain Rate Book 13, January 1, 1977.

Under the Block Shipping System, there are 48 shipping areas known as blocks. Ten blocks are in Manitoba, 23 in Saskatchewan, and 15 in Alberta. Some of these blocks are located interprovincially. There are 11 inter-provincial blocks in the 48.

The Block Shipping System works on a time period of six weeks. The first week the amount of grain needed at terminals and processing plants is determined. A "Six Week Projection Statement" is issued. During Week 2, a "Stock Reporting Instruction Sheet" is prepared on the basis of the projections made in Week 1. This report estimates the number of cars allotted to each shipping block on the basis of kind, grade, and destination of grain. During Week 3, the elevator managers report the kind, amount, and quality of shippable grain they have to railway personnel. A "Final Position Statement" is compiled by the Wheat Board Transportation Department to allocate the number of cars on the basis of kind and quality of grain needed at the destinations for Week 6. The Wheat Board meets with the railroads to

negotiate the cars that will be allocated to the different areas. The "Final Position Statement" is the basis on which they make the negotiations. In Week 4, a "Tentative Shipping Plan" is prepared on the basis of the "Final Position Statement." This information is telexed by the Wheat Board to the respective elevator companies. The elevator companies assign elevators to load the grain in each shipping block, and inform the Wheat Board. The Wheat Board then contacts the railroads to confirm the assignments. An official of the railway informs the elevator managers of the number of cars to be spotted, the kinds and quality of grain to be loaded, and the destination of the grain. During this time the elevator sends an assessment of shippable stocks available for the next six-week cycle. In Week 5, the elevators load the hoppers or box cars and the cars are shipped to the terminals. During Week 6, the grain is unloaded and processed.

Shipping intentions can be changed all the way up to Wednesday of Week 4 after which time they are finalized. If a shipper delivers the wrong grade to the terminal, he is penalized. He loses cars in the shipping block of the origin of the shipment at a rate of two cars for each car of misrepresented grade. The cars the elevator loses are divided among the other elevator companies in the shipping block.

Trucking

Because of the Crows Nest Pass Rates and Feed Freight Assistance Program, there is very little commercial trucking of grain. The truckers can not compete against the subsidized railway freight rates for grain.

The Wheat Board controls the transportation of almost all grain and transportation is almost exclusively by rail. The Board has used commercial trucking when they need the grain at a given location immediately. Trucks have also been used to transport grain into government terminals for processing.

Cargill has trucked flax to Minneapolis and rye and rapeseed to other markets. The pools do not get involved in trucking grain to other markets. Since grains are not a controlled commodity, the shipper and the receiver bargain for a truck rate.

Flour mills sometimes receive grain by truck. If the "stop off" or "milling-in-transit" charge by the railroad is too high it may be more

economical to have the grain hauled to the mill by truck. If the distance is short, the mills have the grain hauled in by truck or offer a premium and have farmers deliver it directly to the mill.

If reorganization of the railroad system in Canada is carried out, some branch lines will very likely be eliminated. Due to elimination of the branch lines, there will probably be more trucking of grain from elevators without rail service to the terminals.

Water Movement

The Lake Shipper's Clearance Association was formed in 1909. Membership is restricted to firms engaged in the grain shipping business and entitled to the privileges of the Winnipeg Grain Exchange. Membership may also include any other grain dealer being a member in good standing and entitled to the privileges of any other recognized grain exchange. There were 48 members in 1975.

The original purpose of the Clearance Association was to reduce the number of moves a ship has to make. Now, the Association takes delivery of warehouse receipts, records the receipts by grade and terminal, and sends the necessary items to the terminal elevators at Thunder Bay. The Clearance Association receives shipping orders from the shipper, arranges for grain to be loaded out in accordance with the terms of the loading order, and makes out bills of lading. After this is done the Shipping Clearance Association makes out all customs papers, delivers the documents, and pays all the elevator charges against the shipment. Finally, the Association delivers a detailed manifest showing all charges against the shipment to the shipper. To cover costs the Association receives a schedule of fees from the vessel owners based on the dispatch of their vessels.

The Association has full control of the outward flow of grain from Thunder Bay. Thus, the Association exerts a major influence over the terminal elevators, vessels, and railway operations at Thunder Bay. The Association, however, only has a minimum amount of control over ocean-going vessels at the port.

The Wheat Board is the largest shipper of grain through Thunder Bay; however, the Wheat Board is not a member of the Clearance Association. The Clearance Association acts as an agent for the Board providing the necessary

documents and arranging for loading of lake vessels. The Wheat Board uses lake vessels to transport almost all of its grain. Shipping companies arrange for loading of non-Board grain, such as rye, flax, and rapeseed.

Frequently vessels have to shift from elevator to elevator to obtain a complete load. In August, 1971, the average number of elevators visited by one ship was 3.6, July of 1972 was 3.1, and June of 1973 was 2.9 elevators per ship. A major reason for shifting was insufficient supply of a particular kind and grade of grain at an elevator. Some shifting is caused by the fact that some terminal berths do not have draft to allow for full sea loading.

When the grain has been loaded on the lake vessels, the vessels move through the Great Lakes through the Saint Lawrence Seaway. When the vessels reach the Saint Lawrence elevator system the grain is transferred from the ships to transfer elevators. The Saint Lawrence transfer elevators stretch from Montreal to Port Cartier. The elevators have been licensed to use 40 percent of their storage capacity for United States grain and 60 percent for Canadian grain. The elevators are equipped to unload a maximum-sized laker in 18 to 20 hours. From the transfer elevators the grain is loaded on oceangoing vessels for shipment overseas.

Description of Grain Sales Procedures

There are basically three methods by which Canadian grain is sold to overseas customers. Wheat Board sales to government-controlled buying agencies of other countries account for a considerable amount of the grain sold for export. During the last three years percentages of direct sales made by the Board averaged 85 percent for wheat, 20 percent for oats, and 75 percent for barley.¹⁶ The Board deals with agencies, such as Export Khleb (U.S.S.R.) and the China National Cereals, Oils, and Food-stuffs Import and Export Agency (People's Republic of China). Usually the sales are made under the terms of master contracts which last a number of years. These master contracts include volume, quality, delivery period, price arrangements, and the latest

¹⁶ Correspondence from Bill Spafford, Canadian Wheat Board, October 19, 1977.

dates by which the preceding have to be agreed on. The Board can also make sales to commercial interests in foreign countries, such as Peru and the Philippines.

The Wheat Board may also sell to private trading companies. The private trading companies' margin is the spread between the purchase price and the companies' resale price to the buyer. The private trading companies act as jobbers or forwarders of Board grain. They take care of loading, transporting, and unloading depending on the terms of the agreement. The difference between the direct sale by the Wheat Board and one carried out by a private trading company acting as an agent is not always clear cut. Most of the time both parties are involved in the sale to some degree. The type of sale where the private interests act as agents for the Board typifies sales to Japan, United Kingdom, Europe, and South America where there are more complex markets.

The third category is sales by private or cooperative shippers and exporters to Canadian commercial buyers and buyers from foreign countries. This involves a grain outside the Wheat Board's jurisdiction such as rapeseed and rye.

Canadian Trade Policy

The Canadian Government has recognized the vulnerability of Canadian agriculture to fluctuations in income and has tried to protect agricultural producers from severe price variations which often occur in the industry. The government's aim is to maintain flexibility in production. Canada's commercial policy is aimed along these lines. Canada's goal is to expand and diversify foreign trade to the greatest extent possible.

The essential characteristic of all Canadian policy--domestic, industrial, agricultural, and foreign--has been a deliberate move toward diversification.

Exports

Canada's value of export agricultural products was valued at \$3,960 million in 1976 (Table 8). The agricultural imports to Canada were valued at \$3,129 million. This provided Canada with a favorable balance of agricultural trade. They recorded a trade surplus of \$800 million for agricultural products in 1976.

TABLE 8. MAJOR CANADIAN AGRICULTURAL EXPORT MARKETS, 1976 AND AVERAGE 1960-1976

Country	1976		1960-1976	
	million \$	percent	million \$	percent
U.K. ^a	372	9.4	310	15.3
USA ^b	574	14.5	332	16.4
EEC ^b	518	13.1	274	13.5
Japan	778	19.6	286	14.1
USSR ^c	361	9.1	151	7.5
PRC ^c	144	3.6	158	7.8
Others	1,213	30.6	515	25.4
Total	3,960	100.0	2,026	100.0

^aUnited Kingdom.

^bBelgium, Denmark, France, Ireland, Italy, Luxembourg, Netherlands, and West Germany.

^cPeople's Republic of China.

SOURCE: Bolton, D. L., Canada's Trade in Agricultural Products, 1974, 1975, and 1976, Pub. No. 77/11, Information Division, Agriculture Canada, Ottawa, July, 1977, p. 6.

Canada's major export markets include EEC, Japan, United States, and U.S.S.R. Sixty-six percent of Canada's agricultural exports go to these countries. Japan is Canada's most important single country market. Canada exported 19.6 percent of its agricultural exports to Japan in 1976 (Table 8).

Cereal grains have always been Canada's leading agricultural export products and oilseeds have always been second in importance. Some of the leading exports in 1976 were wheat, \$1.7 billion; barley, \$542 million; rapeseed, \$186 million; and wheat flour, \$123 million. All grains accounted for \$2,365.3 million in 1976 while oilseeds were worth \$282.6 million (Table 9). In 1967-1971, the third leading category was other animal products. The trend has shown that meats have been gradually gaining in importance, and in 1976 it was the third leading export group.

Canadian farmers have long been dependent on export sales for cash receipts receiving 30 to 45 percent of cash receipts from exports. The Prairie Provinces play a dominant role in production for export accounting for approximately 60 to 70 percent of farm cash receipts. Wheat is Canada's major agricultural export commodity. Approximately two-thirds of domestic production is exported each year. Major markets for wheat include the United

TABLE 9. CANADA'S AGRICULTURAL EXPORTS BY MAJOR COMMODITY GROUPS, 1967-1971, 1972-1976, AND 1976

Commodity Group	1967-1971		1972-1976		1976	
	million \$	percent	million \$	percent	million \$	percent
Grains	793.5	1.8	1,991.3	2.4	2,365.3	1.8
Oilseeds	130.6	3.8	316.2	4.4	282.6	9.0
Other Animal Products	89.4	42.8	161.0	31.7	204.1	29.9
Grain Products (Human)	86.6	20.6	146.6	30.0	201.0	24.1
Meats	83.8	77.0	168.1	46.9	206.6	41.7
Tobacco (Raw)	53.6	1.5	62.8	3.8	62.9	7.2
Live Animals	50.3	83.9	95.6	82.5	119.8	87.8
Animal Feeds	47.0	53.8	81.6	48.3	108.4	40.9
Dairy Products	44.7	11.6	61.2	22.2	60.6	8.7
Vegetables (Excl. Potatoes)	35.1	23.1	56.3	24.5	69.8	21.6
Oilseed Products	26.8	3.7	40.2	8.7	47.9	7.1
Other Agriculture	112.5	67.7	199.1	57.6	230.9	57.5
Total Agriculture	1,553.8	19.2	3,380.0	14.9	3,959.9	14.5

SOURCE: Bolton, D. L., Canada's Trade in Agricultural Products, 1974, 1975, and 1976, Pub. No. 77/11, Information Division, Agriculture Canada, Ottawa, July, 1977, pp. 8, 12.

Kingdom, Italy, U.S.S.R., Japan, People's Republic of China, Cuba, and Brazil. In 1975-1976 the U.S.S.R. was the leading importer of Canadian wheat and flour accounting for 118,917,228 bushels (Table 10).

TABLE 10. CANADIAN WHEAT AND WHEAT FLOUR EXPORTS, TEN LEADING COUNTRIES, CROP YEARS 1974-1975 and 1975-1976

Countries	Crop Year 1975-1976		Wheat Flour Equivalent	1975-1976 Total
	1974-1975	Wheat		
	Total			
	<i>bushels</i>	<i>bushels</i>	<i>bushels</i>	<i>bushels</i>
U.S.S.R.	12,916,599	118,917,228	--	118,917,228
Japan	43,767,845	57,832,206	7,774	57,839,980
China	82,442,921	44,356,116	--	44,356,116
United Kingdom	57,725,817	43,707,978	172,992	43,880,970
Cuba	25,996,498	17,259,407	15,663,729	32,923,136
Italy	24,194,479	23,114,794	--	23,114,794
Brazil	31,550,697	21,955,292	--	21,955,292
India	13,531,596	19,834,963	--	19,834,963
Rumania	--	17,375,924	64,768	17,440,692
Poland	2,233,676	13,552,655	--	13,552,655

SOURCE: Canadian Wheat Board, Canadian Wheat Board Annual Report, 1975-1976, Winnipeg, Manitoba, January 31, 1977, pp. 21-24.

In 1975-1976 Canada exported 450 million bushels of wheat and flour. The ten leading countries accounted for 393,815,826 bushels of the 450 million, 87 percent of the total wheat exported by Canada.

Since exports do play such an important part of the economy, the Canadian Government is active in several international agreements. Canada has 80 trade commissioners stationed in 57 countries to promote trade. They also have trade agreements with different countries, such as Australia and New Zealand. The Canadians have started a Market Development Program funded with \$10 million annually to promote trade through trade fairs, trade teams, and market research.

Federal support to international trade is provided through the Department of Industry, Trade, and Commerce and the Export Development Corporation. The Export Development Corporation provides insurance, guarantees loans, and offers other financial facilities to aid exports. The Canadian Wheat Board holds the responsibility for financing credit sales of Wheat Board grains for terms under three years, while the Export Development Corporation takes responsibility if the time period is over three years.

The International Wheat Agreement of 1971 was extended until June 30, 1978. The agreement consisted of two different factions, the Wheat Trade Convention and the Food Aid Convention. The advisory work and any research is handled by the International Wheat Council of which Canada is a member. The agreement served mainly as an information service on the world wheat situation. It also provided for "consultation" should the markets deteriorate and become highly unstable. The International Wheat Agreement also has provisions to negotiate an agreement containing price provisions.

The Canadians have a Food Aid program which reaches 75 developing countries. Bilateral aid stems from Canada's commitment under the Food Aid Convention of the International Wheat Agreement. Multilateral aid given comes mainly through the United Nations World Food Program (WFP), UNICEF, and UNRWA. Most of the grain shipped under these programs is wheat. In 1975-1976 Canada shipped 346.5 thousand tons of wheat and flour under multilateral aid. Bilateral food aid accounted for 718.8 thousand tons with a total tonnage of 1,065.3 thousand tons (Table 11).

TABLE 11. EXPORTS OF WHEAT AND FLOUR UNDER THE CANADIAN FOOD AID PROGRAM

Crop Year	Multilateral		Bilateral		Total	
	(000) bu.	(000) T	(000) bu.	(000) T	(000) bu.	(000) T
1961-62	653.0	17.8	6,492.4	165.3	7,145.4	194.5
1962-63	477.0	13.0	1,262.4	47.3	1,739.4	47.4
1963-64	288.4	7.8	2,454.1	44.2	2,742.5	74.6
1964-65	409.8	5.9	11,350.4	250.0	11,760.2	255.9
1965-66	642.5	16.1	29,350.7	385.7	29,993.2	401.8
1966-67	4,303.4	81.1	50,346.0	1,088.3	54,649.4	1,169.4
1967-68	3,049.0	63.1	22,443.0	742.6	25,492.0	805.7
1968-69	2,581.0	57.8	22,483.0	725.7	25,464.0	783.5
1969-70	3,327.0	94.6	26,465.0	739.3	29,792.0	833.9
1970-71		102.0		1,152.0		1,254.0
1971-72		131.7		975.4		1,107.1
1972-73		50.4		661.8		712.2
1973-74		31.8		554.2		586.0
1974-75		171.4		492.4		663.8
1975-76		346.5		718.8		1,065.3

SOURCES: FAO, National Grain Policies, 1975, Rome, 1976, p. 87.

Canadian Wheat Board, Canadian Wheat Board Annual Report, 1974-1975 and 1975-1976, Winnipeg, Manitoba, January 31, 1977, p. 27, 28.

Imports

Approximately 72 percent of the Canadian imports came from the United States, the EEC, and Australia. The United States supplied Canada with most of its imports, accounting for 58.5 percent of the imports in 1976 (Table 12). The imports from the United States in 1976 were valued at \$1.8 billion.

Fruits and nuts have been the leading import commodity in terms of cost since 1967. Plantation crops were second in importance during the period 1967-1971, but dropped to third in the period 1972-1976 as the price of sugar rose and sugar took over second place in the leading agricultural import list. In 1976 plantation crops moved back into second in importance, largely due to an increase in the price of tea and coffee. In 1976 the third most important group was meat. Canada's agricultural imports consist mainly of supplementary products not grown in Canada, such as coffee, citrus, fruits, sugar, and raw cotton.

The Canadians have three sets of rates under their tariff agreements. British Preferential is the lowest tariff structure. There is no tariff on cereal grain imports under British Preferential (Table 13). Most Favored Nation (MFN) is the next highest and includes such nations as China, U.S.S.R., eastern European countries, and the United States. The tariff on wheat for MFN is \$4.34 per ton. The highest category is the general tariff which covers countries that have no trade agreements with Canada. The tariff on wheat under the general tariff is \$10.80 per ton.

TABLE 13. CANADIAN TARIFF RATES FOR SELECTED COMMODITIES

Commodity	British Preferential	Most Favored Nation		General	
		Canadian	U.S.	Canadian	U.S.
		\$/bu.	\$/T	\$/bu.	\$/T
Wheat	Free	0.12	4.34	0.30	10.80
Oats	Free	0.04	2.53	0.16	10.18
Barley	Free	0.08	3.58	0.25	11.25
Rye	Free	0.06	2.32	0.15	5.79
Maize	Free	0.08	3.07	0.20	7.72
Rice (Uncleaned)	Free	Free		Free	

SOURCE: FAO, National Grain Policies, 1975, Rome, 1976, p. 88.

TABLE 12. CANADA'S AGRICULTURAL IMPORTS BY MAJOR COMMODITY GROUPS, 1967-1971, 1972-1976, AND 1976

Commodity Group	1967-1971		1972-1976		1976	
	Canadian Imports	U.S. Share of Total	Canadian Imports	U.S. Share of Total	Canadian Imports	U.S. Share of Total
	million \$	percent	million \$	percent	million \$	percent
Fruits and Nuts	260.4	60.8	438.9	62.9	546.2	64.0
Plantation Crops ^a	158.9	14.9	271.0	23.4	406.0	22.5
Vegetables (Excl. Potatoes)	114.2	72.0	227.4	74.0	289.3	77.1
Meats	92.5	33.6	218.3	46.7	335.4	58.5
Other Animal Products	83.2	42.9	142.5	55.4	186.2	57.8
Sugar	71.6	2.7	304.5	7.6	274.2	8.9
Oilseed Products	68.6	70.0	154.0	75.3	190.5	75.3
Oilseeds	59.9	91.7	104.7	95.5	126.2	91.0
Vegetable Fibers	58.3	55.9	69.5	78.4	76.3	67.1
Grains	45.0	96.9	112.4	98.9	121.5	99.3
Grain Products (Human)	22.0	62.7	46.1	67.4	57.2	65.2
Other Agriculture	166.8	66.2	420.9	67.1	519.3	71.3
Total Agriculture	1,201.4	52.9	2,510.5	56.0	3,129.3	58.5

^aCoffee, tea, rubber, etc.

SOURCE: Bolton, D. L., Canada's Trade in Agricultural Products, 1974, 1975, and 1976, Pub. No. 77/11, Information Division, Agriculture Canada, Ottawa, July, 1977, pp. 9, 13.

The United States has tariffs on grains coming into the country. Canada is charged tariffs that are similar to most other countries. The tariff on Canadian wheat fit for human consumption imported into the United States is 21¢/bu. of 60 pounds (Table 14). This compares with Canada's tariff on United States wheat of 12¢/bu. Oats and rye have equal tariffs for both countries and barley is one-half cent higher in Canada. The duty on Canadian seed corn entering the United States is lower than United States corn entering Canada. The tariff on corn fit for human consumption entering the United States is much higher than corn entering Canada from the United States.

TABLE 14. UNITED STATES TARIFF RATES FOR SELECTED CANADIAN COMMODITIES

Commodity	Tariff
Wheat for Nonhuman Consumption	5% Ad Valorem
Wheat (Other) ^a	21¢/Bu. of 60 Lb.
Oats (Hulled or Not Hulled)	4¢/Bu. of 32 Lb.
Barley	7.5¢/Bu. of 48 Lb.
Rye	6.0¢/Bu. of 56 Lb.
Corn (Certified Seed)	6.0¢/Bu. of 56 Lb.
Corn (Other)	25.0¢/Bu. of 56 Lb.

^aWheat fit for human consumption.

SOURCE: Telephone call, United States International Trade Commission, Agriculture Division, October 19, 1977.

United States--Canadian Agricultural Trade

The United States and Canada do considerable trading back and forth. The United States' share of Canadian exports is concentrated largely in the livestock sector and its products.

Unmilled barley was the leading cereal import to the United States from Canada. Barley accounted for \$68,856,000 in 1975 and \$52,939,000 in 1976; this was followed by biscuits and wafers at \$20,759,000 in 1975 and \$21,034,000 in 1976 (Table 15).

Corn and soybeans were the big cereal exports from the United States to Canada. In 1976, corn accounted for \$81,982,000 and soybeans, \$81,276,000 (Table 16). Oil cake and meal was the third biggest source of Canadian cereal imports from the United States at \$52,999,000 (Table 16).

TABLE 15. SELECTED UNITED STATES AGRICULTURAL IMPORTS FROM CANADA, FISCAL YEARS 1975 AND 1976

Commodity	Quantity (000)		Value (\$000)	
	1975	1976	1975	1976
Wheat-Unmilled, Bu.	502	820	2,534	3,107
Barley-Unmilled, Bu.	17,513	13,951	68,856	52,939
Corn-Unmilled, Bu.	181	127	2,730	2,767
Rye-Unmilled, Bu.	277	948	695	2,505
Cereals, NES-Unmilled	--	--	2,125	1,162
Cereal Breakfast Foods and Prep., Lb.	3,994	10,837	1,380	4,971
Malt-Ex Extract, Cwt.	720	1,022	9,219	13,307
Macaroni, Spaghetti, Etc., Lb.	22,059	24,877	7,409	8,291
Bread and Bread Crumbs, Lb.	25,521	26,591	5,812	6,922
Biscuits and Wafers, Etc., Lb.	38,669	36,538	20,759	21,034
Flour Meal, Cereal Groats, Etc.	--	--	2,923	556
Animal Feeds, NSPF, Cwt.	361	326	3,073	3,244
Bran, Pollard, Shorts, Etc.	--	--	7,914	8,256
Oil Cake and Meal	--	--	706	253
Ale, Beer, Stout, Porter, Gal.	11,072	15,675	12,764	20,491
Wheat Gluten, Lb.	8,097	14,074	3,493	5,660

SOURCE: USDA, Economic Research Service, U.S. Foreign Agricultural Trade Statistical Report, Fiscal Year 1976, Washington, D.C., September, 1976, pp. 236-237.

TABLE 16. SELECTED UNITED STATES AGRICULTURAL EXPORTS TO CANADA, FISCAL YEARS 1975 AND 1976

Commodity	Quantity (000)		Value (\$000)	
	1975	1976	1975	1976
Corn-Unmilled, Bu.	27,919	26,929	95,186	81,982
Cereals, NEC-Unmilled, Bu.	940	139	3,266	1,342
Cereal Flour-Nonwheat, Cwt.	270	288	2,520	2,438
Meal of Groats-Nonwheat, Cwt.	1,388	1,169	10,949	9,361
Bakery Products, Lb.	22,381	25,867	9,877	12,219
Dietetic, Infant Cereal, Prep., Lb.	8,022	9,562	2,883	4,177
Hops-Fresh, Dried, Lb.	3,374	3,192	3,189	3,314
Bran, Pollard, Shorts, Etc., Stn.	32	44	2,836	4,213
Oilcake, Meal, and Residues, Stn.	278	305	38,855	52,999
Soybeans, Bu.	14,362	15,586	97,761	81,276
Oilseed Flour and Meal, NEC	--	--	13,741	13,978
Seeds for Planting, NEC, Lb.	19,021	22,054	12,781	13,078
Soybean Oil, Lb.	45,249	62,200	14,994	13,746

SOURCE: USDA, Economic Research Service, U.S. Foreign Agricultural Trade Statistical Report, Fiscal Year 1976, Washington, D.C., September, 1976, pp. 63-64.

Canada has not had a favorable balance of trade with the United States in recent years. In 1975, Canada had a negative balance of trade for all commodities with the United States of \$2,529,641,000.¹⁷ In 1976, the negative balance of trade was \$556,884,000.¹⁸

The agricultural products' balance of trade with the United States was unfavorable for the same time period. The agricultural balance of trade for Canada and the United States was \$1,094,424,000 in favor of the United States in 1975.¹⁹ In 1976, the balance of trade was \$1,255,842,000 favoring the United States.²⁰

Trends in Trade

Historically, the United Kingdom has been the leading destination to which Canadian agricultural products are shipped. Until the 1960's the United Kingdom accounted for approximately 30 percent of Canadian agricultural exports. During the 1960's the United Kingdom was still the leading importer of Canadian agricultural products; however, the percentage had dropped in the late 1960's to approximately 20 percent. In the 1970's the United Kingdom has slipped in importance as an importer of Canadian goods. In 1976, it was the fourth leading importer of Canadian products and accounted for approximately 9 percent of the total agricultural exports.

The United States has perennially been the second leading importer of Canadian products. The percentage of exports to the United States has dropped from the low 20's during the 1960's to 15 percent in 1976.

Japan has become a leading importer of Canadian agricultural products. In 1945-1949, Japan averaged only \$1 million in Canadian agricultural exports. This has risen to \$778 million of produce in 1976 and the position of the number one importer of Canadian agricultural goods.

The European Economic Community, excluding the United Kingdom, has also risen in importance as a trading partner of Canada. In 1945-1949, the EEC

¹⁷ Bolton, D. L., Canada's Trade in Agricultural Products, 1974, 1975, and 1976, Pub. No. 77/11, Information Division, Agriculture Canada, Ottawa, July, 1977, pp. 12, 13.

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Ibid.

imported only \$30 million worth of Canadian agricultural products. In 1976, the EEC accounted for \$518 million of exports and the number three position in leading import countries.

The U.S.S.R. and China have greatly increased their importance as importers of Canadian produce--from less than \$1 million apiece in the early 1950's to \$361 million for the U.S.S.R. and \$144 million for China in 1976. The U.S.S.R. has not been a consistent importer, dipping to \$4 million in 1969 and \$17 million in 1974.

The United States has always been the leading source of Canadian imports of agricultural products. The United States has perennially accounted for approximately 50 percent of the agricultural imports.

Other Policies Affecting Grain

The Canadians have a Western Grain Stabilization Program. This program, effective April 1, 1976, is designed to protect grain producers against wide fluctuations in "net cash flow" below the previous five-year average. Net cash flow is equal to the gross grain receipts of all farmers in the prairies minus cash expenses paid out for production of the grain.

These cash costs of production include such items as property taxes, fertilizer, seed, chemical, irrigation, operation of farm machinery, hydro electricity, telephone expenses related to grain production, insurance premiums, hired labor, custom work, and maintenance of farm machinery and buildings used in grain production.²¹

The program is voluntary for the Canadian farmer. Each producer has a period of three years in which he may decide not to participate in the program. All Canadian farmers are initially in the program, and those who decide to drop out must do so in writing. Producers have until January 1, 1979, to make a decision.

The program is financed on a two-to-one basis with the government and the farmer. Each year the farmer will put in 2 percent of his gross receipts on grain up to a limit of \$500. The government will match this with a 4 percent payment to the fund. The deductions are made when the farmer delivers his grain to the elevator or feed mill. The Wheat Board takes the deduction from the adjustment and final payments.

²¹United Grain Growers, 70th Annual Report to the Shareholders, for the year ended July 31, 1976, Winnipeg, Manitoba, p. 32.

In a pay-out year the farmer would receive an amount in direct proportion to his recent participation compared to all other growers' participation. Recent participation refers to the amount the farmer has contributed the two years previous and the year of the pay out (a three-year period).

Pricing

The Canadian farmer receives an initial payment for his grain when he delivers it to the elevator. The farmer receives the price basis in store Thunder Bay or Vancouver less freight and marketing charges. The Wheat Board achieves intraseasonal price stability through price pooling. All the money received by the Wheat Board for sales of a particular kind and grade of grain are "pooled" in a single fund. The pools are based on those prices received by the Wheat Board from grain sales. If the Wheat Board makes substantially more money over and above the initial payment there can be an interim payment before final payment. Final payments to the farmer are on the basis of the number of bushels of each grade of grain he had delivered. For the final payment, the money left in each grain pool is distributed, minus various charges, to the farmers on the basis of the bushels of each grade of grain he had delivered to the elevator.

The charges against the pool are interest, insurance, carrying charges, demurrage, additional freight on grain shipped from country elevators to terminals, diversion charges, drying charges, brokerage and clearinghouse association charges, and administrative and general expense. In 1975-1976 the Canadian Wheat Board's operating cost applicable to the over all wheat pool was 19.96¢/bu. The operating cost incurred for oats was 9.80¢/bu. Barley totaled 11.83¢/bu. Administration and general expense cost approximately 1.83¢/bu.²² There are several factors that affect final payment besides the operating costs, such as grain carried into the new crop year from the previous year's crop, prices negotiated during the year with the Soviets and Chinese, sales at special protein levels, forward pricing of grain, volume of grain sold during the year not being consistent (grain sold in bunches), receipts for different grades of grain, and unplanned expenses.

Subject to regulations, the Board would sell and dispose of grain acquired by it pursuant to its operations under this act for such prices as it considered reasonable with the objective of promoting the sale of grain

²²Canadian Wheat Board, op. cit.

produced in Canada and the world markets.²³ Each day at 2:15 p.m. the Wheat Board establishes the asking price for the different grades and types of grain at each port area. These prices remain in effect for the following 24 hours.²⁴

Factors that determine the Wheat Board's asking prices are the following: competing prices, subsidy schemes, export supply, relative supply of other grain, ocean freight, and foreign exchange rates.

Canada has a two-price system for wheat. Under the domestic price millers pay the Wheat Board \$3.25/bu. for wheat. The federal government pays the Canadian Wheat Board the price differential between \$3.25/bu. (basis No. 1 CWRS, 13.5 protein, in store Thunder Bay) and the world market price, if the world market price is higher. The government pays the difference up to a limit of \$5/bu. If the world market price goes over \$5, the Wheat Board has to accept a lower return on wheat sold for domestic use. The government payments disappear completely if the market price falls below \$3.25/bu. This program was instituted in 1973 and is to remain in operation until 1980.

The elevator managers receive a schedule of price quotations--two daily price quotations for flax, rye, rapeseed, and domestic feed (wheat, oats, and barley). The price received by farmers is the futures price minus fixed costs, storage (1/30¢/bu./day), and interest plus cash premiums, and a credit for screenings. The fixed costs include elevations, freight on dockage, cleaning, shrink, administration, freight, and weighing plus inspection. Street price committees switch to the next available futures month when the nearby futures month is less than four to six weeks forward.

In establishing prices for domestic feed grains, the Canadian Wheat Board uses a formula which values Canadian feed grains at prices equivalent to United States corn and soybean meal prices basis delivery Montreal in relation to nutritive values. Feed barley, feed oats, and feed wheat are each priced at a percentage of the corn-soybean meal price ratio. The price varies as the price ratio of corn compared to soybean meal varies.

Price supports are available through the Agriculture Stabilization Act of 1958 for wheat, barley, and oats grown outside the Canadian Wheat Board area; in 1975 corn was added to the list. Another amendment to the Act

²³Canadian International Grains Institute, op. cit., p. 174.

²⁴Ibid., p. 42.

in 1975 set the support prices at 90 percent of the average price that prevailed for the last five years and an allowance was made for increases in input costs.

The average price for the six-year period, 1971-1976, on August 1, in Winnipeg for wheat No. 1 CR 13.5 percent protein was compared to the Minneapolis cash market No. 1 DNS 14.0 percent protein basis September futures delivered. In 1971, Winnipeg listed \$1.78 compared to Minneapolis' \$1.595-\$1.625 (Table 17). In 1973, Winnipeg had \$4.13 listed for wheat while Minneapolis had \$5.615 to \$5.625. In 1976, Winnipeg listed \$3.98/bu. on August 1, while Minneapolis listed \$3.805 to \$3.825/bu. The average 1971-1976 price was \$3.63/bu. in Winnipeg and \$3.72 in Minneapolis.

TABLE 17. CASH PRICES AUGUST 1, CANADIAN WHEAT 1 CR 13.5 PERCENT PROTEIN AND CASH PRICES AUGUST 1, MINNEAPOLIS NO. 1 DNS 14.0 PERCENT PROTEIN BASIS MINNEAPOLIS SEPTEMBER FUTURES DELIVERED, 1971-1976

Year	Winnipeg	Minneapolis
1971	\$1.78	\$1.595-1.625
1972	1.65	1.734-1.741
1973	4.13	5.615-5.625
1974	5.18	5.09
1975	5.05	4.425-4.465
1976	3.98	3.805-3.825
Average	3.63	3.72

SOURCES: Manitoba Pool Elevators Annual Report, 1976.

Daily Market Record, 1971-1976.

Price comparisons on grain between two different areas are always difficult because of the different market factors involved. The prices received by farmers were adjusted for the currency exchange ratio and protein content to make the comparison on an equal quality and value basis.

In 1965 North Dakota farmers received about \$.20 less than Manitoba farmers for a bushel of wheat (Table 18). However, when adjusted for currency exchange rates the difference was only \$.08/bu. The Manitoba farmers had an average farm value for all wheat of \$4.30/bu. (4.32 adjusted) and the

TABLE 18. FARM VALUE OF ALL WHEAT FOR MANITOBA FARMERS COMPARED TO SEASON AVERAGE PAYMENT TO NORTH DAKOTA PRODUCERS FOR OTHER SPRING WHEAT, ADJUSTED FOR CURRENCY EXCHANGE RATES, 1964-1975

Year	Exchange Rate U.S. \$/Canadian \$	Other Spring Wheat Price			Manitoba Price	Adjusted Manitoba
		North Dakota	Manitoba	Adjusted Manitoba ^a	Minus North Dakota Price	Price Minus North Dakota Price ^a
----- \$/bu. -----						
1964	.9310	1.44	1.63	1.52	+.19	+.08
1965	.9302	1.45	1.65	1.53	+.20	+.08
1966	.9227	1.67	1.78	1.64	+.11	-.03
1967	.9252	1.44	1.64	1.52	+.20	+.08
1968	.9321	1.33	1.36	1.27	+.03	-.06
1969	.9319	1.39	1.45	1.35	+.06	-.04
1970	.9889	1.48	1.45	1.43	-.03	-.05
1971	.9978	1.30	1.37	1.37	+.07	+.07
1972	1.0044	1.88	1.86	1.87	-.02	-.01
1973	1.0042	4.28	4.30	4.32	+.02	+.04
1974	1.0089	4.45	4.00	4.04	-.45	-.41
1975	.9839	4.05	3.50	3.44	-.55	-.61
12-Year Avg.	.9634	2.18	2.17	2.11	-.01	-.07
Avg. 1973-1975	.9990	4.26	3.93	3.93	-.33	-.33

^aManitoba wheat price adjusted for exchange rate difference.

SOURCES: USDA, Statistical Reporting Service, and Department of Agricultural Economics, Agricultural Experiment Station, North Dakota State University, North Dakota Crop and Livestock Statistics, Ag Statistics Nos. 29, 35, 38, and 40, Fargo, 1973-1977.

Manitoba Department of Agriculture, 1975 Yearbook Manitoba Agriculture.

North Dakota farmer received \$4.28/bu. in 1973. In 1975, the Manitoba farmer received \$3.50/bu. (3.44 adjusted) and the North Dakota farmer received \$4.05/bu. The 12-year average of all wheat prices received by farmers was \$2.11/bu. (adjusted) for Manitoba farmers and \$2.18/bu. for North Dakota farmers. North Dakota prices of wheat received by the farmer averaged \$.07 higher than the Manitoba price over the 12-year period.

The influence of price supports in the United States via loan rates, set-aside programs, and export subsidies were eliminated by using the 1973-1975 period when these programs were not a factor in the market. The average price received by North Dakota farmers was \$4.26/bu. compared to \$3.93/bu. in Manitoba.

Because the market intervention forces of United States farm policies were inactive during the 1973-1975 time period, it was hypothesized that this time period would provide a basis for comparing the performance of the Manitoba and North Dakota marketing institutions. These data indicated that the existing market institutions provide a higher return to North Dakota farmers than Canadian institutions provided Manitoba farmers. It is highly probable that the timing of grain sales during this period may have been an important factor because of the volatility of world grain markets. Because the Canadian Grain Board has a tendency to make more long-term forward commitments in trading grain, the focus of this three-year period may necessarily bias the results against the Canadian system. Further study of sales and grain movements during this period would be needed to be conclusive.

A factor to be considered in the valuation of United States grain is the subsidized movement of barge grain down the Mississippi; however, only 10.6 percent of North Dakota wheat movements move out of Minneapolis by barge.²⁵ Thus, subsidization of barge grain is negligible for North Dakota producers.

Protein content is another factor which was considered in calculating the comparisons on North Dakota and Manitoba wheat prices. The average protein content of Manitoba hard red spring wheat was 13.2 percent (13.5 percent moisture basis) (Table 19) for 1964-1975 and in North Dakota protein content averaged 14.5 percent for the same time period. The average protein content for the three-year period, 1973-1975, was 13.3 percent for Manitoba hard spring wheat compared to 14.7 percent for North Dakota wheat. The average protein premium

²⁵North Dakota Grain Transportation Statistics, Upper Great Plains Transportation Institute, Fargo, North Dakota, March 1976; and Volume of Grain Handled by Minneapolis-St. Paul Area Elevator, Department of Traffic, Minneapolis Grain Exchange, Minneapolis, Minnesota, 1972-1975.

TABLE 19. NORTH DAKOTA AND MANITOBA PROTEIN LEVELS, 1964-1965

Year	Manitoba ^a	North Dakota ^a	Premium Difference	North Dakota ^b
	- - - - percentage - - - -		¢/bu.	- percentage -
1964	14.0	14.8	+.01	14.7
1965	13.2	14.4	+.04	14.3
1966	13.0	15.2	+.07	15.2
1967	12.9	14.5	+.03	14.4
1968	13.4	14.1	+.04	14.0
1969	13.5	14.2	+.03	14.1
1970	13.3	14.9	+.08	14.8
1971	12.8	13.6	+.04	13.5
1972	12.6	14.1	+.03	14.0
1973	12.9	14.7	+.02	14.6
1974	13.6	15.3	+.17	15.2
1975	13.5	14.2	+.14	14.1
12 yr. avg.	13.2	14.5	----	14.4
1973-1975	13.3	14.7	----	14.6

^a13.5 percent moisture basis.

^b14.0 percent moisture basis.

SOURCES: L. D. Sibbitt and O. J. Banasik, North Dakota Wheat Quality Report North Dakota State University Experiment Station, Fargo, 1964-1975.

Canadian Grain Commission, Protein Survey, Grain Research Laboratory, Winnipeg, Manitoba, 1964-1975.

for 13 percent protein in the 1970-1976 period was \$.08/bu.²⁶ The premiums for 14 percent and 15 percent were \$.17/bu. and \$.29/bu., respectively. Interpolating, the average protein premium for Manitoba's 13.3 percent protein was \$.11/bu. North Dakota's 14.7 percent protein had an average protein premium of \$.25/bu.; thus, North Dakota farmers received approximately \$.14/bu. more than Manitoba farmers based on Minneapolis protein premiums.

The year 1975 was reviewed to determine the advantage of wheat protein content to North Dakota farmers. The year 1975 was a year of high prices and high protein premiums. The average protein content of wheat produced was 13.5 percent in Manitoba and 14.2 percent in North Dakota (Table 19). Average

²⁶Mittleider, J. F., Analysis of Wheat Quality Factors, M.S. Thesis, Department of Agricultural Economics, North Dakota State University, Fargo, May, 1977, p. 29.

protein premiums for 1975 were \$.04/bu. for 13 percent, \$.29/bu. for 14 percent, and \$.58/bu. for 15 percent.²⁷ Manitoba's 13.5 percent protein spring wheat had an average premium of \$.17/bu. compared to North Dakota's 14.2 percent at \$.35/bu. The protein difference was \$.18/bu. in favor of the North Dakota farmer. These calculations assume that the Canadian marketing system implicitly values protein at the same levels as reflected in the Minneapolis market.

Inland Transportation Differentials

The Crows Nest Pass Agreement has made it possible for Canadian farmers to ship grain at a very low cost. In essence the Canadian farmers are being subsidized by the lower freight rate. A better view of this subsidization is obtained by examining the average freight rates to the West Coast from 11 points in North Dakota, 159.1¢/cwt., and the average rates from 11 comparable points in Manitoba, 33.5¢/cwt. These rates are weighted by multiplying the average rates times the percentage of spring wheat shipped in each direction. North Dakota shipped 12.76 percent to the West Coast.²⁸ Manitoba shipped approximately 9.0 percent.²⁹ The average freight rate from seven selected delivery points in North Dakota to Duluth was 83.2¢/cwt. compared with seven points with comparable mileages in Manitoba to Thunder Bay, Ontario, with an average freight rate of 16.0¢/cwt. These figures were also multiplied by the percentage of wheat shipped to each terminal location from North Dakota and Canada. For North Dakota the percentage of spring wheat shipped to Duluth, 53.43 percent, was combined with the percentage of spring wheat shipped to Minneapolis, 23.57 percent, since the rail rates were about the same.³⁰ Manitoba elevators shipped about 86.0 percent of their wheat to Thunder Bay, Ontario. About 2 percent of the wheat for export went to

²⁷Mittleider, op. cit.

²⁸Cosgriff, John G., North Dakota Grain Transportation Statistics 1975-1976, UGPTI Report No. 30, North Dakota State University, Fargo, April, 1977, p. 18.

²⁹Personal letter written by Dr. Art Wilson, Director of Research, Canada Grains Council, to the author on July 7, 1977.

³⁰Cosgriff, John G., op. cit.

Churchill and about 5 percent went to other destinations.³¹ Miscellaneous markets accounted for 10.22 percent of the North Dakota spring wheat shipments.³²

Churchill shipments were not considered in calculating the transportation differential since they account for a very small portion of the wheat shipped. The North Dakota and Manitoba percentages of grain shipped to each destination were used to simulate a weighting factor for freight rates. The weighting factor will assume that shipments to the West Coast and to Thunder Bay and Duluth account for 100 percent of the wheat shipped.

North Dakota

$(159.1¢/\text{cwt.}) (14.22 \text{ percent}) + (83.21¢/\text{cwt.}) (85.78 \text{ percent}) = 94.00¢/\text{cwt.}$

Manitoba

$(33.5¢/\text{cwt.}) (9.47 \text{ percent}) + (16.0¢/\text{cwt.}) (90.53 \text{ percent}) = 17.66¢/\text{cwt.}$

North Dakota's rail rates times the weighted factor of grain shipped to the major markets was 94.00¢/cwt. Manitoba's rates times the weighted factors shipped to major markets was 17.66¢/cwt. This rate (17.66¢/cwt.) adjusted by the average 1973-1975 exchange rate of .9990¢/cwt. was calculated to be 17.64¢/cwt. The transportation differential using this method was 76.36¢/cwt. (45.82/bu.).

Prices Received by Farmers and Price Differentials

The North Dakota and Manitoba farmers sell a majority of their grain on the world market and both countries compete for sales on essentially the same price level and the same markets. To obtain a better perspective of the price the farmer received for his grain, this study followed the path of two shipments of wheat sold in Rotterdam. The channel traced was from Rotterdam back to the country elevator. Going backward across the Atlantic to the Coast and through the Great Lakes it was assumed that both countries would face essentially the same costs of getting the shipment to Rotterdam. Thunder Bay was the terminal location picked for Canada because most of the Manitoba grain flows toward the east and it is parallel to Duluth where most of the North Dakota grain flows. Following this logic it was assumed that the grain faced similar freight costs back to the Great Lakes ports.

³¹Personal letter written by Dr. Art Wilson, op. cit.

³²Cosgriff, John G., op. cit., p. 18.

According to the Snavely Report the total cost of moving grain under the Crows Nest Pass Agreement in Canada was determined to be \$234,000,000 of which the Western grain producers paid \$89,700,000, the Federal Government \$55,400,000, and the railways paid \$89,300,000.³³ The Snavely cost figures included federal subsidies the railways received from the government for operating unprofitable branch lines to carry grain. The Commission based its cost estimates on the assumption the grain transport should break even. The Commission assumed the government would pay for new box cars and maintenance of old ones. The Commission included equipment and track costs that varied with the amount of grain shipped. It appeared that the rail rate was not a true representation of the cost of moving grain.

It was assumed that the United States rail rates were a true representation of the rail costs with a normal profit margin included, although the United States railroad could have more than a normal profit margin. Thus, it was theorized that the Canadian farmers were subsidized by the amount of the transportation differential developed in the preceeding section. This differential was subtracted from the price of wheat received by the Manitoba farmer to obtain a true price that he had received for his grain.

The 12-year average wheat price for Manitoba farmers was \$1.76/bu., \$.42 less than the average for North Dakota, when adjusted for the 12-year average exchange rate differential and a \$.14 adjustment was made for protein differences. The North Dakota prices did not take into account the support received by the loan rate and the set-aside programs that possibly could have kept the price up from 1964-1972. The comparison must be considered in light of limitations of making comparisons of how institutional arrangements have influenced market values throughout the two marketing systems. Further analysis of the influence of government institutions on the market performance of the United States and Canadian grain markets is needed to better quantify the differences.

³³"Grain Rate Loss Cited," Manitoba Cooperator, Vol 34, 19, Winnipeg, Manitoba, December 9, 1976, p. 12.

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