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tion, 1932.

Minutes of proceedings and
evidence...

Canada. Parliament. House of Commons.
Select Standing Committee on Agriculture
and Colonization, 1932.

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SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND EVIDENCE

THURSDAY, MARCH 3, 1932

No. 1

Reference,—Beet Sugar Industry

WITNESS:

H. Marshall,—Bureau of Statistics

ORDER OF REFERENCE

WEDNESDAY, February 24, 1932.

Resolved.—That all questions affecting the Beet sugar industry in Canada be referred to the Select Standing Committee on Agriculture with instructions to enquire into the action which may be taken by the Government, by way of Customs duties, subsidies, bonuses or otherwise, either in or without cooperation with the Provincial Governments for promoting the prosperity of the said industry and developing the production of Canadian grown sugar, and report to this House.

Attest.

ARTHUR BEAUCHESNE,
Clerk of the House.

MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,

THURSDAY, March 3, 1932.

The meeting came to order at 11 o'clock in the forenoon, Mr. Senn presiding.

Members present: Messrs. Blair, Brown, Campbell, Carmichael, Cayley, Coote, Donnelly, Dupuis, Garland (Bow River), Gobeil, Hay, Loucks, Lucas, McGillis, McKenzie, McMillan, Moore, Motherwell, Mullins, Myers, Perley, Rowe, Senn, Shaver, Simpson, Spotton, Sproule, Stirling, Thompson, Totzke, Weir (Melfort), Young.

The committee took under consideration the subject of the Order of Reference respecting the Sugar Beet Industry.

Mr. Simpson moved that a recommendation be made to the House for leave to print the proceedings and evidence taken by the committee.

Motion carried.

Upon motion duly put and carried the Chairman was instructed to ask leave of the House to reduce the quorum of the committee from 20 to 12 members.

Upon motion a subcommittee was duly appointed, consisting of Messrs. Stewart, McMillan, Campbell, Gobeil and Sproule to prepare a slate of witnesses from time to time and report.

The said subcommittee was authorized to call a witness or witnesses for the next meeting.

Mr. Herbert Marshall, an officer of the Dominion Bureau of Statistics attended and presented a statement of facts and figures with respect to the sugar beet industry in Canada, as compiled by the Bureau. Mr. Marshall also answered numerous questions in relation to the subject.

Mr. Gershaw M.P. was in attendance and at the suggestion of the Chairman, in view of the fact that he was the mover of the Resolution, the subject of the reference presently before the committee, and is not a member of the committee, he was granted the privilege of addressing the Chair. This privilege to extend throughout the term of the investigation.

The committee adjourned till Monday, March 7th, at 11 o'clock in the forenoon.

A. A. FRASER,

Clerk of the committee.

MINUTES OF EVIDENCE

HOUSE OF COMMONS,
MARCH 3, 1932.

The Select Standing Committee on Agriculture and Colonization met at 11 o'clock to consider the reference to the committee: "That all questions affecting the beet sugar industry in Canada be referred to the Select Standing Committee on Agriculture with instructions to inquire into the action which may be taken by the government by way of customs duties, subsidies, bonuses or otherwise either in or without cooperation with the provincial governments for promoting the prosperity of the said industry and developing the production of Canadian grown sugar, and report to this house."

The CHAIRMAN: Gentlemen, I am glad to see that there is still some interest being taken in agriculture. This is clearly shown by the number of members who are here this morning. This meeting is called for the purpose of considering the reference made to this committee by the house. I will read that reference to you:—

That all questions affecting the beet sugar industry in Canada be referred to the Select Standing Committee on Agriculture with instructions to inquire into both the action which may be taken by the government by way of customs duties, subsidies, bonuses or otherwise either in or without cooperation with the provincial governments for promoting the prosperity in the said industry and developing the production of Canadian grown sugar and report to this house.

Now, it seems to me the first thing the committee should consider is a motion to have the proceedings and evidence of this committee printed.

Motion carried.

The next thing we should consider, gentlemen, is the question of a quorum. I am informed by the secretary that for the next two or three weeks there will be a large number of committees meeting. Our quorum is twenty, and it might be difficult for us to have a quorum always present. I would suggest to the committee, if it meets with your approval, to have the quorum reduced.

Mr. BROWN: I think twelve was the number we had before.

Motion to reduce the quorum to 12 agreed to.

The CHAIRMAN: I took it upon myself to have a gentleman from the Bureau of Statistics here to give evidence on statistics in the beet sugar industry of Canada. Perhaps before we proceed with the evidence, if you are agreeable to hear it, it will be well to discuss what witnesses should be called in this investigation. Last year we appointed a sub-committee to make recommendations to the main committee as to what witnesses should be called. I am afraid that if we get into a general discussion in the main committee too many witnesses will be asked for and we will not get very far.

Mr. CAYLEY: Has this committee the same members on it that were on it last year?

The CHAIRMAN: Practically the same. There are quite a number of members who are vitally interested in the beet sugar industry. If you intend to appoint a sub-committee I would make the suggestion that it consist of the

following gentlemen: Mr. Stewart, Mr. McMillan, Mr. Sproule, Mr. Campbell and Mr. Gobeil. With the exception of Mr. Gobeil all these gentlemen are interested in the beet sugar industry.

HON. MR. MOTHERWELL: I think that is a good suggestion.

MR. LUCAS: I would suggest that if it is not making the committee too large the name of Dr. Gershaw should be added to it.

THE CHAIRMAN: I considered Dr. Gershaw's name; but unfortunately, Dr. Gershaw is not a member of this committee. I intended to suggest as soon as this motion is disposed of that Dr. Gershaw should be allowed the privilege of questioning the witnesses and taking part in the discussions.

Agreed.

HERBERT MARSHALL, called:

THE CHAIRMAN: Mr. Marshall, what is your position?

WITNESS: I am chief of the Internal Trades branch of the Dominion Bureau of Statistics.

(Witness then submitted the following statement):

"STATISTICAL DATA REGARDING THE SUGAR INDUSTRY IN CANADA

Canada is one of the world's largest per capita consumers of sugar, the estimated consumption per head of population in 1930 being 97·83 pounds. This figure compares with 124 pounds in Denmark, United States 118, Cuba 103, United Kingdom and Irish Free State 101, Australasia 96, Netherlands 68, and with an estimated world average consumption of 31 pounds.

The great bulk of the refined sugar consumed in Canada is produced by Canadian Refineries. During the last ten years imports of refined sugar amounted to 3½ per cent or less. Refined sugar is produced from two varieties of raw materials, viz., sugar beets and sugar cane, the former being home grown and the latter grown in tropical countries. In the case of beet sugar the entire process of production is carried out in Canada, the farmer growing the beets and the sugar factories extracting the sucrose and manufacturing sugar and its products. In the case of cane sugar the sugar canes are grown abroad and their sugar content is extracted or manufactured into what is known as raw sugar for export. In this form it enters Canada for refinement into pure sugar.

In 1930 there were in operation in the Dominion eight sugar refining plants. Two of these produced beet sugar only, one both beet and cane sugar and five cane sugar only. Table 1 shows our production of refined sugars in the years 1918 to 1930 inclusive. In 1930 the production totalled 942,857,773 pounds of which 747,662,301 was granulated cane sugar, 94,624,701 pounds granulated beet sugar and 100,570,771 pounds soft cane sugars. The average yearly proportion of beet to cane sugar manufactured in the period was 7·1 per cent.

With regard to the respective qualities of granulated sugar produced from beet and cane the following is quoted from page 5 of the Report on the Sugar Beet Industry at Home and Abroad issued by the Ministry of Agriculture and Fisheries as Economic Series No. 27 and published by His Majesty's Stationery Office in 1931.

A common misapprehension exists to the effect that cane sugar is superior to beet sugar, particularly as regards preserving qualities, for the making of jams. On the Continent where beet sugar is used almost exclusively no complaints are made against the quality of the preserves. In this country experiments conducted under the auspices of the Ministry of Agriculture and Fisheries at the University of Bristol Research Station, Chipping Campden, have demonstrated the complete

suitability of beet sugar for the making of jams, jellies and other preserves, and further, 'have shown conclusively that beet sugar is quite as satisfactory as cane from every point of view' in the preparation of syrups for fruit canning."

RAW SUGAR IMPORTS

Table II contains statistics showing the imports of sugar by places of origin. In 1926 the preference on 96° raw sugar was increased from approximately 83 cents to \$1, the 45 cents preferential tariff being reduced to 28·712 cents. Prior to that time the bulk of our raw sugar was obtained from other than Empire sources. With the enactment of the West Indies Trade agreement and the increased preference, the source of our raw sugar supplies underwent a great change. Comparing the imports of raw sugar not above 16 D.S. for the fiscal years 1926 and 1931 the figures are as follows:

Country of origin	Fiscal year 1926		Fiscal year 1931	
	Quantity imported	Per cent	Quantity imported	Per cent
	cwt.		cwt.	
British South and East Africa.....	Nil	0	1,274,951	15·3
Australia and Fiji.....	898,169	7·7	898,303	10·9
West Indies Trade Agreement Points (British Guiana, British Honduras, Barbados, Jamaica, Trinidad and Tobago, etc.).....	2,950,291	25·4	5,433,962	65·4
Cuba.....	4,127,426	35·6	294,756	3·6
San Domingo.....	2,635,935	22·7	285,138	3·4
U.S.A.....	608,582	5·3	Nil	0
All other.....	365,037	3·3	114,690	1·4
	11,585,440	100	8,301,800	100
Empire Sources.....		33·1		91·6
Other Sources.....		66·9		8·4

This table reveals the fact that the Empire's share of our purchases of raw sugar changed from 33·1 per cent in the fiscal year 1926 to 91·6 per cent in the fiscal year 1931. The share of the countries coming specifically within the scope of the West Indies Trade treaty rose from 25·4 per cent to 65·4 per cent. In 1926 Cuba had the largest share of our raw sugar business, viz., 35·6 per cent but this had fallen to 3·6 per cent in 1931. In the same period imports from the United States dwindled from 5·3 to zero.

IMPORTS OF REFINED SUGAR INTO CANADA.

In recent years there has been an increased importation of refined sugar into Canada. Table II gives the figures for the fiscal years 1922 to 1931. These imports have come chiefly from Cuba. Imports from that country increased from 4,775 cwt. in 1926 to 359,698 in 1930 and declined to 310,592 cwt. in 1931. Evidence of some curtailment of such imports was seen in the latter part of 1930 after stricter enforcement of the anti-dumping regulations. In the calendar year 1931 imports were 20,704,900 lbs. as compared with 50,812,600 lbs. in 1930. February of 1932 it was announced that a new ruling bearing on the value of imported refined sugar had been announced by the Minister of National Revenue which provided that a minimum value of \$2.30 per 100 lbs. had been fixed, this value to be quoted in U. S. A. funds or their equivalent. It is expected that as a result of this ruling the imports of Cuban and United States refined sugar will be practically eliminated.

CANADIAN EXPORTS OF RAW SUGAR.

As will be seen by reference to Table III there has been a great falling off in recent years in Canadian sugar exports. In the fiscal year ending March 1926 our exports amounted to 3,261,806 cwt. whereas in the fiscal year 1931 they amounted to only 187,754 cwt. The chief decline was in exports to the United Kingdom which were 2,642,642 cwt. in 1926, 127,609 cwt. in 1929 and none thereafter. Various factors have combined to bring about this change among which may be mentioned tariff changes in some countries and the competition of low-priced sugars produced in others. Since the United Kingdom was Canada's chief market for refined sugars the reasons for its loss may be dealt with more fully. A full account of developments in the British Sugar Industry is given in the "Report on the Sugar Beet Industry at Home and Abroad" issued by the Ministry of Agriculture and Fisheries which has already been cited. The following paragraphs are extracted from this work:

Page 16, Paragraph 38. "One of the most striking features of the history of sugar in this country is the fact that Great Britain remained so long without a home-grown sugar industry. The sugar beet industries in Europe were all heavily subsidized and found an outlet for their surplus in the open market offered by the United Kingdom, which thus had abundant supplies of cheap sugar. The severity of this competition rendered nugatory the numerous attempts to start the sugar beet industry in this country. The almost complete disappearance of European sugar supplies during the War forced this country to rely on the cane sugar countries for its supplies and directed the attention of the Government to the importance of a home sugar beet industry. Policy since the War has been directed to the establishment of this home industry."

Assistance was rendered the British Beet Growers by various methods until finally a subsidy was granted.

Page 209, Paragraph 558. "A subsidy was granted on home-produced sugar by the British Sugar (Subsidy) Act, 1925 for ten years at the rate of nineteen shillings six pence per cwt. for the first 4 years, thirteen shillings for the following 3 years, and six shillings sixpence for the last 3 years."

Page 210, Paragraph 564. "The passing of the Subsidy Act soon brought a difficulty in the form of the potential danger to the home refining industry of a large home sugar beet industry. The refiners opposed the Act from the first on the ground that it provided for payment on the highest grades of white sugar. This created a directly competitive industry and they claimed that the subsidy should have been paid only on raw beet sugar, to be sold to them for refining. In this way, they contended, no damage would have been done to existing interests. The modern tendency—e.g., in the United States—however, with beet sugar factories, as has been shown, is to produce white sugar, and it was thought unwise to handicap a new industry by confining it to methods which might become obsolete."

Page 211, Paragraph 565. "Apart from the new home-grown sugar industry, a serious difficulty of the refiners was the increasing competition of foreign white sugar. This had become so intense that several of the smaller and less up-to-date refineries at Greenock had been forced to close down. The total quantity of raw sugar melted by the refiners was, however, higher than before the war. Their refining capacity was greatly increased during the war in order to cope with the increased volume of raw cane sugar imported as a result of the virtual cutting off of supplies of continental white sugar."

Page 211, Paragraph 566. "British refiners thus contended that they were unfairly handicapped on the following grounds—viz., by unfair competition from continental refined sugar, which was in many cases alleged to be 'dumped' and to a less degree from Empire-grown refined sugar imported under a preferen-

tial tariff; by the subsidy to the home-grown sugar industry; and by the locking up to capital involved by Empire preference—the whole of the Empire preference was paid to the overseas producers in the sugar price, whilst the refiners could not get back their money until the resultant refined sugar had been delivered for consumption.”

Page 211, Paragraph 567. “In 1928, the Government decided to assist the refiners, and at the same time to enable them to work more harmoniously with the sugar beet industry by establishing a differential rate of duty on imported raw sugar as compared with refined sugar. Whilst the duty on foreign white sugar was retained at its former level, that on foreign sugar exceeding 97° and not exceeding 98° polarization was reduced by two shillings, 1.8d. per cwt.—the equivalent of 2s. 4d. on refined sugar—and the duties on sugar of lower polarization were reduced proportionately.”

Page 211, Paragraph 568. “In return for this concession, which is known as the ‘differential’ duty on raw sugar, the refiners gave a pledge that the full reduction would be passed on to the consumer by a corresponding reduction in the selling price of British refined sugar; the advantage of the concession to the refiners consisted of a largely increased output, which enabled them to reduce their refining costs per unit of sugar and thus further lessen the price to the consumer. The object aimed at under the new scales has, to a large extent, been achieved; imports of foreign refined sugar have been almost entirely replaced by those of raws.”

Page 41, Paragraph 112. “The following facts will suffice to illustrate the development of the industry since the passing of the Subsidy Act. Whereas 16,000 acres of sugar beet were grown in 1923, 349,000 acres were grown in 1930 by no less than 40,400 growers. While only two factories were in existence in 1923, 18 factories were operating in 1930. The production of sugar increased from 13,000 tons in 1923 to 290,000 tons in 1929, and to 420,000 tons in 1930. In 1922, the price paid for best beet was 38s. per ton delivered, while in 1930, the average price was about 50s. per ton. The number of workers in the factories has increased from 1,159 in 1923 to 9,900 in 1930, and it is estimated that about 30,000 casual workers found employment in 1930 in the sugar beet fields.”

These paragraphs appear to be sufficient to explain the loss of the British market.

PRODUCTION OF BEET SUGAR

During 1930, three Canadian beet sugar factories were in operation, viz., those of the Dominion Sugar Company Limited, at Chatham and Wallaceburg, Ontario, and that of the Canadian Sugar Factories, Ltd., at Raymond, Alberta. Table IV gives the Area, Yield and Value of Sugar Beets in Canada and Production of Refined Beetroot Sugar, 1918-1930. In 1930, there was a total yield of 397,576 tons of sugar beets from 40,532 acres, an average yield of 9.80 tons. From these beets 94,624,700 pounds of refined sugar were manufactured, worth \$4,529,944.

PRODUCTION OF SUGAR BEETS AND BEETROOT SUGAR, 1918-30

The following table gives particulars of the area, yield and value of sugar beets grown for beetroot sugar, and of the production and value of refined sugar made from Canadian-grown sugar beets, for the year 1930, with comparative figures for the years 1918-29.

SELECT STANDING COMMITTEE

TABLE IV.—Area, Yield and Value of Sugar Beets in Canada and Production of Refined Beetroot Sugar, 1918-30

Year	Acres grown	Yield per acre	Total yield	Average price per ton	Total value	Production and value of refined beetroot sugar		
	acres	tons	tons	\$ cts.	\$	lb.	\$	cents per lb.
1918.....	18,000	11.25	204,000	12.71	2,593,715	50,092,835	4,358,077	8.7
1919.....	18,800	9.50	180,000	14.61	2,630,027	37,839,271	3,924,411	10.4
1920.....	34,491	9.94	343,000	15.47	5,307,243	89,280,719	12,856,424	14.4
1921.....	25,535	7.80	199,334	9.90	1,974,384	52,862,377	3,554,203	6.7
1922.....	14,955	8.55	127,807	7.56	966,521	29,911,770	1,645,885	5.5
1923.....	17,941	8.87	159,200	12.08	1,922,668	39,423,160	3,745,200	9.5
1924.....	31,111	9.50	295,177	5.78	1,704,791	85,770,709	6,192,645	7.3
1925.....	34,803	10.63	370,047	7.27	2,688,302	72,819,919	5,206,624	7.1
1926.....	30,073	8.90	267,754	8.54	2,286,761	70,388,105	4,269,076	6.1
1927.....	25,961	7.96	206,713	9.73	2,012,134	60,969,131	3,694,303	6.06
1928.....	34,323	7.14	244,930	8.33	2,041,465	64,653,348	3,340,571	5.17
1929.....	32,556	7.23	235,465	8.84	2,080,996	69,399,213	3,335,344	4.81
1930.....	40,532	9.80	397,576	8.25	3,278,625	94,624,700	4,529,944	4.79

Statistics of the area, yield and value of roots and of the production of beetroot sugar for the years 1911-23 were published in the Monthly Bulletin of July, 1924, pp. 212-213. These acreage and production figures are lower than those given in the Monthly Bulletin of Agricultural Statistics for January, which include sugar beets grown for feed.

During 1930, three Canadian beetroot factories were in operation, viz., those of the Dominion Sugar Co., Ltd., at Chatham and Wallaceburg, Ontario, and that of the Canadian Sugar Factories, Ltd., at Raymond, Alberta.

TABLE I.—Production of Refined Sugar in Canada, 1918-1930

	Granulated sugar		Soft sugar	Total	Number of firms
	Cane	Beet			
	lb.	lb.	lb.	lb.	
1918.....	601,848,130	50,092,835	.....	651,940,965	7
1919.....	823,213,445	37,839,342	156,005,630	1,017,058,417	7
1920.....	604,178,160	89,280,719	88,760,215	782,219,094	7
1921.....	636,446,914	52,862,377	94,754,353	784,063,644	7
1922.....	1,006,099,197	29,911,770	112,093,407	1,148,104,374	7
1923.....	718,049,089	39,423,160	84,506,388	841,978,637	7
1924.....	696,756,646	85,770,709	89,100,877	871,628,232	7
1925.....	970,008,781	72,819,919	128,667,990	1,171,496,690	8
1926.....	943,802,519	70,388,105	124,591,115	1,138,781,739	8
1927.....	811,084,788	60,969,131	107,079,213	979,133,132	8
1928.....	765,197,219	64,653,348	97,766,317	927,616,884	8
1929.....	767,307,788	69,399,213	95,194,213	931,901,212	8
1930.....	747,662,301	94,624,701	100,570,771	942,857,773	8

TABLE 2.—Imports of Sugar into Canada Fiscal Years 1922 to 1931

Sugar, n.o.p., not above No. 16, D.S. in Colour. (Dutiable)

Countries	Quantities									
	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
United Kingdom..... Cwt.							47		4	
Africa, British—										
East..... “				167,619			55,299	74,913	229,372	332,242
South..... “						173,693			227,050	942,709
British Guiana..... “	1,398,200	1,426,677	1,013,306	1,608,068	1,376,729	1,299,475	1,654,826	1,400,277	1,288,128	1,783,577
British West Indies—										
Barbados..... “	447,542	592,986	745,568	865,966	600,889	667,120	1,124,963	1,077,242	1,192,506	1,129,228
Jamaica..... “	340,181	815,669	366,149	498,511	599,994	817,906	881,155	737,582	567,584	948,795
Trinidad and Tobago..... “	332,219	528,046	177,070	510,282	205,879	821,179	405,417	809,450	742,680	796,439
Other..... “	181,884	362,871	264,961	328,505	166,800	557,042	732,863	343,093	159,693	775,923
Hong Kong..... “	6	3								
Oceania—										
Australia..... “				269,654	120,000	793,033	401,977	70,560	14,400	49,747
Fiji..... “	242,447	121,833		134,420	778,169	367,230	1,169,820	1,673,006	1,155,355	848,556
Costa Rica..... “	12,296									
Cuba..... “	1,801,533	3,792,847	1,706,171	1,737,836	4,127,426	2,437,052	1,099,987	1,117,212	768,226	294,756
Guatemala..... “					12,995					
Haiti..... “	8,829	76,365	30,000		49,379	129,034	77,001	101,982	34,955	
Honduras..... “				147,879	233,986	368,356	220,010		196,005	
Netherlands—										
Dutch East Indies..... “	111,385	232,136	712,548	404,960						
Dutch Guiana..... “					3,384	121				
Peru..... “	679,697	271,683	488,225	253,800	65,293	79,297	125,919	244,483	612,024	104,745
Salvador..... “		44,869								
San Domingo..... “	1,492,808	1,910,550	1,561,354	763,426	2,635,935	2,377,945	871,094	360,376	868,993	285,138
United States..... “	1,535,144	1,194,142	1,328,848	696,441	608,582	407,106	127,401	181,532	448	
Venezuela..... “	60,076	63,877								9,945
Total Imports.....	8,644,247	11,434,554	8,394,200	8,387,427	11,585,440	11,295,589	8,947,779	8,191,708	8,057,423	8,301,800

TABLE 2.—Imports of Sugar into Canada—Fiscal years 1922 to 1931

Sugar above No. 16, D.S. in colour, and all refined sugars of whatever kinds, grades or standards, not covered by Tariff item No. 135 and sugar syrups testing over 56 degrees of polarization, when not exceeding 88 degrees of polarization (Dutiable)

Countries	Quantities									
	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
United Kingdom..... cwt.	31	213	13,679	121,635	950	2,592	2,300	52	33	107
Africa, British East..... "						9	4			
British Guiana..... "	1,875			3,114	1,744		520	408	889	495
British West Indies—										
Barbados..... "	1,262	3,865	1,465	2,883	5,141	2,169	790	1,827	333	1,040
Jamaica..... "		214		1,005	6,901	1,554	10	9	5	
Trinidad and Tobago..... "	40			124	7,916	569	22	2		
Other..... "					225	9	33	585	448	
Hong Kong..... "	4,623	92	1,064	38	40	26	14	35	46	27
Newfoundland..... "		10					75	3	20	3
Belgium..... "				2,215	648	45,476	43,979	32,369	28,478	32,249
Brazil..... "			1,492							
China..... "		501	518	3		2	1		4	
Cuba..... "					4,775	180,473	263,017	309,744	359,698	311,592
Czecho-Slovakia..... "										5,700
Germany..... "				589		50				
Guatemala..... "	9,620	2,883	23,090	22,767	16,612	11,079		2		
Italy..... "									1	
Japan..... "								9		
Netherlands..... "								11,000	2,000	1,000
Dutch East Indies..... "	2,342	4,156		25,190	1,491					
Nicaragua..... "	38,045	5,000	2,859	14,807	23,933	22,400	17		9,700	960
Salvador..... "	1,440		11,454	17,454		18,844				
San Domingo..... "								70,451	776	9
United States..... "	129,305	6,105	145,364	224,034	88,610	49,906	33,998	57,536	49,902	55,897
Alaska..... "				10	6			3	2	
Hawaii..... "	1	1								
Total Imports..... "	188,584	23,040	199,985	435,868	158,992	335,158	344,765	484,032	452,335	408,079

TABLE 2.—Imports of Sugar into Canada—Fiscal Years 1922 to 1931

Sugar above No. 16 D.S. in colour, when imported or purchased in bond in Canada by a recognized sugar refiner, for refining purposes only.
(Dutiable)

Countries	Quantities									
	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Africa, British—										
East..... Cwt.						108,172	219,775		367,787	464,593
South..... "									10,968	
British Guiana..... "						747		128,314	107,908	31,716
British West Indies—										
Barbados..... "									31,470	
Jamaica..... "		7,839	7,317					84,300	52,750	6,720
Trinidad and Tobago..... "									11,229	
Other..... "									3,356	
Oceania—										
Australia..... "							158,274	133,114	186,500	
Netherlands..... "									79,353	
Dutch East Indies..... "									79,505	
San Domingo..... "									41,711	
Total imports.....		7,839	7,317			108,919	378,049	345,728	961,569	513,997

AGRICULTURE AND COLONIZATION

TABLE 3.—Sugar Exports Fiscal Years Ending March 1922 to 1931 Inclusive

Sugar of all kinds, n.o.p.

Countries	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
United Kingdom..... Cwt.	1,131,783	2,029,553	833,792	871,845	2,642,642	1,729,435	651,236	127,609		
Irish Free State..... "						2,240				
Africa, British South..... "									19,080	
Bermuda..... "	203	6,897	4,066	304	672	19,865	10,895	1,097	6,608	1,695
British East Indies—										
British India..... "					51,520	99,680				
British Guiana..... "	443	5,642	5,051	7,548	7,891	9,023	12,890	6,882	7,994	1,644
British Honduras..... "		955	1,976	11,254	11,888	11,968	13,636	15,246	16,334	18,936
British West Indies—										
Barbados..... "	4,799	4,700	3,775	6,770	9,681	10,978	12,125	9,578	5,693	1,628
Jamaica..... "	46	6,339	5,406	6,410	12,971	15,669	22,030	20,032	17,840	7,061
Trinidad and Tobago..... "	1,020	9,263	5,709	15,077	19,623	24,556	40,352	31,711	13,782	1,933
Other..... "	1,601	7,512	6,205	6,795	10,435	17,405	17,405	17,746	19,107	15,014
Newfoundland..... "	52,761	70,854	32,610	33,994	73,522	141,185	154,872	146,258	161,306	132,087
Oceania—										
New Zealand..... "						2,465		5		
Belgium..... "	6,180	113,232	11,760	1,120	27,518	10,752	1,120			
China..... "	57									
Denmark..... "					4,480					
Finland..... "		11,200								
France..... "	103,041	249,696	195,168	38,528	151,831	262,682				
French West Indies..... "	16	3		14	3	3		2	37	32
St. Pierre and Miquelon.. "	2,543	4,556	3,469	1,967	2,998	7,619	6,229	6,076	5,884	4,150
Germany..... "	34	185,196	11,088							
Greece..... "	1									
Italy..... "	24,640	79,848								
Japan..... "	562	1,120	3						6	5
Netherlands..... "	39,201	4,480	6,720	1,120	6,720	224				
Dutch Guiana..... "	67	34	102	33	34					
Dutch West Indies..... "		47	23	3	19	42	39			
Norway..... "		112,640	29,642		60,080	207,042	194,205	35,792	2,688	
Paraguay..... "					500					
Portugal..... "	13,440									
Russia..... "	226	3,429	340							
Sweden..... "		11,200			33,600					
Switzerland..... "	22,400									
United States..... "	3,738	6,005	299		505	17,786	5,623	216	16,029	3,069
Alaska..... "	29	12	2	5	13	21				
American Virgin Islands.. "						500	1,000	1,700	2,435	500
Uruguay..... "				42,560	132,660	349,960	148,736			
Total Exports..... "	1,408,831	2,924,413	1,157,206	1,045,347	3,261,806	2,911,100	1,294,095	419,950	294,823	187,754

Mr. BROWN: Will that paper become part of the record if we have authority to print?

The CHAIRMAN: Yes.

Mr. McMILLAN: I think the information contained therein is quite full. It contains not only the import of raw and refined sugar but also the export.

The CHAIRMAN: You do not know of any further information that would be of benefit to this committee do you, Mr. Marshall

WITNESS: No. I do not know of anything else.

Mr. DONNELLY: Is the Dutch standard used for importation of raw sugar?

WITNESS: Yes. The Dutch standard is used.

Mr. STEWART: Would you separate those two figures regarding the amount of production and the acreage as between Ontario and Alberta? In Alberta we had twelve thousand acres this last year?

The WITNESS: The figures, I think, are about 26,000 and 12,000 a total of 38,000.

The CHAIRMAN: How does the yield compare?

WITNESS: The difficulty about giving separate figures for Ontario and the West is this. I went into that matter carefully yesterday afternoon, and according to the Statistics Act we are not allowed to give out information which would give away the business of any individual firm. If we had separated these figures we would be showing figures for individual firms. That is the reason I have not separated them here.

Mr. YOUNG: Could you give us the acres?

WITNESS: Yes; because the acreage in Alberta is known. It is 12,000 acres, and the difference gives the acreage in Ontario.

Mr. GERSHAW: Mr. Chairman, could we get any figures dealing with the yield per acre in Canada, and something of the sugar content of the beets raised and the suitability of the soil and climate for the production of the sugar beet?

WITNESS: I have no figures of that nature myself, but I think they could be got possibly through our agricultural branch. We do not collect them in the Bureau, but they could be got through the Agricultural Experimental Farm at Guelph.

Mr. DONNELLY: On the average how much sugar will the Canadian sugar beet produce?

Mr. STEWART: I might say that there is a gentleman down at the Bureau of Statistics who is in charge of agricultural statistics.

WITNESS: Dr. Grindley.

Mr. STEWART: He could give us that information. He used to be at Lethbridge Experimental Farm for two or three years.

The CHAIRMAN: Have you any information regarding provincial subsidies?

WITNESS: Do you mean the history of that?

The CHAIRMAN: No. As to what is being done by way of provincial subsidies, if anything?

WITNESS: As I understand it, there are no provincial subsidies at the present time, I think the last one in Ontario was discontinued in 1907.

Mr. GERSHAW: Mr. Chairman, have you any information regarding the subsidies granted in other countries, other than Great Britain?

WITNESS: I have not anything immediately available. That would have to be studied. I think it could be found all right enough, but we have not any on hand at the moment in the Bureau.

Hon. Mr. MOTHERWELL: With the increase in the importation of empire raw sugar, has the growth of the sugar beet decreased in Canada?

WITNESS: The growth? In the last year, 1930, there was a yield of 397,000 tons which is the highest yield we have ever had.

Mr. DONNELLY: 1931?

WITNESS: 1931. I have not that. That is not in yet. In 1929 it was 235,465 tons.

Mr. TOTZKE: Have any established beet sugar factories been closed within the last two years?

WITNESS: I think so. I have a memorandum here. About 1914 a factory was closed at Kitchener. Two factories were taken over by the Dominion Sugar Company—three factories were taken over—they built one and two were taken over and then they discontinued the use of the one at Kitchener.

Mr. CAYLEY: They have now the one at Chatham and the one at Wallaceburg. How many factories are there all told?

WITNESS: Two in the province of Ontario and one in Alberta—Raymond, Alberta.

Mr. BROWN: Do the Ontario factories use beet and imported sugar.

WITNESS: One of them uses beet only and the other one uses both cane and beet. The one in Alberta uses only beet, of course.

Mr. CAMPBELL: I wonder if the witness could tell us if there is any material difference in the sugar contained in the beet grown in, say, a fairly northern climate like the western provinces and when grown where there is considerably more sunshine? I understand that is true with respect to grapes for the making of wine. Now, I wonder if it is equally true with respect to beets?

WITNESS: I am sorry, Mr. Chairman, but regarding the technical questions such as this one I am not informed at all. I think Dr. Grindley would be the person to answer that question.

Mr. STEWART: Perhaps I could answer part of that for this gentleman. That varies according to the moisture during the year. I know in our locality, and I am very close there, it runs from fourteen to nineteen and it varies in years. Sometimes if it is dry and the moisture is got by cultivation and so on the test is higher. So you can understand that if it is very wet weather the beet grows very fast and is more inclined not to have the same amount of sugar in it. I think, possibly, that might apply in your case further north, but that is what happens in our country.

Mr. DONNELLY: For example, the moisture of the last few weeks?

Mr. SPROULE: Of course, if we take the last few weeks, if the moisture is very great the percentage is low. If the moisture is brought in through cultivation then the amount of sugar in it is high.

Mr. CAMPBELL: It varies according to the amount of sunshine. When there is more rain there is, of course, less sunshine.

Mr. SPROULE: That is very true. I do know this year that the beets are running about fifteen to seventeen. That is about the average. Now, in the southern area near Chatham, just in about twelve or fourteen miles, they got more showers and the yield there would be between twelve and fourteen. Further north a little bit where they got not quite so many showers it would run from about nine to eleven. That is the difference and *visa versa* if the showers had been the other way. Sometimes in the finishing up, if it happens to stay fairly dry and cultivation is fairly good the sugar seems to collect very fast, particularly towards the time of harvest.

Mr. DONNELLY: Has the witness any figures to show us the comparative cost between refining cane sugar and beet sugar?

WITNESS: No. We have no figures regarding the costs in the Bureau.

Mr. STEWART: We can get that easily. There is practically no difference between the cost of refining one hundredweight of beet sugar or the other. The cost is about the same—about sixty cents. You can get that readily.

Mr. YOUNG: What does it cost to bring that beet into the condition of raw sugar?

Mr. STEWART: I cannot tell you that, but we can get that.

Mr. GERSHAW: Has the witness any figures regarding the relative amount of labour required to deal with the cane sugar as compared to the amount of labour required to deal with the beet sugar?

WITNESS: We have the total figures including both beet and cane. There is this difficulty about getting at this. You see, there is one factory which works on both beet and cane sugar, and it would be necessary to get a special statement from them asking them to make some approximation of the labour in each phase of their activity. We have not that at the present time in the Bureau. I suppose it could be obtained by writing to those firms on the understanding that it would be probably only approximate for one firm.

Mr. DONNELLY: Have you anything on the value of the best pulp that is left over?

WITNESS: The total selling value of dried beet pulp, 13,065 tons in 1930—the value was \$125,912; of wet beet pulp, 23,103 tons with a value at \$112,923.

Mr. STEWART: I may say, Mr. Chairman, that the farmers come 120 miles to haul that pulp away by the ton from the sugar factories and use it for feeding and fattening live stock, and they will come as far as near Calgary just to haul away that pulp for the use of milch cows. The average price per ton is very small.

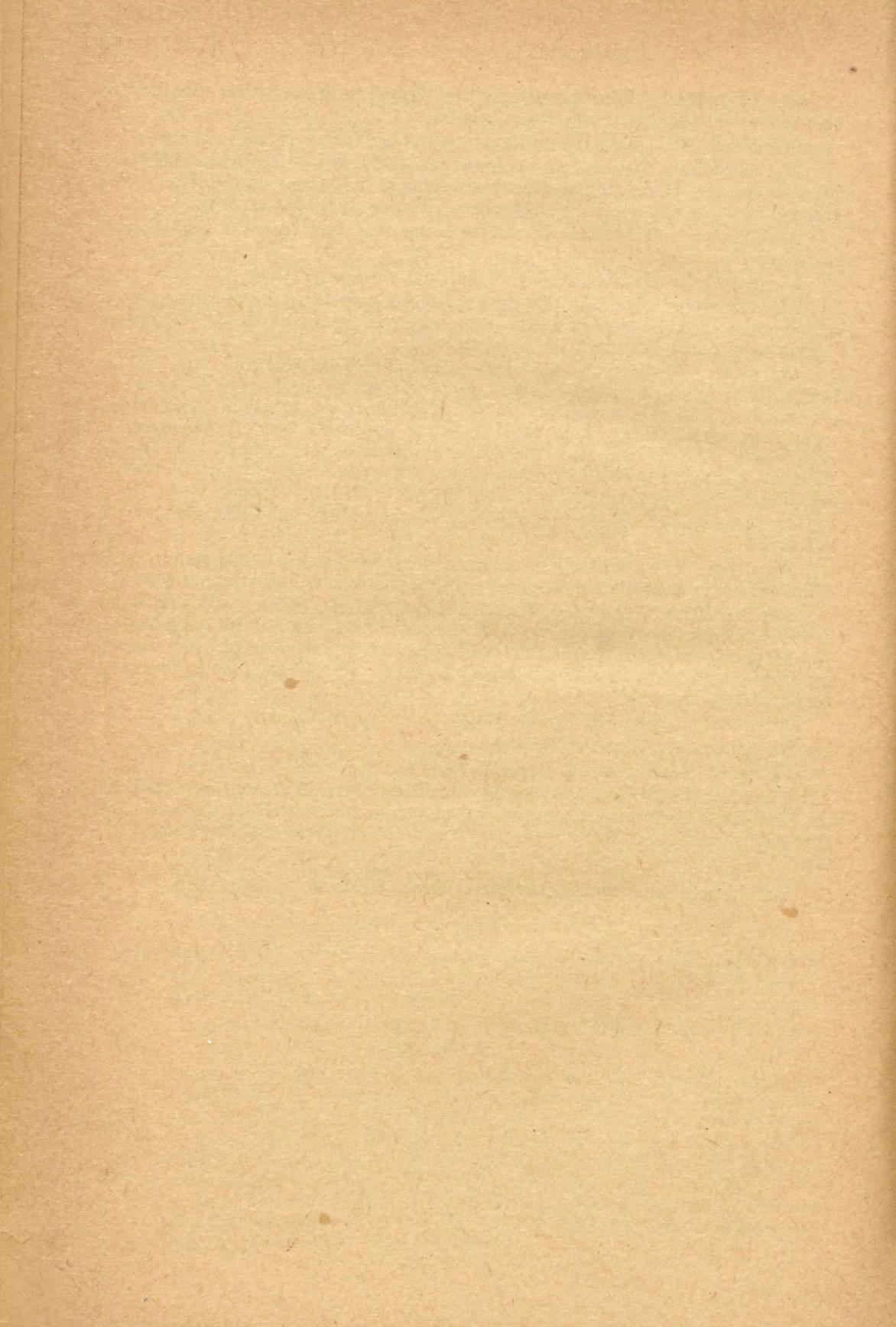
WITNESS: About \$10 for the dried.

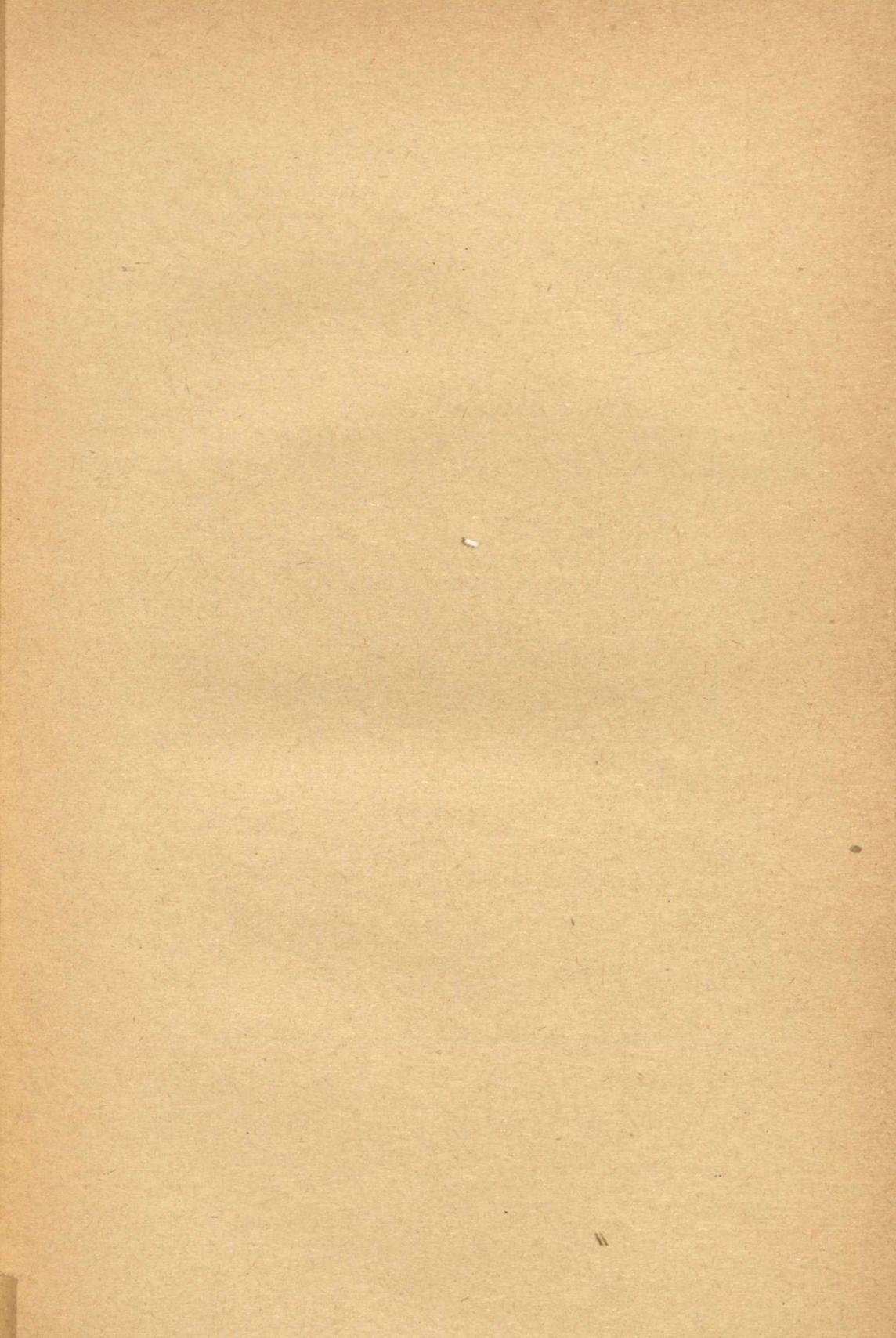
Mr. STEWART: And for the wet.

WITNESS: For the wet it is about \$5.

Mr. MULLINS: It has good feeding qualities. Mr. Chairman, I remembered the beet sugar factory at Raymond fed in one year one thousand steers which I bought from them. They were very fat. It has wonderful fattening qualities.

The Committee adjourned to meet Monday, March 7, at 11 a.m.





SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND EVIDENCE

MONDAY, MARCH 7, 1932

No. 2

Reference,—Beet Sugar Industry

WITNESS:

Dr. F. W. Grindley—Bureau of Statistics

MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,

MONDAY, March 7, 1932.

The committee came to order at 11 o'clock, Mr. Senn in the Chair.

Members present: Messrs. Barber, Blair, Bowen, Brown, Carmichael, Donnelly, Elliott, Gobeil, Hay, Loucks, Lucas, McKenzie, McPhee, Motherwell, Mullins, Perley, Pickel, Senn, Shaver, Simpson, Sproul, Stewart, Stirling, Weir (Melfort), Weir (Macdonald), Young.

The committee took under consideration Bill No. 18, An Act to amend the Destructive Insects and Pest Act and agreed to report the same without amendment.

The committee then proceeded to a consideration of the Beet Sugar Industry.

Mr. Stewart (*Lethbridge*), Chairman of the subcommittee on witnesses and procedure presented a report recommending the calling of witnesses Thomas Simpson, beet grower, Petrolia, Ontario, and W. R. Reese, of the Experimental Farm, Ridgetown, Ontario, for the next meeting of the committee; also, a representative of the beet growers of Southern Alberta and a representative from the British Columbia Sugar Refinery, Vancouver, B.C., for the week of March 14th.

Report adopted.

Dr. F. W. Grindley, of the Dominion Bureau of Statistics, appeared and presented a statement, compiled from the statistics of the Bureau, respecting the Beet Sugar Industry in Canada.

At the conclusion of the presentation of this statement the witness was questioned at length by various members of the committee.

The meeting then adjourned till Thursday, March 10th, at 10 a.m.

A. A. FRASER,

Clerk of the Committee.

MINUTES OF EVIDENCE

HOUSE OF COMMONS,

MARCH 7, 1932.

The Select Standing Committee on Agriculture and Colonization met at 11 o'clock to consider the reference to the committee:—

“That all questions affecting the beet sugar industry in Canada be referred to the Select Standing Committee on Agriculture with instructions to inquire into the action which may be taken by the government by way of Customs duties, subsidies, bonuses or otherwise either in or without co-operation with the provincial governments for promoting the prosperity of the said industry and developing the production of Canadian grown sugar, and report to the house.

Dr. THOMAS W. GRINDLEY, called.

The CHAIRMAN: Gentlemen, in regard to the inquiry which is before the committee into the sugar beet industry, we have with us this morning Dr. Grindley of the Dominion Bureau of Statistics. He is here at the request of the committee to give us some further information. I have here in my hand as well a report from the sub-committee on witnesses.

(Report of sub-committee read and adopted.)

The WITNESS: I propose to cover the agricultural aspects of the sugar beet industry from seed to utilization of by-products, but paying particular attention to the culture of beets and the related statistics. In his way I hope to keep as closely as possible to the field of my past experience as a practical and technical agriculturist and my present employment as an agricultural statistician.

The sugar beet of to-day is the result of a century of selection, which has proceeded with such ease and success that the average actual sugar content of the beets now grown is as great as the total weight of the beets of 100 years ago. Sugar beets are the best crop for the production of sugar in northern temperate climates just as the sugar cane is best adapted for sugar production in southern tropical climates. A century ago, about 3 per cent of the world's sugar supply was derived from beets, while at present it is about 37 per cent. At the beginning of the present century it was as high as 60 per cent.

Sugar beets require a fertile, warm, moist, loose and well-drained soil with an open sub-soil. The prevailing soil type used in Ontario is a clay, while in Alberta it is a loam. The two areas of present Canadian production differ rather widely in other characteristics besides soil. The precipitation in Alberta is much lighter, but this is offset by irrigation. The summer season is cooler in the west, but again this is counterbalanced by the longer duration of light. Table 1 submitted with this report shows the difference in precipitation and summer temperature in the areas of past and present production in Canada.

The seeding of beets is usually done about the first of May and germination must be watched carefully, especially if the soil is dry. The beets are seeded in rows with a special drill, the rows being about 20 to 30 inches apart to permit of horse cultivation. Imported seed is found to be most productive, Germany, United States, Holland, Czechoslovakia being common sources. Sugar beet seed was first itemized separately in our trade statistics on June 1, 1931, and up to December 31, the imports amounted to 446,903 pounds valued at \$35,576, of

which 332,693 pounds came from Germany and 42,500 pounds from the United States. The seed is usually procured through the factories and the drills may also be borrowed. When the young beets have about three leaves they are blocked with a hoe and thinned by hand to about 12 inches apart in the row. This is the first operation in which considerable hand labour is required. During the summer hoeing is necessary to keep down weeds in the beet rows. Irrigation is the only other requisite before harvest; if one flooding has been given in the fall, another about 6 to 8 weeks after, thinning is the best general practice. The harvest is about 4 to 5 months after seeding and is best accomplished with a special digger of the plough type. As they are drawn by hand from the loosened soil, the beets are "topped" with a sharp knife, then thrown into piles for hauling to the factory or loading platform. This is the second operation which requires a large amount of hand labour. The tops may be used green for livestock feed or they may be ensiled. The common practice in Canada is to turn stock in on the field and let the remaining tops rot for their manurial value.

There is no general relation between the size of the crop and the sugar content, although it is often found that since heavy crops have not been retarded in growth for want of moisture, they have a high sugar content as well. In tests at the Lethbridge Experimental Station it was proven that different times and amounts of irrigation had no uniform effect on sugar content, but the roots must not be allowed to suffer for want of water at any time. In both Ontario and Alberta, sugar beets respond particularly well to fertilizers. The following quotation from the report of the Superintendent of the Lethbridge Experimental Station, 1930, page 36, emphasizes this point:—

Sugar beets promise to give the greatest financial return from the use of phosphates of any crop so far included in the experiments, due to the relatively high cash value of the crop and its response to fertility factors, and it seems safe to recommend the use of phosphates on almost all of the irrigated sugar beet fields of southern Alberta.

So far increases as great as four tons per acre have been secured at the Station, and the average last year from the application of 100 pounds of triple superphosphate was about 2 tons per acre. Two tons of beets were worth more than five times the cost of the fertilizer used.

In the European countries, it has been found that heavy and rich soils produce large crops low in sugar content, while the light land gives a small tonnage of beets with a high percentage of sugar.

Table II submitted with this report gives the production statistics of sugar beets and beet sugar from 1918 to 1930 as submitted to the Dominion Bureau of Statistics by the sugar factories. Table III gives the annual estimates of the Agricultural Branch of the Bureau for Canada and for the provinces of Ontario and Alberta from 1908 to 1931.

The acreages and production listed in the latter table are higher than the former since they include small quantities of beets raised as feed for livestock.

It may be definitely stated that there are wide areas in Canada where the production of sugar beets is a physiological success. This fact has been known for many years as attested by the following statement of William Saunders in 1892:—

This experimental testing of sugar beets has become very general of late in the United States and Canada and sufficient evidence has been accumulated to show that in both countries there are large areas over which this useful plant can be grown to a degree of perfection as to sugar strength and purity equal to any produced in Europe.

(William Saunders: Report on Production and Manufacture of Beet Sugar Ottawa, 1892. Page 5.)

The best adapted districts are in Ontario and Alberta, where they are grown at present, and in the border districts of Quebec and British Columbia, where they have previously been growing. The Ontario area of present production lies in the counties of Essex, Kent, Lambton, Middlesex and Simcoe, and extending as far north as Huron County. In southern Alberta the sugar beet region now extends slightly west but mostly north and east of the factory at Raymond. More or less successful efforts to produce beets have been made in many other regions of Canada, including Quebec, the Red River Valley of Manitoba, and in the Edmonton District of Alberta. In all of these regions, the sugar content and co-efficient of purity of the harvested crop are very high, as shown by tests of the Division of Chemistry, Department of Agriculture, Ottawa. It is fortunate that the physiological adaptability of the sugar beet is proven, since the establishment of a factory involves a large investment.

Conversely, it is unfortunate that the economic test cannot be so conclusively applied to crop production in general, or to sugar beet production in particular. So far as I am aware no reliable and comprehensive studies on the cost of producing sugar beets have yet been made in Canada. Even if available, however, I believe that the citation of money costs of producing sugar beets per ton would be a very misleading index to compare with selling prices as a basis for determining the economic possibilities of the sugar beet in Canada. There are entirely too many arbitrary valuations necessary in the compilation of such costs. This is particularly true of crops like sugar beets which are usually an essential of rather long and diversified rotations. One could not say, however, that the analysis of costs and returns is not valuable and helpful. Every farmer uses costs and returns in a more or less studied manner, yet the choice of crops is not determined on an exact mathematical basis of cost versus return values, but rather it is a comparative and empirical proposition. A crop is primarily profitable not in itself, but as a component of a paying system of farming. The present interest in sugar beets, which is widespread over Canada is in part an appreciation of the low prices of cereals and livestock and the desire for a new cash crop, but it is also another expression of the tendencies to crop diversity, and farm and national self-sufficiency, which feature periods of depression.

The extensive use of hired labour in sugar beet growing is regarded as a heavy cost and also as a virtue in the provision of employment. According to studies of the United States Department of Agriculture (Bulletin No. 893, 1923), man and horse labour comprise fully 55 to 65 per cent of the total cost in beet production. The same authorities estimate that six times more man labour is required to produce an acre of sugar beets than an acre of corn. In the United Kingdom in 1924 (Research Monograph No. 2, Ministry of Agriculture and Fisheries, 1925), labour formed 53.1 per cent of the total costs of beet production. The average number of hours of man labour per acre required in sugar beet production are estimated by the United States Department of Agriculture (Bulletin No. 963, 1921) as follows:—

	Hours per acre
For blocking and thinning	27.3
For hoeing	21.2
For pulling	7.8
For lifting	5.2
For topping and loading	27.9
For hauling	13.0

With this manual labour, 40 hours of horse labour are needed. At the Lethbridge Experimental Station, Alberta, it is estimated that the average labour cost per acre of producing beets under irrigation is \$33.50 and for horse

labour \$9.37. The labour charges of the Dominion Sugar Company, when the blocking, topping and hoeing are done for the farmer amount to \$21 an acre, being \$9, \$9 and \$3 for the operations mentioned.

The capital charges are rather higher in beet farming than in ordinary mixed farming due mainly to higher values placed on land. The increased investment on account of special beets machinery is highly variable since the farmer may buy a special beet drill and digger, he may co-operate with neighbours in their purchase, or he may contract with the sugar company to do the work for him. The sugar company will also supply the seed, but this is a minor charge of about 15 cents per pound, 12 pounds or slightly more being sown per acre. In Ontario, high percentages of the beets are transported to the factory in trucks; in Alberta, this method is not nearly so common, the prevailing practice being to haul the beets in waggons to the railway loading platforms. Special commodity rates are given for rail transport and samples of this tariff from the representative points to Wallaceburg, Ontario and to Raymond, Alberta are given in Table IV.

One of the special difficulties of estimating costs of producing sugar beets is the fact that they are commonly grown in a rotation, which involves allocation of nearly all the expense as well as the residual effects of any fertilizers used among the subsequent crops. The beet is an inter-tilled crop and the season's cultivation is of great benefit in the control of weeds and in the liberation of organic matter. Under irrigation, and where weeds are such a menace, the sugar beet serves a great purpose in rotations and makes a fine cleaning crop to precede wheat or other cereals. The cultural operations on the beet crop result in working the land to a considerable depth.

The technical description of the refining of sugar will undoubtedly be covered by a representative of the sugar companies, but another agricultural aspect appears with the by-products. These are beet pulp, either wet or dry, molasses or syrup, and a fertilizing material consisting largely of the lime used in purifying the sugar. Table V gives the output of pulp and molasses from Canadian sugar beet factories from 1917 to 1930. Both these products are useful in the feeding of live stock. At the Lethbridge Experimental Station, beet molasses have been fed successfully to beef cattle and to lambs. When fed to dairy cattle, it was suspected to be the cause of an undesirable cream flavour. Recent experiments at the School of Agriculture, Cambridge (reported in the *Journal of the Ministry of Agriculture*, Vol. XXXVIII, No. 10, January 1932) prove that molassed beet pulp and plain beet pulp are equal in value to crushed oats in feeding fat cattle. Around the factory at Raymond, Alberta, are many successful feed lots in which the beet pulp is fed to lambs and beef cattle. Proximity to the ranching areas for the feeding stock and to the irrigation areas for alfalfa and coarse grains makes this a promising industry. The succulent beet by-products are available in late October when the pastures are dry and sparse. In Ontario, also, the farmers near the factories make use of the molasses and beet pulp to advantage.

The advantages of the sugar beet in an agricultural system have been summarily outlined. The beneficial effects on other agricultural operations, the stability of sugar beet income through the contract system, the high employment of labour, and the national advantages of a home-grown supply of necessary foodstuffs are among the reasons why countries suited to their production have been anxious to encourage their culture by bonus or tariff if necessary.

The value of a sugar beet factory to a community is an important consideration. The factory itself employs over 300 men during its steady run of 2 to 3 months. Then about 650 to 700 farms growing 15 to 20 acres of beets each are required. This would ensure an adequate production of about 100

to 125,000 tons of beets for the making of about 30 million pounds of sugar. The thinning and topping seasons serve as an opportunity for the use of both family and hired labour. An important factor in the location of a factory is the availability of the labour supply. The hauling of beets is a boon to both trucking and railway interests. Beet growing provides a great encouragement to the careful and ambitious husbandman in that the increment from special care and skill is very high. Although the average yield for Alberta, for instance, is only about 8 or 9 tons per acre, yields of 15 to 20 tons are common among the better farmers. The 8-year average yield on Rotation "U" of the Lethbridge Experimental Station is 11.89 tons per acre. The farmers' efforts are also rewarded by higher sugar content. In fact, many observers are of the opinion that further selection will result in great improvements in the average sugar content of beets.

TABLE 1.—COMPARISON OF AVERAGE PRECIPITATION AND SUMMER TEMPERATURES AT TEN CANADIAN STATIONS

	Average annual precipitation (inches)	Mean temperature			Length of average (years)
		June	July	August	
		(degrees Fahrenheit)			
Farnham, Que.....	40.1	62.1	67.8	65.0	11
Sherbrooke, Que.....	37.0	61.2	67.6	64.3	20
Chatham, Ont.....	29.2	67.2	72.4	70.5	40
Wallaceburg, Ont.....	24.9	64.9	71.1	68.6	20
Woodstock, Ont.....	32.8	63.3	67.8	65.7	50
Guelph, Ont.....	28.1	63.6	68.4	65.9	44
Winnipeg, Man.....	20.1	62.2	66.7	63.8	56
Lethbridge, Alta.....	15.3	58.6	64.0	62.3	24
Edmonton, Alta.....	17.3	57.3	61.5	59.2	45
New Westminster, B.C.....	56.4	58.8	63.1	62.5	38 and 26

Source: Meteorological Service of Canada, Toronto.

TABLE II.—AREA, YIELD AND VALUE OF SUGAR BEETS IN CANADA AND PRODUCTION OF REFINED BEETROOT SUGAR, 1918-1930

Year	Acres grown	Yield per acre	Total yield	Average price per ton	Total value	Production and value of refined beetroot sugar		
	acres	tons	tons	\$ cts.	\$	lb.	\$	cents per lb.
1918.....	18,000	11.25	204,000	12 71	2,593,715	50,092,835	4,358,077	8.70
1919.....	18,600	9.50	180,000	14 61	2,630,027	37,839,271	3,924,411	10.40
1920.....	34,491	9.94	343,000	15 47	5,307,243	89,280,719	12,856,424	14.40
1921.....	25,535	7.80	199,334	9 90	1,974,384	52,862,377	3,554,203	6.70
1922.....	14,955	8.55	127,807	7 56	966,521	29,911,770	1,645,885	5.50
1923.....	17,941	8.87	159,200	12 08	1,922,668	39,423,160	3,745,200	9.50
1924.....	31,111	9.50	295,177	5 78	1,704,791	85,770,709	6,192,645	7.30
1925.....	34,803	10.63	370,047	7 27	2,688,302	72,819,919	5,206,624	7.15
1926.....	30,073	8.90	267,754	8 54	2,286,761	70,388,105	4,269,076	6.06
1927.....	25,961	7.96	206,713	9 73	2,012,134	60,969,131	3,719,117	6.10
1928.....	34,323	7.14	244,930	8 33	2,041,465	64,653,348	3,340,571	5.17
1929.....	32,556	7.23	235,465	8.84	2,080,996	69,399,213	3,335,344	4.81
1930.....	40,532	9.81	397,576	8 25	3,278,625	94,624,701	4,529,944	4.79

Source: Census of Industry Branch, Dominion Bureau of Statistics, Ottawa.

SELECT STANDING COMMITTEE

AREA, YIELD AND VALUE OF SUGAR BEETS IN CANADA, BY PROVINCES, 1908-31

	Area	Average Yield per Acre	Total Yield	Average Price	Total Value
CANADA	acres	tons	tons	\$	\$
1908	10,800	10-07	109,000	5-31	578,000
1909	10,000	8-60	86,000	5-81	500,000
1910	17,049	11-00	187,764	4-79	899,640
1911	20,676	8-46	175,000	6-59	1,154,000
1912	18,900	10-60	201,000	5-00	1,005,000
1913	17,000	8-70	148,000	6-12	906,000
1914	12,100	9-00	108,600	5-99	651,000
1915	18,000	7-80	141,000	5-50	775,500
1916	15,000	4-75	71,000	6-20	440,000
1917	14,000	8-40	117,600	6-75	793,800
1918	18,000	10-00	180,000	10-25	1,845,000
1919	24,500	9-80	240,000	10-86	2,606,000
1920	36,288	11-37	412,400	12-80	5,278,700
1921	28,367	9-45	268,000	6-50	1,742,000
1922	20,725	9-20	190,400	7-88	1,500,000
1923	22,450	9-60	216,200	6-48	1,401,000
1924	36,080	9-28	334,000	6-79	2,268,000
1925	43,418	10-55	458,200	6-08	2,784,900
1926	46,988	11-17	525,000	6-45	3,386,000
1927	44,103	8-87	391,000	7-79	3,044,000
1928	51,294	8-44	433,000	7-25	3,140,000
1929	43,464	8-37	364,000	6-85	2,492,000
1930	52,500	8-97	471,000	6-87	3,238,000
1931	50,647	9-06	459,000	6-12	2,807,000

AREA, YIELD AND VALUE OF SUGAR BEETS IN CANADA, BY PROVINCES, 1908-31

	Area	Average Yield per Acre	Total Yield	Average Price	Total Value
ONTARIO	acres	tons	tons	\$	\$
1908	5,600	12-00	67,000	5-50	370,000
1909	8,000	8-75	70,000	6-00	420,000
1910	15,970	11-39	181,888	4-77	868,480
1911	18,881	8-53	161,000	6-73	1,084,000
1912	17,000	11-16	188,000	5-00	938,000
1913	15,000	9-23	138,000	6-20	856,000
1914	12,000	9-00	108,000	6-00	648,000
1915	18,000	7-83	141,000	5-50	775,500
1916	15,000	4-75	71,000	6-20	440,000
1917	14,000	8-40	117,600	6-75	793,800
1918	18,000	10-00	180,000	10-25	1,845,000
1919	24,500	9-80	240,000	10-86	2,606,000
1920	36,288	11-37	412,400	12-80	5,278,700
1921	28,367	9-45	268,000	6-50	1,742,000
1922	20,725	9-20	190,400	7-88	1,500,000
1923	22,450	9-60	216,200	6-48	1,401,000
1924	36,080	9-28	334,000	6-79	2,268,000
1925	37,718	11-06	417,200	6-11	2,548,900
1926	41,594	11-32	471,000	6-50	2,062,000
1927	38,503	8-73	336,000	7-75	2,604,000
1928	45,294	8-40	380,000	7-25	2,755,000
1929	36,864	8-25	304,000	6-66	2,025,000
1930	38,000	8-90	340,000	7-00	2,380,000
1931	38,047	9-30	354,000	6-00	2,124,000

AREA, YIELD AND VALUE OF SUGAR BEETS IN CANADA, BY PROVINCES, 1908-31

	Area	Average yield per acre	Total yield	Average price	Total value
	acres	tons	tons	\$	\$
ALBERTA					
1908.....	5,200	8.00	42,000	5 00	208,000
1909.....	2,000	8.00	16,000	5 00	80,000
1910.....	1,079	5.45	5,876	5 30	31,160
1911.....	1,795	8.00	14,000	5 00	70,000
1912.....	1,900	7.00	13,000	5 00	67,000
1913.....	2,000	5.00	10,000	5 00	50,000
1914.....	100	6.00	600	5 00	3,000
1915.....					
1916.....					
1917.....					
1918.....					
1919.....					
1929.....					
1921.....					
1922.....					
1923.....					
1924.....					
1925.....	5,700	7.19	41,000	5 75	236,000
1926.....	5,394	10.07	54,000	6 00	324,000
1927.....	5,600	9.83	55,000	8 00	440,000
1928.....	6,000	8.83	53,000	7 27	385,000
1929.....	6,600	9.07	60,000	7 79	467,000
1930.....	14,500	9.00	131,000	6 55	858,000
1931.....	12,600	8.33	105,000	6 50	683,000

TABLE IV.—FREIGHT RATES ON SUGAR BEETS FROM REPRESENTATIVE POINTS TO WALLACEBURG, ONTARIO, AND TO RAYMOND, ALBERTA

To	From	Mileage	Rate per ton	
			\$	cts.
Wallaceburg.....	Walkerville.....	111		1 70
".....	Kingsville.....	81		1 30
".....	West Lorne.....	63		1 10
".....	St. Thomas.....	88		1 50
".....	Dresden.....	10		0 90
".....	Port Stanley.....	97		1 60
Raymond.....	Lethbridge.....	27		1 00
".....	Magrath.....	11		0 50
".....	Coaldale.....	37		1 00
".....	Cardston.....	40		1 00
".....	Iron Springs.....	52		1 10

TABLE V.—PRODUCTION OF MOLASSES AND DRIED BEET PULP IN SUGAR REFINERIES IN CANADA, 1917-1930

		Molasses		Dried beet pulp	
		Quantity	Value	Quantity	Value
		gal.	\$	ton	\$
Molasses and syrup.....	1917	9,607,542	992,141	4,446	120,078
“ “.....	1918	1,559,694	1,016,626	11,069	411,645
		lb.			
Molasses.....	1919	40,773,383	427,056	7,655	344,224
“.....	1920	2,497,008	287,689	15,268	489,644
“.....	1921	1,177,806	319,935	17,171	189,254
“.....	1922	2,918,628	606,075	6,318	142,108
“.....	1923	2,105,633	295,279	7,987	206,334
“.....	1924	3,566,284	547,054	15,977	419,234
“.....	1925	5,169,946	642,084	15,394	412,566
		lb.			
“.....	1926	61,160,147	431,708	11,409	294,841
Molasses and refuse syrup.....	1927	42,768,494	283,004	9,110	252,474
“ “.....	1928	47,350,200	278,331	9,860	280,461
“ “.....	1929	46,161,753	454,934	8,917	296,270
“ “.....	1930	54,185,468	395,401	13,065	125,912

Source: Census of Industry Branch, Dominion Bureau of Statistics, Ottawa.

(NOTE: The production of molasses and syrup has been reported alternately in gallons and pounds; the conversion ratio might vary considerably but would be about 14 pounds to the gallon.)

Mr. STEWART: Someone was asking the other day, Dr. Grindley, about the relationship of a heavy yield to the amount of sugar content. I did not catch there what you said about that.

WITNESS: There seems to be a difference in this country as compared to other countries. In the old country it is commonly found if you have a heavy yield you usually get a low sugar content. In this country it seems to be quite the opposite, because the yield of sugar content depends upon the moisture available in the soil. As in 1930 the record sugar yield was also the record sugar content.

Mr. COOTE: Is it your idea that the climatic conditions during the season may affect the sugar content?

WITNESS: Very greatly.

Mr. YOUNG: You have given us the man labour cost of producing an acre of beets at \$23 and horse labour cost of \$9. Do you include all the factors there that go into the cost of producing an acre of beets?

WITNESS: No, I would not consider a total cost factor as an index of the economic possibilities of the sugar beet. It is hard to get at. And when you did give the total cost, the production figure, anyone could disagree with you, and rightly.

Mr. YOUNG: We want to determine those economic principles, doctor, and we want to know what at least the wage costs are. We want to know the total costs. We want to know the ultimate cost of producing a ton of beet sugar as compared to a ton of cane sugar, raw and refined. We want to know all these things in order to arrive at some conclusion.

Mr. GOBEL: What is your idea in not including all the man labour costs—is it on account of the improving of the soil?

WITNESS: You could not account for that in any accounting system.

Mr. GERSHAW: From the information available, could you not give a fairly close estimate of the cost of producing a ton of beets of a certain sugar content?

WITNESS: I think you could; but you would have to give it with a wide margin of error.

Mr. BROWN: We realize that, doctor.

Mr. DONNELLY: In western Canada when you intend to have a beet crop do you propose to summer fallow the year before or do you just spring plow?

WITNESS: Beets in western Canada are usually grown on irrigated land where very little fallowing is done. They usually fallow plow quite deep.

Hon. Mr. ELLIOTT: I suppose, doctor, one of the greatest things that enters into the cost of production is the kind of weather you have in the particular locality in that particular season, is it not?

WITNESS: That is it. That is an important factor.

Hon. Mr. ELLIOTT: I recall four or five years ago when the cost of sugar beets was high in the counties of Middlesex and Lambton, and surrounding counties, the sugar content was correspondingly high, the price was high, the weather was good and it cost much less to produce a ton of sugar beets in that section on exactly the same land and under exactly the same conditions as it did the following year when we had a dry season; the sugar beet crop was more or less of a failure. I suppose that is one of your great difficulties, that is, in land that is not irrigated.

The CHAIRMAN: Would it not be simpler, doctor, to estimate the cost per acre rather than per ton?

WITNESS: That would dodge a lot of difficulties, certainly.

Mr. McKENZIE: You said a moment ago that in western Canada it was usually on irrigated land. Has there been any case of growing sugar beets, except on anything but irrigated land?

WITNESS: Yes, they have grown them at twenty or thirty points.

Mr. McKENZIE: With what measure of success?

Mr. BROWN: In the district of Breadner, I have been told they have grown them there successfully. That, of course, is a particularly favourable part of Manitoba.

The CHAIRMAN: Mr. McKenzie asked with what measure of success they had been grown at those twenty or thirty points.

Mr. McKENZIE: Just what measure of success are they having in the growing of beets?

WITNESS: This last year, for instance, they had quite a comprehensive experiment at Michigan, and it was quite successful there. Much depends on the season. I would say that where we have a precipitation of not less than fifteen to twenty inches without a great variation from year to year, or with a great variation from year to year, your chances would be rather fair of getting good crops continually.

Mr. McKENZIE: So that on the whole it cannot be said to be a success by any means?

WITNESS: No. Throughout the park belt it has been successful.

Mr. MOTHERWELL: You could not rely on the volume of beets in a dry year on the open prairie?

WITNESS: No.

Mr. MOTHERWELL: Last year—the last three years you would not get very many beets on dry land?

WITNESS: No.

Mr. BOWEN: You said it takes six days' labour to cultivate a certain area of beets where one day's labour cultivates the same area of corn. Could you give us any idea as to the value of wages paid and also the relative values received from the acreage?

WITNESS: No. That was a pure labour cost.

Mr. BOWEN: That is not hours of labour; that is dollars?

WITNESS: That was just the physical item of hours per day, not values.

Mr. BOWEN: Six hours for beets and one hour for corn. Now, do you know if the wages paid for the cultivation of beets are equal to the wages paid for the cultivation of corn?

WITNESS: It does not show it in that experiment.

Mr. GOBEL: It does not require any experienced labour.

Mr. YOUNG: I want to know about the men engaged in the growing of beets and corn.

Mr. SPROULE: There was a time when beets were introduced in the first place when every fellow did not understand the beet business, but now, particularly in sections where they have grown them, there is not any question about the fact that home labour can take care of them.

Mr. YOUNG: I want to know if the man who is hoeing the beets receives the same wages per day as the man who cultivates corn?

Mr. SPROULE: There is no difference. It is just cutting the weeds out. In regard to costs. When the beets were introduced in the first place they had cultivators in those days that just took one or two rows. To-day it will take the whole width of the drill. They have a cultivator that plows the whole width. If there is a jog this way or that way not perfectly straight the cultivator plows every jog. Instead of paying \$1.50 to-day—it used to be \$3 an acre—to-day a man gets it done with these big cultivators for fifty cents. This gentleman says there is a great difference of opinion about the cost. As far as that is concerned, compared with the cost four years ago labour was \$30, and last year it was \$18. So you can figure that out.

Mr. YOUNG: It takes just six times as much money to pay for the labour of producing an acre of beets as it does to produce an acre of corn. Now, I want comparative figures. What do they get out of that acre of corn or beets?

WITNESS: In that study they did not go into values at all; it was just the physical proposition—the hours.

The CHAIRMAN: Who are you quoting?

WITNESS: The United States department of Agriculture.

Mr. STEWART: If you are drawing a comparison this year, what would you say the comparison was with regard to one acre. We know what the beets are worth but have you told us what the corn is worth? Now, I want somebody to answer that—what potatoes are worth. We know what the beets are worth, because we make our contract, but there is not a man who can tell us what an acre of corn is worth. The beets are worth six dollars and a percentage at the factory.

Mr. DONNELLY: This year?

Mr. SPROULE: Yes.

Mr. DONNELLY: What was it last year? They vary from year to year, I suppose?

Mr. SPROULE: I have a contract here with Michigan this year.

Mr. YOUNG: Does this man state how many bushels you are going to get from an acre? We want to know the comparative returns for an acre of beets and an acre of corn.

Mr. SPROULE: There is a contract there from Michigan this year. You can see the prices.

The CHAIRMAN: I think you had better let the witness reply to your question.

WITNESS: In regard to this matter of the costs of production, I would say firmly that costs of production would not give you the basis for a bonus or a tariff. That is, you cannot determine from a money cost of production per ton the amount of bonus or tariff necessary to keep an industry going along at the same level.

Mr. YOUNG: That is not it. We want to know whether it is desirable to keep it going; whether it is an economical industry or not. We must know what is paid out, what it costs us, and what we are going to get.

WITNESS: I will say that you will not get it from costs. No farmer knows that.

Mr. YOUNG: Can you give us a sound basis on which to determine whether or not this industry is going to be economically practicable?

WITNESS: I would say that the best way of telling that is to notice how production goes through the year.

Mr. COOTE: Is there any more difficulty about determining the cost of producing beets than determining the cost of producing other items of your product?

WITNESS: Yes, slightly, because it is in a rotation; it is in a rather long and varied rotation.

Mr. COOTE: Are not most of our agricultural products in the same category?

WITNESS: Quite a few are. Wheat, for instance. It is much easier to determine the cost of production of wheat than for a crop like sugar beets and alfalfa and other grains in long rotation.

Hon. Mr. MOTHERWELL: We know that it costs more than we get for it just now.

Mr. YOUNG: If we are going to go back to the house with a report on this question, we cannot very well go and say that no evidence has been submitted as to what this industry is going to cost us or what it is going to be worth to us, and, therefore, certain action should or should not be taken. We cannot make a report like that.

Mr. STEWART: We are not through with our witnesses yet.

Mr. SPROULE: I will guarantee that I will have a man here who has grown beets for fifteen years, and he can tell you exactly what it will cost you in that area.

Mr. STEWART: That is the idea we had in calling these witnesses. We have a witness coming here this week-end who is an actual practical farmer growing beets for a great many years. There is no theory about him. He knows from absolute experience. And we are also going to have—the committee has agreed to it—a man from southern Alberta who has grown beets for twenty years, and he will be able to tell you the cost. Then we are getting the agricultural representative at Ridgetown to tell us what he knows about it. We also hope to get a representative of the farmers.

Mr. YOUNG: Can you tell us what it costs to make a ton of raw sugar out of a given quantity of beets?

WITNESS: I would rather leave that question to the representative of the sugar factories.

Mr. YOUNG: You say there is a certain amount of labour employed in the production of beets and that they are employed for how many months in the year?

WITNESS: For about four or five months.

Mr. YOUNG: What do they do the rest of the year?

WITNESS: They could go on to the factory after the growing season.

Mr. YOUNG: I think you said that the factories will employ three hundred men?

WITNESS: About three hundred men.

Mr. YOUNG: How many are employed in the fields?

WITNESS: About six hundred and fifty or seven hundred farmers are employed growing the beets. Some of that work will be done by family labour.

Mr. DONNELLY: You say the families are doing that?

WITNESS: Yes.

Mr. YOUNG: Will those farmers have to hire additional help?

WITNESS: Not necessarily.

Mr. YOUNG: The family of the farmer is entitled to some wages even if they do work at home.

Mr. COOTE: They live at home.

Mr. GOBEL: It will reduce the number of employees.

Mr. YOUNG: We have, let us say, six hundred and fifty men cultivating beets in the fields during the summer time. In the winter three hundred of them find employment in the factories. For how long would they be employed there?

WITNESS: Usually running for two or three months.

Mr. STEWART: Not less than one hundred days.

WITNESS: One hundred days.

Mr. YOUNG: There would be fairly constant employment for at least eight months of the year for three hundred of these people. The other three hundred would be employed for the full five months—no, you say you seed and do not start cultivating for weeks afterward, do you?

WITNESS: It is quite a seasonal occupation.

Mr. PICKEL: Are there any other by-products in the manufacture of beet sugar than the dried pulp?

WITNESS: Molasses and fertilizing material.

Hon. Mr. ELLIOTT: Won't this contract answer a lot of the questions? Take this paragraph. I think if the committee had an idea of how the price for these sugar beets is fixed, perhaps it would do away with the necessity of some of these questions that we are asking. I will read this:—

The price per ton (2,000 lbs.) of beets delivered hereunder to the company shall be determined upon the average net return per one hundred (100) pounds of sugar received by the company from sugar manufactured by the company at the Sebewaing and Caro plants of the company located within the state of Michigan from the 1932 crop and sold by the company during the period beginning with the opening of the selling season covering the 1932 crop of sugar and closing February 1, 1933, and also upon the average sugar content of cosettes of all beets sliced, in accordance with the following schedule.

Then it gives a schedule and provides for a minimum rate of \$4 per ton, but you get the extra rate; and, of course, the price per acre depends upon what they have been able to make of the sugar in these different factories. Of course, that is sometimes a very debatable question as some people in our section of the country know.

Mr. BROWN: It is bound to vary as any other crop varies. Of course, what the company makes should be determined upon the average net return from one hundred pounds of sugar received by the company from sugar manufactured by the company at those particular plants. As I say, these are all outside of Canada.

Mr. PICKEL: That is not a bonus.

Mr. GERSHAW: I know that we will have other witnesses here, but Dr. Grindley has statistics extending back over a great many years. I wonder if it would be fair to ask him to supplement this evidence by giving us a letter stating as nearly as he can the approximate cost or advantage of, say, cultivating one acre of beets, and then we could work out from that the return from that acre in the way of sugar content and so on. It seems to me that the statistical evidence along this line would be of value.

WITNESS: I will be very glad to do that.

The CHAIRMAN: The doctor says he will do that.

Mr. BARBER: Have you any figures of the exports of sugar beets from this country. In the lower Fraser Valley we have grown considerable sugar beets and we have been compelled to ship them to the state of Washington because we have no factory in that part.

WITNESS: I enquired about that from the External Trade branch of the Bureau the other day, and they told me that sugar beets as well as seed were only itemized separately last June and since that time there have been no exports.

Mr. BROWN: Is there any duty on those beets going into the United States?

Mr. BARBER: No, but they have trouble in getting the pulp back for feed.

Mr. GERSHAW: Could you tell us how far these beets can be transported profitably?

WITNESS: At the present time they are transported from one hundred to one hundred and fifty miles. The rates are not high. For one hundred and eleven miles the rate is \$1.70 per ton. That is Walkerville to Wallaceburg.

The CHAIRMAN: Have you the rate from Wingham to Wallaceburg?

WITNESS: No, I have not.

The CHAIRMAN: That will be the railway freight?

WITNESS: Yes.

Hon. Mr. ELLIOTT: In answer to the question asked by some of the members of the committee—Dr. Gershaw and some of the others—you can make a fairly close estimate. Assuming that you have land worth \$60 an acre, you can give an idea about the time it takes to prepare an acre of land and about the amount of work required to prepare an acre of land for a crop of sugar beet, and the amount of work to be expended and the value of that amount of work expended on each acre of land during a normal season for the various purposes in connection with the crop. Then, I take it that the contract covers all that the company does. That depends upon your contract. You get your seed, and there is certain work to be done which varies from time to time. I do not know what the work has been in the last year or two, but it depends entirely upon the contract you have with the company, the amount of work the company does or pays for and the amount of work the producer of the beets pays for. Is not that the way it works out in actual practice?

WITNESS: Yes. The accredited method now of investigating the profitability of crops is what is called the substitution method. That is, you start as a basis with the costs for which you do not have to make any arbitrary assumption; you only use definite costs.

Hon. Mr. ELLIOTT: What are they?

WITNESS: You proceed as far as you can with such costs—the actual out of pocket expenses, seed and labour, and such as that.

The CHAIRMAN: Fertilizer?

WITNESS: Fertilizer. You pay no attention to the costs which must be spread between other crops—following crops—and when you have your substitutional items carefully calculated you then take some account of these other items, and each farmer has to see for himself just how far he is going to consider those other items in deciding which crop will be the most profitable to grow.

Hon. Mr. ELLIOTT: With regard to irrigated lands and lands that are not irrigated, is there a difference in the frequency with which you can grow a crop of sugar beet—for instance, every second year or third year or fourth year? I take it from you that rotation of crop is the rule on lands that are not irrigated?

WITNESS: Yes. There will be a great difference. You could not grow sugar beets continuously on dry land.

Hon. Mr. ELLIOTT: No; but could you grow them very frequently on irrigated land?

WITNESS: Yes.

Hon. Mr. ELLIOTT: I take that to be the rule?

WITNESS: Yes.

Hon. Mr. ELLIOTT: How frequently can you grow them on lands such as we have in western Ontario? Those are the best lands you can get, perhaps. How frequently from your information, can you grow a crop of sugar beets there?

WITNESS: Do you mean with or without fertilizer?

Hon. Mr. ELLIOTT: I think they all use fertilizer now.

WITNESS: I think you could grow them continuously for quite a number of years—three or four years anyway.

Hon. Mr. ELLIOTT: That is every year?

WITNESS: Every year.

Hon. Mr. ELLIOTT: Every year for three or four years?

WITNESS: Yes. This could be done with irrigation the same way. It rarely is done, because they find it better to use a rotation.

Hon. Mr. ELLIOTT: I suppose it depends upon the soil.

Mr. MULLINS: What value per acre do you put on the pulp?

WITNESS: It would be pretty hard to say that. That is another case where you could only find the value of pulp by substitution—if you found it was equivalent in feeding value to oats, say.

Mr. PICKEL: What value will you get from a ton of beets in pulp?

WITNESS: I don't know.

Mr. MULLINS: Do you feed any long feed with the pulp?

WITNESS: Yes.

Mr. MULLINS: Not very much?

WITNESS: It can only be used with other food stuffs.

Mr. YOUNG: What crops are displaced by beets?

WITNESS: Mostly intertilled crops.

Mr. YOUNG: We should have comparative figures as to what we would get out of the other crops if the beets were not there?

WITNESS: If you wanted to work on a cost of production analysis you can only do that by expert inquiry. You would have to cover several years. You would have to apply it to other countries as well as this country.

Mr. MULLINS: It is valuable for fattening purposes?

The CHAIRMAN: You have no figures in that respect?

WITNESS: Not on the cost of production.

The CHAIRMAN: That is, a comparative cost as between sugar beets and corn, and sugar beets and potatoes?

WITNESS: No.

Mr. MULLINS: Do you know if any other live stock will eat it, other than cattle?

WITNESS: Sheep.

The CHAIRMAN: Have you any other questions, gentlemen? If not, we shall thank the witness for coming, and adjourn until Thursday, March 10th.

Committee adjourned.

SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND EVIDENCE

THURSDAY, MARCH 10, 1932

No. 3

Reference,—Beet Sugar Industry

WITNESSES:

Mr. W. R. Reek. (Director of Experimental Farm), Ridgetown, Ontario;
Mr. Thomas Simpson, Farmer of Petrolia, Ontario.

(APPENDIX "B")

MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,

THURSDAY, March 10, 1932.

The meeting came to order at 11 o'clock in the forenoon, Mr. Senn, the Chairman, presiding.

Members Present: Messrs. Barber, Bertrand, Blair, Bouchard, Bowen, Carmichael, Donnelly, Elliott, Gobeil, Jones, Loucks, Lucas, McGillis, McMillan (*Huron South*), Motherwell, Myers, Perley (*Qu'Appel*), Pickel, Porteous, Senn, Shaver, Smith (*Victoria-Carleton*), Spotton, Sproule, Stewart (*Lethbridge*), Stirling, Taylor, Thompson (*Lanark*), Totzke, Vallance, Weese, Weir (*Macdonald*), Young—33.

Mr. W. R. Reek, Director of the Experimental Farm, Ridgetown, Ontario, was called and gave evidence on the subject-matter of the Order of Reference.

Mr. Thomas Simpson, Farmer and Beet Grower of Petrolia, Ontario, called and heard on behalf of the Beet Growers of Lambton.

Ordered, That the Clerk print the Contract of the Canada and Dominion Sugar Company, Limited, and the contract of the Michigan Sugar Company as Appendix B, in the Proceedings.

The Committee adjourned till Tuesday, March 15th, at 10 o'clock in the forenoon.

A. A. FRASER,
Clerk of the Committee.

MINUTES OF EVIDENCE

HOUSE OF COMMONS,

March 10, 1932.

The Select Standing Committee on Agriculture and Colonization met at 10 o'clock to consider the reference to the committee.

The CHAIRMAN: Now gentlemen, if you will come to order, I think we had better commence. I see a quorum here since it has been reduced to twelve. I might just say in passing that some who were so anxious for us to open our meeting this morning at ten o'clock are not present yet.

We have with us this morning two gentlemen, Mr. Reek, manager of the Experimental Farm, Ridgetown, in the county of Kent, the centre, I suppose, of the sugar beet industry in Ontario, and Mr. Simpson from Petrolia, where there are a great number of sugar beets grown.

I suppose it is immaterial which gentleman is heard first. Is it the pleasure of the committee that we hear Mr. Reek?

Carried.

Mr. W. R. REEK, director of Experimental Farm, Ridgetown, Ontario, called.

WITNESS: Mr. Chairman, I did not anticipate this. I thought I was just going to be here to answer a few questions. The Chairman asked me, gentlemen, if I would make a statement regarding our sugar beet industry, and I think I shall just follow what I outlined the other day, to give you an idea of what our industry in the southwestern part of Ontario is in so far as it pertains to the production of beets. I know nothing about the manufacturing—that is, in detail.

Now, our industry in that southwestern corner started, you may say, approximately thirty years ago, with four factories—at the present time we have only two, one at Chatham and one at Wallaceburg, both under the one company, the Dominion Sugar Company, now the Canada and Dominion Sugar Company.

These beets are grown in six counties. Kent last year grew 20,168 acres; Essex, 4,927 acres; Lambton, 3,297 acres; Huron, 371 acres; Middlesex, 1,231 acres; and Elgin, 297 acres. That made a total of 30,291 acres that were grown and paid for by the company last year.

Now, in looking over the production of beets for the last nine or ten years there are one or two interesting things which come out of it. Perhaps I might just give you the acreages. In 1922 there were approximately 15,000 acres grown; in 1923, 18,000—these are just round figures—in 1924, 31,000 acres; in 1925, 29,000 acres; in 1926, 24,000 acres, and 1927, 21,000 acres. Now, this is one of the difficulties that the company is up against in connection with the production of sugar beets. We had two wet harvest seasons. The farmers had a tremendous time to get the beets out of the ground and on to the highway.

Mr. PICKEL: You mentioned 1927 as being the last year of production. What about 1928, 1929 and 1930?

WITNESS: I was just coming to that. I just wanted to explain why we dropped to 21,000 acres. That was due to the wet harvest, very largely. I cannot blame the farmers at all for not wanting to grow sugar beets under those conditions, and especially when we had the competition from other cash crops in that area. Tobacco, if you will remember at that time, was a very important factor. There was quite a boom in tobacco in these years. Companies were urging the farmers to produce tobacco, hoping to ship it to the British market. Consequently, owing to the difficulties, the farmers dropped sugar beets, and I know it was with a great deal of difficulty that the company got 21,000 acres.

Now, in 1928, it went back to 29,000, and 1929, 23,000. In 1930 there were 26,000 acres cultivated, and last year 30,000, or actually 31,382 were delivered and paid for, 30,291 was the contract.

Now, in 1931, there were 330,719·3 tons of sugar beets produced and put on the market, showing that that year had an average yield of 10·538 tons per acre. That, compared with the past ten years in yield, is a little high. The average yield for the past ten years is 9·21 tons per acre. The price the farmer received last year was \$5.50 per ton at the weigh station, plus a sugar bonus of thirteen cents. On the average the farmer received \$5.63 a ton. Throughout Canada the average yield was 10½ tons per acre; so you can quite easily figure out what the return per acre was for the average of the entire district last year—\$5.63 a ton and 10·53 tons per acre.

The sugar test last year on the average was 14·759 per cent over the whole area, and for the entire 10-year period it was 15·7 per cent, so that we lost out last year on our sugar content test. We were down one point below the average. Our total sugar production from beets in 1931 was 75,500,000 pounds, and the average sugar production during the past ten years was 55,876,317 pounds, indicating that during the past ten years there has been a considerable increase in the production of sugar from sugar beets. The average production for the past ten years, as I have indicated, was 55,876,317 pounds, and the production last year, was 75,500,000 pounds.

Mr. STEWART: You are referring now to southwestern Ontario?

WITNESS: Yes, absolutely.

Mr. STEWART: Your own locality?

WITNESS: Our own area down there, yes. I am not thinking at all of the Alberta factories.

In addition to what has been used by the Dominion Sugar Beet company every year previously, there was a quantity of beets shipped to Michigan, and as near as I can discover it, it averaged from 6,000 to 8,000 acres over that area. Those 6,000 to 8,000 acres were grown for the Michigan companies, but last year there was none grown. I am not positive whether there was any grown in 1930 or not, but last year there was none grown, simply because out of the 17 factories in Michigan, only two of them were operating, and they were operating under a receivership in each case. We have no outlet there. That, of course, makes it more insistent that the Dominion Sugar Beet accept greater acreage. Those chaps who were growing for Michigan before, have no outlet to-day.

Hon. Mr. ELLIOTT: Are there any products being shipped into Michigan from that district now?

WITNESS: I do not know of any—none at all. The Michigan factories are practically all out of commission.

Mr. PICKEL: For what reason, Mr. Reek?

WITNESS: Now, I am not closely enough in touch to tell you; but I do know this—I think perhaps Mr. Simpson knows more about that than I do. The Michigan companies were paying more for sugar beets than we are able to pay. I think they paid fifty cents a ton more and paid duty, and I think

perhaps they overshot the mark. Beyond that, I really don't know. I imagine some times it was partly due to improper financing. There were 17 companies operating in Michigan, and it looked as if they had too many companies for the acreage of sugar beets they could produce.

Mr. PICKEL: There are only two now?

WITNESS: There are only two operating now, and they are both operating under a receivership.

The CHAIRMAN: Did each of the companies have one factory?

WITNESS: Some companies had several factories; but I have no detailed information as to Michigan.

Hon. Mr. ELLIOTT: The Michigan sugar companies are taking contracts in that district this year?

Mr. SIMPSON: No.

Mr. SPROULE: That is, in Michigan, but not in Canada.

WITNESS: I have the figures for this year. I know a year ago the Dominion Sugar Company was offered approximately 45,000 acres, and what they were offered this year was a similar amount, and all they are taking is 30,000 acres. That is the situation. Now, I have the contracts, and I will leave copies with you. It is a rather complicated contract. Mr. Senn has one copy.

Under this contract, of course, the farmer is guaranteed a price for his beets per ton, irrespective of price of sugar or sugar test or anything else. He is guaranteed \$5 net for his beets. If he can produce ten tons an acre and have a reasonable harvest season, he can make some money right at the present time. I should judge he can make more money out of sugar beets at a guaranteed price of \$5 per ton than anything else he can grow, under our present peculiar conditions. Our good growers who can grow probably twelve to twenty tons per acre have a real good business, even at the small price of \$5.

Mr. STEWART: Did you say the price in Ontario this year was \$5?

WITNESS: The farmer is guaranteed \$5 per ton at the farm. If he will deliver those beets to the sugar company at Chatham and Wallaceburg, he is guaranteed \$5.75 a ton; that is the guaranteed price irrespective of everything else.

Mr. STEWART: Is the contract you have this year the same contract you have had in the past five or six years?

WITNESS: Yes, practically the same, except the sugar content has been changed a trifle. They have raised it to sixteen per cent, and then the price has been changed. These are the only two changes.

Mr. SPROULE: What was the sugar content last year?

WITNESS: Fifteen per cent, I think, last year.

Mr. SPROULE: I was under the impression that it was outlined to me the percentage was one per cent lower and a rotation in price of 25 cents, 25 cents less—maybe I am wrong.

WITNESS: I am not confident of that.

Mr. SPROULE: Maybe you are wrong.

WITNESS: I think it was 16 per cent last year.

Mr. SPROULE: I thought it was 15 per cent this year, and \$5.75 at the factory,—maybe I am wrong.

WITNESS: I don't see it just for the moment. I will have to read the entire contract to get it.

Mr. SPROULE: It does not make any material difference.

WITNESS: It is either 16 or 15 per cent. Years ago it used to be 12 per cent, but as the margin got narrower, they greatly changed the sugar percentage. But the interesting feature to our growers at the present time is the guaranteed price.

I have made up the cost of the producing of beets—it is not on the 1931 basis. Including labour fertilizer and seed, a farmer can produce beets at \$47.80 per acre. I should judge that this year, 1932, he will produce beets anywhere from 10 to 20 per cent less. A man growing ten tons per acre in 1931 at that cost would still have—his beets would sell for \$56.30—and his cost after he had paid himself for labour was \$47.80. Therefore he would have a net profit of \$8.50 a ton per acre, after he had paid himself wages. If a man pays himself labour, with prices as we have had them in the past few years, and has a net profit beyond that, he is doing exceptionally well.

Mr. LOUCKS: What would be the amount allowed for labour?

WITNESS: Plowing, \$30 for ten acres; soil preparation, \$40, \$4 per acre; seed—of course you sow 15 pounds to the acre, and they charge you 15 cents a pound, which make a total of \$22.50; fertilizer, \$38. That is a ton, 200 pounds to the acre; cultivation, \$37.50; labour, that is Belgian hand labour, \$190, \$19 an acre. That is higher than it will be this year.

Mr. SMITH: You are allowing \$38 for fertilizer.

WITNESS: Yes.

Mr. PICKEL: That is all chemical fertilizer, Mr. Reek?

WITNESS: Yes. At the present time, you see, we recommend 2-12-6 or 2-16-6; that is, sowing anywhere from 125 to 300 pounds to the acre, depending upon the grower. I have figured here 200 pounds. According to our own opinion I think the proper amount on the average is nearer 400 pounds to the acre.

Mr. SMITH: Would that account for the fluctuation you mentioned. You say some raise ten tons to the acre, and others raise twenty tons to the acre. Would that be owing to the quantity of fertilizer they put in?

WITNESS: No.

Mr. SMITH: Or the condition of the soil?

WITNESS: The condition of the soil and the amount of fertilizer and the man. The man is the biggest factor in the production.

Mr. SMITH: Don't you think if they put in more fertilizer they would get a greater amount?

WITNESS: In some cases. I have seen some fields where you cannot grow more than three tons to the acre where there was no fertilizer, and where fertilizer was put in, they grew nearly ten tons, but that was an exceptional case. There are men, you know who have their farms in a very very good condition, and they do not need nearly as much fertilizer as a man who has perhaps half farmed his land. I think the human factor is an important factor, and has a very great relation to large yields.

Mr. SMITH: Is the sugar content test as large where fertilizer is going in?

WITNESS: Yes. Of course, there is this feature. Occasionally, where you get a very large beet and a large yield, your sugar content will not be as large as in a smaller yield. In around Kitchener they get a very large yield there, but they cannot grow sufficient tons per acre; even at the present low price of sugar beets it is the best proposition that the farmer has in western Ontario as a crop rotation.

The WITNESS: Oh, yes, that is right. Then the blocking at \$20 for 10 acres,—\$2 an acre; that is, lifting the beets. Then the delivery to the sugar factory \$100; that is, for 10 acres.

Mr. GERSHAW: Do you count anything for the value of the land; for instance, the interest?

The WITNESS: Not there. There is no rental land in there.

Mr. GERSHAW: A man probably has to pay interest on the cost of his land?

The WITNESS: You see, his net profit, of course, would take care of that.

Mr. GERSHAW: But it would wipe it all out?

The WITNESS: You see, the farmer is getting paid now. His plowing and soil preparation and his cultivation and the plowing out is work that is all done by the farmer himself. That is where he gets the money out of the sugar beet game. According to those figures, out of that 10 acres he would get \$127 if he didn't deliver a beet himself. That is where he gets his money out of this game.

Mr. GERSHAW: He has his capital charges there, he has the original price of the land and he should be getting some income from that?

The WITNESS: Well, that land can be valued at anywhere from \$100 per acre to-day, which makes it pretty high, and then give him 6 per cent if you would.

Mr. GERSHAW: That would wipe out his margin of profit altogether?

The WITNESS: Yes, that would wipe out his margin of profit altogether.

Mr. CARMICHAEL: There is not only the value of the land, but there is the question of his labour?

The WITNESS: If a farmer gets a good living and pays his taxes to-day without getting into debt he is doing very well under our conditions at the present time, but under normal times when the price of beets would run up to \$6.50 and \$7 a ton a man has a chance to make some real money out of it. To-day it is the best bet in farming in our part of the country, and to-day we have the greatest opportunity for diversification with the possible exception of tobacco, that is, flue tobacco. It is a better proposition than ordinary burley tobacco.

Mr. GERSHAW: Even at that, he is selling his product and even below the cost of production?

The WITNESS: If you count interest on his investment, yes. Now, the labour, perhaps I might explain that. The labour is divided into three parts. They pay the hired labour \$8 for blocking the beets; that is the first operation. Then the second, hoeing, they get \$3 an acre; and then harvesting, the lifting and the topping is \$8. So that was \$19 an acre in 1931 which the hand labour cost. In 1932 that is going to cost \$17 per acre.

Mr. WEESE: Do they send the help out from the factory?

The WITNESS: A farmer can either get his own labour or through the factory. When he gets it through the factory the factory will advance the money. They advance the seed and the fertilizer, and the labour if necessary.

Mr. THOMPSON (*Lanark*): Are these factories owned by the company?

The WITNESS: They are privately owned joint stock companies.

Mr. THOMPSON: And these factories guarantee to the farmer \$5 a ton?

The WITNESS: Yes, and \$5.75 a ton if they will deliver the beets to the factory irrespective of everything else. And I might just say that their reserves are sufficient so that the guarantee is good. The companies are very strong financially.

Mr. THOMPSON: Is there a premium over this \$5 a ton to-day on the content of sugar in the beet?

The WITNESS: Yes.

Mr. THOMPSON: Well, how does that work out?

The WITNESS: By Jove, that is a complicated process; but it is right here on the contract. They appoint an outside committee. I think I can find that here for you. The managers of the Imperial Bank, the Canadian Bank of Commerce and the Bank of Montreal at Chatham are appointed to determine the wholesale price of sugar according to the market reports, and then they work out a figure here based on that wholesale price of sugar and the farmer is paid according to that wholesale price of sugar and the sugar content. They are guaranteed the \$5 and then a sliding scale. It works out at 50 cents a ton per one-tenth of sugar content. Every time that goes up one-tenth the farmer gets 50 cents a ton more.

Mr. THOMPSON: But no matter what sugar is in his beets he receives the \$5.

The WITNESS: Why, yes.

Mr. THOMPSON: That is the minimum price?

The WITNESS: That is the minimum price irrespective of sugar content.

Mr. THOMPSON: What is the maximum price under that?

The WITNESS: It depends on the sugar content.

Mr. PORTEOUS: What is the minimum content of sugar in the beet, and what price will it bring—

The WITNESS: Well, now, here it is: Suppose you had a 20 per cent sugar content and suppose your wholesale price of sugar was \$8, you would get \$11 a ton for your beets. I don't know just what sugar is selling for now—I suppose \$5. Then if you had 16 per cent, and \$5, you would get \$6 a ton for your sugar beets. It is all worked out in the table here. It varies with your sugar content and the wholesale price of sugar.

There are three or four by-products which are of interest to the growers. For instance, there is the sugar beet pulp which is dried and which is sold for stock feed.

Mr. PICKEL: That is the property of the sugar company?

The WITNESS: Oh, yes. Now, that pulp represents about 5 per cent of the weight of the sugar beet, and that previously has been mostly sold in the United States—a little sold in Canada, not a great deal. Now, it costs \$11 a ton to dry that from the wet condition it comes from the factory to a condition that is fit to ship and sell. The sale price of that has dropped from \$20 to \$8.50 a ton. So that the company really loses money on the preparation of sugar beet pulp so that it may be sold to the market.

Mr. PORTEOUS: That is at present prices?

The WITNESS: Yes, that is at present prices. They have been making from \$8 to \$9 a ton on this pulp proposition. They cannot do it to-day. It is in competition with bran on the market.

Mr. PORTEOUS: How does it compare with the price of bran?

The WITNESS: I don't know just what you can buy bran for at the present time, but it is sold as a conditioner to cattle, and so far as ingredients are concerned it is worth about 30 per cent of what bran is, so far as feed ingredients are concerned; but it also acts partially as a conditioner on cattle something to a degree like silage.

Now, one of the other by-products is molasses. Normally in sugar you only get about 75 per cent extracted, of all the sugar out of the beet; under the normal process there is 25 per cent of the sugar goes out in the molasses, and normally they would put this molasses through the barium treatment and would recover part of that sugar, but at the present time that doesn't pay. The molasses are sold now and used partially for Fleischman's yeast and partly for alcohol—I think mostly for alcohol.

Then there is the other one, the sugar beet tops. These are partially consumed in the field, but the majority of them are usually left there as fertilizer, whereas in the older countries like Germany and France they are all consumed, most of them in pit silos; but our climate is not suitable for that.

Then there is still another by-product which I did not mention and that is lime. There are thousands of tons of lime going to waste. Most of the good sugar beet land does not require lime and that accounts for the waste.

Mr. PORTEOUS: Is that lime available?

The WITNESS: Why, yes, you can go to the factory and get it. It is not in first class condition; it is not dry, it is wet. We applied it a good bit to our farm and got very good results.

Mr. GOBEL: It must be disposed of in the vicinity of the factory.

The WITNESS: It should be but it isn't. The good sugar beet land is not acid, it really does not require lime.

Mr. PORTEOUS: Could that be processed to commercial value?

The WITNESS: I cannot say whether it is commercially possible or not, because we get lime so cheaply from the Hamilton firm. We get it for about 50 cents a ton. Due to government subsidies and the reductions given by the railways I doubt whether it would pay to process this so that it would be suitable for transportation, but anyone living within reasonable distance of the factory would get it for practically nothing, of course.

Now, I have some figures here about the sugar situation.

Mr. PORTEOUS: Just before you leave that subject of by-products, take the molasses and the beet pulp, does it all go in together in the wet stage?

The WITNESS: Oh, no. They are separated. You see, your beet pulp comes out first, then your molasses is the by-product later on in the process.

Mr. PORTEOUS: It does not come out of the beet pulp?

The WITNESS: Oh, no. That comes out of the juices. You see, you get your juices out of your pulp, and your pulp passes on and then the molasses is a by-product later on.

Mr. PORTEOUS: What does that wet pulp sell for as a rule?

The WITNESS: Well, they dry it—

Mr. PORTEOUS: I mean, in the wet state?

The WITNESS: There is practically none of it sold. There is a little, you know, but it doesn't amount to a great deal; and it is good feed, wonderfully good feed. In fact, I should judge it is better feed perhaps wet if you could secure it that way than it is dry.

Mr. PICKEL: This lime that is left is extracted from the sugar beet itself, is it, or lime used in the process of manufacture?

The WITNESS: Just in the process of manufacture.

Mr. PICKEL: There is a lot of lime used.

The WITNESS: Oh, yes. They bring in the stone lime and burn it and it is used in the process of manufacture; but it carries a certain amount of phosphates and potash in the meantime as it comes out, after it has been used, so that there is a certain fertilizer element in that lime as it comes from the factory, and as it comes immediately from the factories it is fit for use, it is reasonably dry.

As I said before, we just have two factories, and they can grind 4,300 tons of beets per day at the present time. Twelve years ago this company had three factories and all they could grind was 2,500 tons a day, so that by improving their present plants they have increased their capacity 1,800 tons of sugar beets a day in the last twelve years.

Now, one of the things that has troubled our people, and has had an effect on our sugar beet industry, is the great carry-over of sugar in the world. On January the 1st, 1932, there were eight million tons of sugar in the world, cane sugar, and it is estimated that only four million tons of that would go into consumption, that there was actually four million tons of a surplus, and they have been endeavouring to get Cuba to cut down her production. She has about two and a half million tons on hand, and Java has about two million tons. These are the two principal countries that give difficulty.

Mr. ELLIOTT: Does that mean that the production was twice the consumption at that time?

The WITNESS: Well, yes. On the 1st of January, 1932, there were eight million tons on hand, and the estimated consumption of sugar previous to the next harvest was four million tons, leaving four million tons of a surplus which they could not sell, and that is really what is bringing down the world price at the present time, or one of the factors. Now, they are endeavouring to get Cuba to cut down her production for 1932 from three and a half million tons to two million one hundred and fifty thousand tons providing Java will reduce her production, or her 1933 planting to one million four hundred thousand tons. You see, Cuba plants her sugar cane and it stays planted and they harvest for 10 or 15 or 20 years. Java plants her sugar cane annually. There is a difference in the sugar production there. These are the two countries which are giving the great trouble in the sugar cane production and they, of course, influence our beet sugar industry.

Mr. PICKEL: Is that because of the difference in the plant?

The WITNESS: Yes, the Java people have a sugar cane which is not much higher in sugar per cent than the Cuban sugar cane.

Mr. PICKEL: The Cuban is perennial?

The WITNESS: Yes, the Cuban is a perennial while the Java is an annual.

The sugar beet industry, as I say, has developed during the last twelve years and the factories have been enlarged to take care of at least 30,000 acres at the present time.

Mr. ELLIOTT: When do you say that the visible supply was, that is, the visible production?

The WITNESS: January the 1st, 1932.

Mr. ELLIOTT: And how did that affect the price?

The WITNESS: Well, you see, this surplus has been accumulating for some time, and they have been working on it for the last two or three years to my knowledge.

Mr. ELLIOTT: Of course, naturally the price would drop.

The WITNESS: Yes, you see, at the present time Cuban raw sugar can be landed in New York at 87 cents a hundred. That is 67 cents on the Cuban plantations; in other words 67 cents at the Cuban plantations and 87 cents at New York, so that is getting down to pretty cheap sugar. And, if I remember correctly, it takes about 107 pounds of raw sugar to make 100 pounds of our granulated sugar. We are meeting rather difficult competition in that case, with a good deal of cheap labour.

I think perhaps I mentioned to you before the two things which seem to limit to a degree our production of sugar to-day. We have lots of good land. We have sufficient clay, loamy land, which is the best for sugar beet production. In fact, we could double or quadruple our production of beets, but there are certain factors which limit this and one is the danger of wet harvest. That is the real bugbear. I think perhaps Mr. Simpson may corroborate me on that. And then there is the competition in Essex, Kent and Elgin counties from other cash crops.

Now, there are just two other things I would like to put before you. The further development of this industry at the present time would carry certain dangers, and we have got to bear in mind that there are about 15 sugar beet factories in Michigan which are not operating, 15 out of 17 that are not operating. Now, they have become increasingly profitable in Ontario, or rather I should say if it became increasingly profitable in Ontario to produce sugar it would not take them long to move one of those Michigan factories over into Ontario; but under present conditions, with that outside competition, unless a company is perfectly well fixed up financially we are going to have some disappointed farmers. The beauty of our sugar beet industry in Southwestern Ontario is the fact that our company that is contracting with the growers for those sugar beets can carry out their guarantee. That is one of the real strengths of the industry. Now, then, we must be careful and not have some of those American sugar beet companies or factories move over here, with the company improperly financed and a bunch of sugar beets grown so that the people will not be able to be paid for them, if the company is not financially strong enough. I think that is one of the reasons why our sugar beet industry has flourished, because the company can finance the farmers through the year. They finance them on the seed. They can pay for the labour, advance money for that, and advance the fertilizer and then take a lien on the crop. That is quite an item with the grower at the present time. That is one of the things we should guard against at the present time; that is, the improper financing of new companies.

Mr. ELLIOTT: The two factories are run by the same company are they not, practically?

The WITNESS: Yes.

Mr. LOUCKS: Could you tell us what the company is capitalized at?

The WITNESS: No, I cannot.

Mr. PORTEOUS: They must have made that reserve out of the sugar beet industry?

The WITNESS: They surely did. You take during the war years they did well, and, mark you, when they were making that reserve the growers made some money because they were paying \$8 and \$9 a ton for beets.

Now, I doubt if the companies are making any profit out of manufacturing sugar beets at the present time. If it is, it is very very little. I believe honestly that the company at the present time is endeavouring to pay the farmers every dollar they can for sugar beets.

Mr. PORTEOUS: And what are they paying him now?

The WITNESS: They are, as a matter of fact, paying \$5 a ton, and if you deliver to the factory they guarantee \$5.75. The company absolutely guarantees a certain net price.

The CHAIRMAN: Just a moment, please. It is very difficult for the reporter to get the names of the men who are asking questions. Would it be possible for you either to stand up or announce your names when you ask the question? The reporter has a very hard job.

Mr. SIMPSON: You referred a few minutes ago to the sugar beet crop, and to crop rotation. How many crops of sugar beets would you take successively off the same land, I mean continuously from year to year?

The WITNESS: Of course we do not recommend to grow sugar beets successively one year after the other. Experience in our country has shown that sugar beets will do better after corn or wheat one year removed from a clover crop. Now, normally, we expect that after clover we get our best crops in most things, but with sugar beets if we can grow a crop of clover, or corn or wheat

after clover, then our sugar beets, the results are much more satisfactory, and I think sugar beets should not be grown more than once every three or four years in rotation. That will give you the best results.

Another difficulty in increasing our production is bringing in marginal lands and marginal producers. One of the biggest problems we have in all agriculture to-day is the marginal producer, at least in Ontario, and in Ontario it is the marginal producer that causes us most of the trouble. And even this year the agriculturists of the company told me, just the other day, that they are receiving many many requests from one particular territory for sugar beet acreage from which during the past 10 years they practically never got any request at all.

This marginal sugar beet land will grow better tobacco. It will grow better beans than sugar beet, but due to the fact that the sugar beet is the best crop at the present time they want to try it on that land, and an increase in our sugar beet production down there would bring in a certain amount of marginal land, disappointed growers, perhaps. Then we would have the competition in our particular district from cash crops. Those things come back anyway within a few years, that is the growing of beans and tobacco. And wheat is a pretty good cash crop with us.

Mr. YOUNG: If the government were to give a bonus to the sugar beet industry I suppose that would have the effect of bringing marginal land under beets?

The WITNESS: If it were similar to the English bounty so that the grower would get a certain percentage of it I think it would, but on the other hand it might mean the investment of a good deal of money in factories, and I suppose a factory to-day will cost anywhere from a million up to two and a half million. That is, an up to date factory. It is a tremendous investment.

Now, there are some other advantages in the sugar beet production besides money that there isn't in it at the present time. It provides a very very good crop in rotation, and I think it is accepted by everyone that the production of sugar beets has really built up the light soils of Germany, and at the present time Germany produces a very much higher quantity per acre than we do and that is to a degree on sandy soils; but they have been in the sugar beet production for over 100 years. They are beating us on production, we are lagging behind. Of course their ease of getting labour is one factor. They plant their beets different to what we do.

Mr. YOUNG: Is that a bonused industry in Germany?

The WITNESS: I cannot tell you. I doubt it, but I don't know. Take the English industry, it was built up by bonuses, but it is practically completed now. I believe that movement is up in the old country at the present time.

Mr. STIRLING: Is their average of sugar content higher?

The WITNESS: I cannot tell you, but in England it has been running considerably higher than ours in the last three or four years. We cannot understand it except it is the longer growing season. Our sugar content is influenced very largely by the weather in September and early October.

I do not know, Mr. Chairman, if I have anything more particularly to say.

Mr. BLAIR: You have a beet factory at Chatham and one at Wallaceburg?

The WITNESS: Yes, sir.

Mr. BLAIR: And the one at Wallaceburg, I understand, operates in connection with the sugar beet industry for three months in the year and cane sugar the rest of the year?

The WITNESS: They used to.

Mr. BLAIR: Do they not now?

The WITNESS: The company have purchased a cane sugar refinery in Montreal.

Mr. BLAIR: Could you give us some knowledge of how much cane sugar is manufactured in Wallaceburg in comparison with the amount of beet sugar that is manufactured?

The WITNESS: No, I could not.

Mr. BLAIR: The cane sugar would very much exceed the beet sugar, would it not?

The WITNESS: We only produce in all of Canada from 10 to 11 per cent of the sugar required to supply the Dominion—

Mr. STEWART (Lethbridge): It is lower than 7 per cent.

Mr. BLAIR: Did the Wallaceburg company operate all last year?

The WITNESS: I cannot tell you. I don't know whether it operated in the summer time or not—I doubt if it did. I think they did all their refining at Montreal. They used to refine at Wallaceburg, but for the sugar beet work they figure 90 days.

Mr. BLAIR: Three months?

The WITNESS: Yes, but they were not three months last year. They did it in less than three months.

Mr. BLAIR: You cannot give us an idea of how much cane sugar comes in?

The WITNESS: No, I haven't that.

Mr. BERTRAND: I understand that you have about 30,000 acres under contract in Wallaceburg and the other factory in Ontario?

The WITNESS: Yes.

Mr. BERTRAND: Would the companies be prepared to take more acreage if it were offered to them?

The WITNESS: I cannot answer that question—I don't know.

Mr. BERTRAND: I should imagine that would be very important for this committee to know, if we are to subsidize the beet industry in order to stimulate production.

The WITNESS: You must bear this in mind, that if they operated those factories up until January—but after the season runs past early December there is a greater loss because of the thawing and the freezing of the beets. If the beets would freeze up and stay frozen, why, they could operate all winter. They prefer to run about 90 days rather than to run the factory an extra month.

Mr. BERTRAND: In normal times, but if the company accepts more acreage and takes the chance of producing more sugar—

The WITNESS: I am not connected with the company and I did not ask them that question.

Mr. CARMICHAEL: Is it not a fact that if the business for the farmer nets him a return of between \$8 and \$9 per acre plus wages for all his labour, if he was given a bonus on top of that would not it tend to increase the production?

The WITNESS: Under present conditions the company could take about 15,000 acres more than they are taking. They are taking 30,000 acres this year and they could take 45,000 without difficulty.

Mr. CARMICHAEL: Just to follow that up: if the acreage were increased and the company took that greater acreage would not that produce more sugar and would not that aggravate the present world situation in which you stated there were about 4,000,000 tons of a surplus. That is, there are 8,000,000 tons on hand, and the requirement is 4,000,000 tons. Would not that situation be aggravated if we paid a bonus to increase the production?

The WITNESS: The way some of our growers are looking at it is this: Here is the best paying crop we have at the present time; why cannot we produce this sugar instead of bringing it in from Cuba. That is the way our growers are looking at it.

Mr. YOUNG: If it is the best paying crop you have why do they want a bonus?

The WITNESS: When you can get wheat at \$1.25, beans at \$2.50, and tobacco at 18 cents and flue tobacco at 35 cents, our sugar beet industry down there has real competition, but just at the present time those other crops are selling for less money per acre than are the sugar beets.

Mr. VALLANCE: Mr. Reek, when those crops you mention bring the prices which you have just suggested the sugar beet is naturally in line with them.

The WITNESS: Our sugar beet is better to-day.

Mr. VALLANCE: It is better to-day, but when the price of wheat was \$1.25, and beans \$2.50, and tobacco 18 cents, and so on, then your sugar beets took the same level, naturally, or they wouldn't grow them at all.

The WITNESS: No, the sugar beet doesn't get back to quite the same level. Take wheat to-day, it is 60 cents. When it gets back to \$1.25 sugar beets wouldn't bring in \$10 a ton.

Mr. VALLANCE: Hasn't your sugar beet maintained a higher price because of the fact that the wheat has gone down? If it doesn't go down to the same extent you naturally wouldn't expect it to rise to the same extent. That is your own argument. You say the sugar beet industry is the best cash crop. Now, it has not gone down in proportion to those other cash crops that we have mentioned—beans, tobacco, wheat and so on, so if it hasn't gone down naturally when wheat goes back sugar beets cannot go back to the same extent.

The WITNESS: No, but you have got to consider this: that there is the matter of the distribution of labour. Now, your wheat crop yield is 40 bushels an acre at \$1.25 a bushel, and your bean yield around about 20 bushels, which brings in a very nice return, and it is a matter of distribution of that labour. And when I mentioned earlier, when you get one or two real wet sugar beet harvests the farmer is discouraged. So that we get that competition.

Mr. PORTEOUS: The answer to that question would be, there is more labour cost in the production of beets than there is in the production of possibly the other things which do not fluctuate as much.

The WITNESS: Everything except tobacco.

Mr. McMILLAN (*Huron South*): The whole thing is governed by the world price. When we were getting \$2.25 for our wheat sugar was not a high price. We have not paid any more than \$6 per hundred for sugar in these last three or four years.

The CHAIRMAN: Mr. Reek, you said that the companies had offers of 45,000 acres and were only willing to accept 30,000. Is it because they cannot manufacture that many, is that the idea?

The WITNESS: Well, now, I cannot just answer that question, Mr. Chairman. The idea that I gathered from the president was that there is no money in the game for them.

Mr. BLAIR: Mr. Reek, if there was some obstruction put on the sugar coming in from Cuba would that help to develop our beet sugar?

The WITNESS: Oh, yes, naturally.

Mr. BLAIR: Would you approve of them obstructing raw sugar coming in from Cuba so as to develop our beet sugar?

The WITNESS: I am not prepared to answer that question without going into it more fully. I only got the word on Monday to come here and I left on Tuesday morning.

Mr. VALLANCE: Mr. Reek, I don't know anything about the sugar beet business, but you say you only operate 90 days. Is there not a condition that the beet can be put into, for instance, so that it can be stored?

The WITNESS: Not that I know of.

Mr. VALLANCE: There is no process whereby it can be brought in and then stored successfully?

The WITNESS: Not that I know of. The factory opens up the moment they start to harvest their beets and they are piled up at way-stations and so forth until used up.

Mr. ELLIOTT: What is the proportion of the total production of Canada's production altogether, as compared with the total production,—take in reference to that 8,000,000 tons that you are speaking of, are you in a position to say what proportion of the production of sugar, what percentage of the total production is Canada's production?

The WITNESS: Well, the last figures I had were 10 per cent and 11 per cent. You see, we use about 98 pounds of sugar per head in Canada.

Mr. ELLIOTT: Do I understand that there have been some negotiation among the sugar producing countries as to the amount of production?

The WITNESS: Absolutely, yes.

Mr. ELLIOTT: Do you suppose that has anything to do with the fact that this company declines to handle more than 30,000 acres?

The WITNESS: I don't hardly think so. I honestly believe that the Dominion Sugar Company at the present time is paying every dollar they can get out of the sugar beets. That is my honest belief. I think that is one reason, the principal reason.

Mr. LOUCKS: As far as bonus is concerned, there can be only one thing, and that would be—

The WITNESS: Purely to protect the Canadian manufacturer.

The CHAIRMAN: Mr. Reek, you said that the Dominion Sugar Company had bought a cane sugar plant in Montreal?

The WITNESS: Yes.

The CHAIRMAN: Can you give us any figures as to whether it is more profitable to refine cane sugar or beet sugar?

The WITNESS: No, I cannot, Mr. Chairman. I am not in touch with that end of the work at all.

The CHAIRMAN: Any further questions, gentlemen? If not, I think the thanks of the committee is due to Mr. Reek for his presentation of the farmer's case so far as the sugar beet industry is concerned.

We have another witness with us to-day—Mr. Simpson of Petrolia. Is it the pleasure of the committee to hear Mr. Simpson?

Witness retired.

THOMAS SIMPSON, called.

The CHAIRMAN: Mr. Simpson, you might inform the committee of your occupation. Are you a sugar beet grower?

The WITNESS: Mr. Chairman and gentlemen, I have been a farmer all my life and for the last 30 years, since we had the sugar beet factory in western Ontario, I have been growing sugar beets, and so far as the growing of sugar beets is concerned I should know a little something about it and the cost of growing.

Now, the information I have will, no doubt, cover a good deal of the ground that Mr. Reek has covered, and I am afraid a lot of this will be repetition. I have here, however, something that will probably be of interest to you. That is, how we consider the preparation of the land, the cost of

production and yield, and I have also a lot of information here with regard to the test of sugar beets. I have the test right from the factory so there is no disputing it.

To begin with, to give you an idea of what we consider the proper land to grow sugar beets on, there is a clay sub-soil land that was timbered with elm and black ash before it was cleared out for farming purposes, and we think the same as Mr. Reek does, that to grow beets successfully you need to grow them after fall wheat or red clover or corn. We have had remarkable success after growing on timothy soil. We think that the preparation of the land has a great deal to do with the success of the crop of the following year. For instance, when we make up our mind to put a field, or a number of fields, into sugar beets for the next season, we try, if possible, to give the land a real cultivation after the hay is cut or after the grain is cut, or something like that in order to destroy any weeds that may possibly grow up.

The CHAIRMAN: That is fall cultivation?

The WITNESS: That is fall cultivation. After we have gang ploughed it or disced it, or something like that, we plough very deep in the fall, late in the fall. And I don't know, in Lambton county that we possibly use as much fertilizer as they do in the county of Kent. We have a little different quality of land, a little heavier quality of land. It seems to be very well adapted for the growing of sugar beets, especially sugar beets with a high sugar content.

When we start in the spring we generally try to have our beets sown along the latter part of April, if the weather is favourable, to the 1st of May up to the 10th of May. That is when we are sowing a big acreage we sow possibly half of our crop at that time and then we finish sowing probably two weeks later. That is to give the labour a chance to keep ahead of the growth. The amount of work we put on this land is just something like the cost that would ordinarily take place in the putting in of oats, wheat, barley or anything like that, and I figure in the preparation of the land, once over with a harrow, at a cost of 50 cents an acre. I think that is a pretty fair price; and the ploughing at a certain price, and the labour, and the cost of seed. Mr. Reek has told you that so there is no need for me to go into that. The cost of seed is 15 cents a pound, and we are sowing about 15 pounds to the acre. Here is a list of what I consider a fair price to allow a farmer, or allow anybody else for getting the ground ready for a sugar beet crop:

Ploughing the ground and preparing with the disc, and other work—that is, the season before you plant a beet, I figure that at \$4.50 per acre, and harrowing and sowing at about \$1.50 per acre. The seed will cost you \$2.25, as Mr. Reek told you, and the blocking and thinning \$8 per acre; the flat hoeing that follows the blocking and thinning, probably three weeks after they are blocked, and then when you have cultivated your beets a few times there will be a few weeds spring up and this flat hoeing, as we call it, is to get rid of all those weeds. Then we cultivate the sugar beets probably once a week or possibly a little oftener. It depends on the condition of the weather. If the weather is very dry we cultivate to create a moisture. Our land is different in that way from where Mr. Reek is. Our land will crack very deep. You will see tremendous cracks in the ground and if you do not keep the ground cultivated it cracks considerably worse and dries out your crop. Then that represents a total of, say, about \$27 per acre. It leaves you \$19 per acre in labour. Now, with regard to labour, we have Belgian labour and we have other foreign labour in there, Roumanians—every class of people, I think, in the world almost. But I can say this that our own Canadian boys can do just as good work and just as much work in this topping and thinning as any foreign labour you can get. They do not put in as long a day, but while they are working they are working just as satisfactorily and do just as much work per hour, and they

make splendid wages. Now I think possibly I am right in saying that an ordinary good beet worker will block and thin, oh, from one-half to three-quarters of an acre. Is not that right, Mr. Reek?

Mr. REEK: Yes.

The WITNESS: Per day. But we do think that the earlier we get at the beets to thin them after they come up and form, say, three or four leaves is best. We should not let the growth get too big before we get them blocked. While they are in that condition, we have an opportunity, if we are a little careful, to select the big strong plant, and it is the big strong plant that is the big strong beet every time. I will just say, like Mr. Reek, that we consider the sugar beet crop as a cash crop and also a crop that helps the farmer to fight weeds of every description. We have them up there to a certain extent, but not so bad where we are growing beets as in the other sections. The sow thistle is creeping in and other filthy weeds are getting into the land, and we have got to fight them with just such crops as corn, sugar beets, turnip and anything like that, and fight them every day during the season. Now, with regard to lifting the beets. If the season has been dry and the beet comes to maturity early, the company will allow us to start lifting the beets about the latter week in September, but we are all instructed to get to work and lift our beets in the first week of October if possible. To be sure, the longer growing season will give you a bigger acreage, but the longer you delay getting your beets out the chances are that you will run into wet weather later in the fall and wet weather decreases the amount of the sugar content in your beet. I would like to say that we have drills that sow four rows of sugar beets at a time. Those drills are spaced with each drill sowing the same distance apart—about twenty-two to twenty-four inches apart in a row. We have also a cultivator that will cover exactly the same ground that the drill goes over. It cultivates the four rows. It is controlled by the driver when he is driving along. He has his feet on two little stirrups and he can control with the wheels, and he can follow the rows right to an inch. It will cultivate rows within about two inches with the sugar beet row in the centre of the two inches.

Mr. PORTEOUS: Do you sow them on the level?

The WITNESS: Oh, yes, right on the level. As I said, we start harvesting about the last of September or the first week in October. We have lifters that are made purposely for lifting the sugar beets out of the road. A team and a man with a sugar beet lifter can lift about two acres or two and a half acres per day. That lifts the beet and they stick right on the top of the ground. They do not grow out like mangles or anything like that.

The CHAIRMAN: The part of the beet that is out of the ground is not suitable for sugar?

The WITNESS: No. It is not.

Mr. VALLANCE: Do you take the tops off them before you dig them?

The WITNESS: No. We will get eight rows lifted. Our labourers will start and they will make a division in the centre of the eight rows and they will put two rows here piled together with the tops all one way and they will follow right across the field that way and come back and follow across again, and you have four rows of beets laid out to top with two rows in each row of beets, you understand? Now, you top them and throw them into the centre of those two rows right along. The men are experts at it. Anybody can be a good beet worker if they have the will to stick to it. They say all you need to be a good beet worker is to have a strong back and a weak mind.

The CHAIRMAN: You made some reference to the cost of production, but you have not outlined what it has cost for this ploughing and lifting the beets and also for the delivery. I would like to have that so we can have a comparison of your cost of production with that of Mr. Reek.

The WITNESS: The cost of delivering has a great deal to do with the location of your farm, either to the railway siding or how far you are from the sugar beet factory.

Mr. McMILLAN: How near are you to the railway siding?

The WITNESS: Our farm is possibly three-quarters of a mile from the railway siding.

Mr. McMILLAN: And have you any information as to how far the farthest one growing beets is from the railway?

The WITNESS: Well, near operation is better for beets. I know farmers that were driving their team eight or ten miles to the siding. The beets were drawn to the siding. Of course, those can be loaded in the car and put in the car, but generally the beets are pitted right on the siding, and the sugar beet company, after they have got through with the farmers delivering beets, hire teams to load them in the cars again. That costs in the neighbourhood of about twenty-five to forty cents a ton to deliver them out of the pits into the cars.

Hon. Mr. ELLIOTT: The company usually pay the freight?

The WITNESS: They pay the freight. Our price is five or six at the siding plus what we get for the sugar content.

Mr. YOUNG: You said that our Canadian boys could do just as good work in the beet field as the European worker, but they were not willing to do so; they would not work the same hours. Will you explain that?

The WITNESS: I beg your pardon. I am sorry if I made you believe that. Our boys have chores to do in the morning and they have chores to do at noon and in the evening. The Belgian labourer gets out of bed and eats a bite and he can go right on the job.

Mr. VALLANCE: Of course, the Canadian boy would do the same if he was supplanting these fellows?

The WITNESS: Oh, yes.

Hon. Mr. MOTHERWELL: And do the Belgian boys live with the farmer?

The WITNESS: No. In fact, the sugar company furnish little camps, and we will draw them right back into our field. It is probably built on a little truck, and they live right there. We try to have the conditions just as good as we can so that they are right on the work. They do not need to travel far at the time they quit. Sometimes the Belgians will start just at daylight in the morning and they work until dark at night.

Mr. YOUNG: What wages do they make in a day?

The WITNESS: Oh, it depends upon how good a workman he is, how fast he is—about five, six or seven dollars.

Mr. YOUNG: And will have continuous work through the growing season?

The WITNESS: Well, now, no; not at the sugar beets. Take after the flat hoeing he has very little to do with the beets until they are lifted in the fall again, but he gets work with the farmers during the harvest, putting in the hay, thrashing, drawing manure, filling the silo, and a great many get work at the tobacco factories.

Mr. YOUNG: When he is busiest working with the beets, either in the spring seeding or the cultivating later on or harvesting in the fall, is that the busy season in other branches of agriculture?

The WITNESS: Not more so than usual.

Mr. YOUNG: How many days in a year would a man have work for those wages in the beet field?

The WITNESS: A good beet worker will take care of twenty-five or thirty acres.

Mr. YOUNG: How many day's work will that give him?

The WITNESS: Well, if he puts in a long day he will possibly get three-quarters of an acre done that day or maybe a little more.

Mr. YOUNG: He will probably get forty days work in the season?

The WITNESS: Yes.

Mr. YOUNG: And can all the other days be occupied with other farm work, or is he idle?

The WITNESS: He can have his time occupied working for the farmers or ditching for the municipality, anything like that. They are splendid workers.

Mr. YOUNG: What does he do when the season is over?

The WITNESS: Well, they generally figure on doing very little during the winter.

Mr. YOUNG: They do not work in the factories?

The WITNESS: Sometimes they do get a job stripping tobacco from the growers of tobacco.

Mr. YOUNG: Do they work in the sugar factories?

The WITNESS: Some do.

Mr. YOUNG: Have you any knowledge what wages those people get in Europe?

The WITNESS: No, of course I have heard some say that the wages were very very low.

Mr. YOUNG: For the same kind of work?

The WITNESS: Yes. For the same kind of work.

Hon. Mr. ELLIOTT: Do you pay them by the acre usually for whatever they are doing, or do you pay them by the hour or by the day?

The WITNESS: We generally pay them by the acre, and we find it a good plan when we are employing foreign labour to say to them, "here, now, if you take care and handle these beets carefully, hoe them good and top them well and everything like that, and if we get, say, ten or eleven tons of a crop, we will pay the usual price for blocking, thinning and hoeing, and any additional tonnage we get for our acreage we will divide with you and give you something extra." Now, that is a very great encouragement to those men to do that with them, and we get better work—a good deal better work.

Hon. Mr. ELLIOTT: Do the women work that way too?

The WITNESS: Yes.

Hon. Mr. ELLIOTT: The foreign women?

The WITNESS: The foreign women.

Hon. Mr. ELLIOTT: The boys too?

The WITNESS: Of course, the boys have to learn sometimes, but they do not do as good work, and we have to watch them pretty closely or you will see possibly two or three beets left in a bunch, and they are just simply spoiled.

Mr. CARMICHAEL: There is a point, Mr. Chairman, you mentioned that has not been cleared up. Mr. Simpson gave us the cost of all the farm operations at so much per acre for plowing, harrowing and so on of \$27 per acre, but that did not include lifting the beets and transporting them to the factory. Now, can you put them all together and give us the total cost to the farmer of producing an acre of beets?

The WITNESS: Well, the lifting of the beets, as I say—a man with a team or a boy with a team can lift about two to two and a half acres. Allowing, say, five or six dollars a day, you can easily see what the cost would be—about \$2.50 or \$3 an acre.

Mr. PORTEOUS: That does not include the topping?

The WITNESS: No.

Mr. VALLANCE: Did I understand you to say that the companies finance you during the growing season?

The WITNESS: If we employ foreign labour the company pays the labourer for the blocking, hoeing and thinning and keeps it out of the price of the beets.

Mr. SPROULE: If you do that blocking yourself, can you contract that way?

The WITNESS: If my own boys did it they could be paid for that work just the same as the foreigner, but when we do it ourselves we lift the whole thing because, all the money advanced to us they charge a certain rate of interest on.

Mr. CARMICHAEL: Now, the other witness was very definite in stating that the total cost to the farmer was \$47 per acre and the total return about \$56. He made a net profit of \$8 or \$9 per acre. Can you follow along that same line and give us the total cost to the farmer and give us the total return so we will know what position he is in?

The WITNESS: I guess Mr. Reek included in his return so much per acre for fertilizer. Now, I have not included that. We feed a great many cattle in our country, and I think a good deal of fertilizer, but there is no fertilizer that will compare with the barnyard manure.

Mr. VALLANCE: And don't you charge that up to the feed crop and credit it to the cattle?

The WITNESS: Well, possibly I should do it, but we do not do it.

Mr. McMILLAN: Have you made a practice of sowing fertilizer along with your manure?

The WITNESS: In thirty years I have sown fertilizer twice with the beets.

Mr. McMILLAN: What was the result?

The WITNESS: I could not say that I was benefited five cents. That is my candid opinion.

Hon. Mr. ELLIOTT: I think the committee would be interested in getting your estimate, as nearly as you can give it in a lump sum, of the cost per acre of producing sugar beets?

The WITNESS: As I said, plowing the ground in the season before \$4.50 per acre. That was the plowing and the after-harvest cultivation. Harrowing in the spring we figured about \$1 an acre to go over the field twice. It costs in the neighbourhood of fifty cents an acre to sow the beets. We can sow ten or twelve acres in a day. The seed costs \$2.25. Blocking and thinning costs \$8. The hoeing costs \$3. The topping and piling costs \$8. There is a cost of \$19 an acre that we have got to pay either the Belgian or the Hollander or whoever is doing the work. That is the actual outlay—the actual money you pay for your crop. This other work is like any other ordinary work on a farm. We do not generally charge that up, but we have to charge up the seeding, the sowing, the harrowing and the plowing, but we have not charged up land and a certain amount of values for this land. If we were only to charge what we are getting out of it, or something like that now, we would not need to put a very big price on that.

Mr. McMILLAN: In that way what is your total?

The WITNESS: About \$27 an acre.

Hon. Mr. ELLIOTT: That is without any allowance for fertilizer?

The WITNESS: Yes; without any allowance for fertilizer.

Hon. Mr. ELLIOTT: And no allowance for land?

The WITNESS: No; no allowance for land.

Mr. CARMICHAEL: Give us the returns per acre.

The WITNESS: Our land has returned us an average of around ten or eleven tons and we have had as high as twenty-two.

Mr. CARMICHAEL: That is an average of about ten or eleven, and a price minimum of five dollars with a possibility of it being more?

The WITNESS: Yes.

Mr. CARMICHAEL: So your return runs from \$50 to \$55 an acre?

The WITNESS: Yes, on a ten-ton crop.

Mr. CARMICHAEL: How would you like to trade for a wheat farm in the west?

Mr. VALLANCE: You are not in the market.

The WITNESS: I don't know much about the west. Here are the beets that have been tested. You will see the tests, the tare, and everything.

Mr. SPROULE: Could you give us some of the tests?

The WITNESS: Yes.

Mr. BOUCHARD: You differ according to the season?

The WITNESS: Oh, yes. Now, here is one showing 18 per cent sugar content and here is another showing 16.4 per cent.

Mr. McMILLAN: Could you prepare that and give it to the committee for publication?

The WITNESS: I will give you the whole bunch of them. We have tested here up as high as 22 per cent. Now, I could not say that that is the general rule, but we have them as high as 22 per cent and down as low at 16 per cent.

Hon. Mr. ELLIOTT: What would you say is your average for a ten year period?

The WITNESS: Well, now, Mr. Elliott, that is a little hard to say, because in a wet year it is lower.

Mr. PICKEL: How is this test made—out of your total crop?

The WITNESS: Every load of beets I take to the siding or take to the factory, there is a certain number taken off your load, one here and one there.

Mr. PICKEL: Every load?

The WITNESS: Every load. That is put in a basket or a sack and taken to the factory, and they take and select three—after you have taken the tare and the dirt off they take three ordinary beets and they split—possibly Mr. Reek could describe the process better than I could. They scrape the pulp out of the very centre of each of these three beets and it is put into a little container and analysed.

The WITNESS: That gives you the sugar content, and here is the way they put the test.

Mr. VALLANCE: Well, Mr. Simpson, is the grower, considering the figures that you gave, showing the profits that are possible in the sugar beet industry, thinking of coming before a committee like this, or do you think you can come before a committee like this and ask for a subsidy?

The WITNESS: I would like to.

Mr. VALLANCE: Do you think it would be in your own interest? Do you think competition would be keener?

The WITNESS: I don't know. There is this about it. We take about the amount of beets that could be produced. It would certainly mean that more factories would have to be built. There is a certain limit to what may be manufactured in any factory to make it profitable. For instance, you cannot draw this material too far away from the factory, and you have got to be near the siding to get the full benefit of that. What we would need would be more factories scattered over the country.

Mr. VALLANCE: Mr. Simpson, you stated also that you fed a lot of cattle.

The WITNESS: Yes.

Mr. VALLANCE: Did you ever use the beet pulp?

The WITNESS: I did, several times. The Sugar Beet company offered to load the pulp into cars and ship it back to our siding if I would pay the freight myself.

The CHAIRMAN: Wet or dry?

The WITNESS: Wet pulp. When freights were down on our railroads I did that for a considerable time; and we found it very valuable for feed, especially for feeding milch cows.

Mr. VALLANCE: Especially to milch cows?

The WITNESS: Yes.

Mr. VALLANCE: Succulent.

The WITNESS: Yes.

Mr. PICKEL: How would you keep this pulp?

The WITNESS: There is the big trouble. You cannot keep it very long. In cold weather like this, you can keep it very very well, but take a few warm days and fermentation sets in.

Mr. YOUNG: Did I understand you to say, Mr. Simpson, you could have this stuff if you paid the freight, and as long as the freight rates were low, it paid you to take it? But with freight rates at the present level you cannot afford to buy it?

The WITNESS: Yes. I cannot afford to pay the rates that are charged to-day.

Mr. YOUNG: What is your distance from the factory?

The WITNESS: Well, by rail, I really think it would be about thirty or forty miles.

Mr. McMILLAN: It would be the same distance all around that district?

The WITNESS: I think so. The Dominion Sugar Beet company have been paying a rate of \$1.50 a ton from our siding to take the beets over to the factory; so, of course, we were expected to pay the same freight back.

Mr. YOUNG: Would you please tell us what you think of the sugar beets as a rotation crop?

The WITNESS: Well, we think it is a splendid crop in the line of rotation. We find that in growing spring wheat or barley or oats, that ground grown with sugar beet is almost as good as summer fallow; and we will get from ten to fifteen, yes, and twenty bushels to the acre more on that ground than any other field.

Mr. YOUNG: How often do you put land under beets in a wide rotation?

The WITNESS: Well, our system of farming is this: we plow the ground, either stubble or something like that; we prepare it for the sugar beets for next year, and after that we so either barley or oats or spring wheat, as I told you, and if we sow barley we plow it up in the fall, and put it in in the fall, and we would probably seed it down with alfalfa, and timothy, and on about a five or six year rotation—

Mr. YOUNG: About five or six years.

Mr. VALLANCE: Do you summer fallow in rotation?

The WITNESS: Yes.

Mr. YOUNG: If the growing of beets became very profitable, would it happen to disturb the rotation so that they would put in beets every three years?

The WITNESS: Oh, I don't know. You see, I will tell you—you take the county of Lambton, I am speaking of that particular county, because I know it very well. We have something over 600 and some odd thousand acres of land that is suitable; provided it was all tile drained, it is suitable for the production of sugar beets. We could grow an average of 100,000 acres a year and still retain the rotation, and that amount of land would supply quite a lot of beets.

Mr. YOUNG: None of that land would be called marginal land?

The WITNESS: No.

Mr. YOUNG: It is all first class land for beet growing?

The WITNESS: Yes.

Hon. Mr. ELLIOTT: The ordinary size of a farm there is from one hundred to two hundred acres, I suppose?

The WITNESS: I beg your pardon?

Hon. Mr. ELLIOTT: What is the size of farms there?

The WITNESS: Well, they vary. The ordinary farm is 100 acre farm.

Hon. Mr. ELLIOTT: On a 100 acre farm, how much is your average beet acreage?

The WITNESS: Do you mean the amount growing beets?

Hon. Mr. ELLIOTT: Yes.

The WITNESS: Oh, we could grow all we wanted, but we would grow probably ten or fifteen acres.

Hon. Mr. ELLIOTT: Per year?

The WITNESS: Per year.

Mr. STEWART: You cannot grow all you want to grow?

The WITNESS: No.

Mr. VALLANCE: The company controls that.

The WITNESS: The company controls that. The company says to us, "if you grew beets last year for us, you may grow a certain amount this year." They won't let us grow all we want to grow, just what they tell us to grow.

Mr. VALLANCE: Do they interfere in the rotation as to how you shall proceed to grow them?

The WITNESS: No. The company gives us every assistance they can.

Mr. STEWART: On the reduced acreage?

The WITNESS: On the reduced acreage, on account of the factory's inability to take care of the greater acreage.

Mr. BOUCHARD: Are you growing your own seed?

The WITNESS: No; the seed is brought from Germany, I guess.

Hon. Mr. ELLIOTT: Supplied by the company to you?

The WITNESS: The company supplies the seed to us.

Mr. PICKEL: Mr. Simpson, this would not be a question so much of bonus, as a privilege of producing a bigger acreage.

The WITNESS: Well, if we had the prices as they are to-day, \$5, as a fiat rate on beets, and a promise of an increase according to the sugar beet content, we would be very very willing to increase our acreage, and we could grow—

Mr. PICKEL: That would be satisfactory to you?

The WITNESS: Yes. It would also have a tendency of supplying a very great deal of labour to help out at a time like this.

Mr. LOUCKS: You would say at the present time, under circumstances as they are, your salvation is the limitation of acreage that the company provides?

The WITNESS: Well, it is not so much what we have to say, in it as the company cannot really take care of any more acreage. They cannot really take care of any more acreage.

Hon. Mr. ELLIOTT: With regard to ascertaining the prices, I see it is done by taking the average net selling price per 100 pounds obtained by the company from the sales of its granulated beet sugars in sacks sold and delivered, according to the company's records, during the period from the time when beet sugar from the 1932 crop is available for sale, until the entire product of the said crop shall have been sold—that is from your agreement, I see. Some years ago you used to have an average extending over a number of years.

The WITNESS: Yes.

Hon. Mr. ELLIOTT: That kept the prices steady.

The WITNESS: Yes.

Hon. Mr. ELLIOTT: Now, I see it is fixed by the average net selling price for one year?

The WITNESS: Yes.

Hon. Mr. ELLIOTT: So that your price is still subject to fluctuation, just as it was before?

The WITNESS: Yes, it is. They cannot make a contract for more than one year at a time owing to not knowing what may happen in the price of sugar.

Mr. SPOULE: Have you any figures there to show how much the acreages have fallen off, Mr. Simpson.

The WITNESS: In Lambton county we grew a great many beets for the Crosswell company, over in Michigan, and the Powasson company, over in Michigan, and the Bay City company used to come in there, and the Marie city. There were four or five different Michigan factories who were all getting the acreage in Lambton and Essex, and I guess some in Kent.

AREA, YIELD, AND VALUE OF SUGAR BEET CROP IN CANADA, 1929, 1930, 1931

Year	Area	Yield	Average Price	Total Value
	acres	tons	\$	\$
1929.....	43,464	8.37	6 85	2,492,000
1930.....	52,500	8.97	6 87	3,238,000
1931.....	50,647	9.06	6 12	2,807,000

AREA, YIELD AND VALUE OF SUGAR BEET CROP IN ONTARIO, 1929, 1930, 1931

Year	Area	Yield	Average Price	Total Value
	acres	tons	\$	\$
1929.....	36,864	8.25	6 66	2,025,000
1930.....	38,000	8.90	7 00	2,380,000
1931.....	38,047	9.30	6 00	2,124,000

Of this area of sugar beets grown in Ontario annually, practically two-thirds of the acreage is grown in Kent County. The balance being grown in the Counties of Essex and Lambton. A very small percentage of the total is grown in Middlesex and Elgin counties.

1921—6,273 acres of sugar beets grown in Lambton County.			
1928—5,913	“	“	“
1930—3,909	“	“	“
1931—not over 2,000 acres	“	“	“

The falling off in acreage is due to the withdrawal of the Michigan Sugar Beet Company from Ontario as a source of raw product, also to the fact that the Ontario Sugar Beet refineries were able to secure the supply or acreage within wagon-haul of their own factories. It is not necessary to go so far afield for beet acreage.

Lambton County farmers are trained in the growing of Sugar Beets and find their production a profitable branch of the agricultural industry.

Lambton County has an area of 650,000 acres, less than one-half of one per cent is suitable land for growing sugar beets. Lambton County could support two sugar beet refineries requiring a capacity of 30,000 acres each, without any interference with the general farming practised. This would only call for 10 acres of each 100-acre farm.

The CHAIRMAN: Mr. Reek covered that very fully in his statement; he gave the acreage per year for the last ten years.

Gentlemen, if you are satisfied, is it the wish of the committee that the thanks of the committee shall be tendered to Mr. Simpson and Mr. Reek for their splendid talk this morning?

Carried.

The CHAIRMAN: We have a contract here of the Canada and Dominion Sugar company, limited. Would you like that included in the evidence?

Carried.

Hon. Mr. ELLIOTT: I would also suggest a copy of the contract that was used in the plan which Mr. Sproule spoke of be included in the record.

Mr. SPROULE: Here is the Michigan contract.

The CHAIRMAN: Hand it to the clerk, and it will be included in the minutes of the meeting.

Now, with regard to the next meeting on Tuesday, the committee the other day gave authority to call two gentlemen from the west, one a representative of the British Columbia Sugar Refining company, and the other a representative of the Beet Growers' Association of Alberta. Telegrams have been forwarded to those gentlemen, asking them to come and appear before us. I don't know what the names of the gentlemen are who will be sent by the Beet Growers' Association. Is it the pleasure of the committee to meet on Tuesday to hear these gentlemen?

Carried.

Hon. Mr. ELLIOTT: Ten o'clock?

The CHAIRMAN: Ten or eleven o'clock?

Mr. CARMICHAEL: I would say eleven o'clock, Mr. Chairman. It is not twelve o'clock yet, and we are finished with two witnesses this morning.

Mr. STEWART: If I might mention this, Mr. Chairman. I believe that the Beet Growers' are going to pay for an extra man to come down. He is being sent on their own expense from Southern Alberta. There will be two men from there. We are to have a representative from the Cane Sugar Refinery of Vancouver, a company that operates two plants, and it seems to me that it is impossible to get through with these three gentlemen in one morning unless we start at ten o'clock.

Mr. YOUNG: I will get up a little earlier.

The CHAIRMAN: I think, gentlemen, that a sub-committee should take under consideration the necessity of having a representative of the Dominion Sugar company here as well. Is it the pleasure of the committee to do that?

Carried.

We could have him here at a later date. Is that satisfactory? If so, I think we can consider the meeting adjourned for the day.

Committee adjourned until Tuesday 15th.

APPENDIX "B"

CANADA AND DOMINION SUGAR COMPANY, LIMITED

SUGAR BEET CONTRACT

Concerning Raising and Delivery of Sugar Beets for Campaign of 1932

1. The undersigned hereby agrees, during the year commencing with the Spring of 1932 to plant, cultivate and harvest and deliver to Canada and Dominion Sugar Company, Limited (hereinafter called the Company)..... acres of Sugar Beets on the following described lands, to wit: in Lot..... Con.....Township of.....in the County of.....Province of Ontario.

2. At least 15 pounds of seed per acre shall be planted, which seed shall be furnished by the Company at 15 cents per pound, and the cost of same is to be deducted from the first payment made for beets delivered. The title to said seed and to said crop of beets from the time when the same begins to grow, shall be and remain in the Company.

3. The beets are to be given due care and cultivated in a proper and husbandlike manner, and the grower will follow any instructions which may be given by the Company in regard to preparing the soil, seeding, caring for, harvesting and delivering the crop.

4. In case the grower does not give the said beets due care or does not follow the instructions from the Company regarding the caring for or harvesting the crop, then the Company shall have the right, by its officers, servants and agents, to enter upon the lands above set forth and to care for, cultivate, harvest and retain the crop and charge the expense thereof to the grower.

5. All beets delivered under this contract shall be as free from dirt as possible, and without weeds and leaves, and shall be properly topped by the grower by passing the knife under the lower leaf mark at right angles to the longitudinal axis of the beet.

6. Said beets shall be harvested and loaded by the grower for the Company on cars or trucks if provided, and if not then in piles, at one of the Company's stations, or delivered at the factory sheds, at such time and in such quantities as may be directed by the Company. The Company shall not be bound to receive or pay for beets which, in the judgment of the Company's inspector, contain rot, or are otherwise unfit or undesirable for making sugar.

7. It is understood and agreed that all beets delivered from wagons or trucks shall be unloaded as directed by the Company, and if forked into piles, all beets scattered on the ground by the grower shall be picked up by him and thrown on the pile before wagon or truck is moved. Frozen beets delivered at weigh stations must not be unloaded into piles but must without exception be loaded directly into cars.

8. Beets grown hereunder and delivered at the place named in paragraph 12 on cars or trucks if provided by the Company, and if cars or trucks are not provided then in piles, or at the option of the grower at one or more of the

Company's factory sheds, in good condition in accordance with the terms of this contract, will be paid for, subject to tare for all dirt and improper topping, as follows:—

(A) The price per ton for beets delivered by the grower to the Company shall be based upon the average sugar content of said beets as shown by tests made by the Company in accordance with Section C of this paragraph, and also upon the average net proceeds of the Company's beet sugars from the crop of 1932 to be ascertained by: (1) taking the average net selling price per one hundred pounds obtained by the Company from the sales of its granulated beet sugars in sacks sold and delivered, according to the Company's records, during the period from the time when beet sugar from the 1932 crop is available for sale until the entire product of the said crop shall have been sold, or until February 28, 1933, whichever shall first occur, and, (2) deducting therefrom (a) the actual cost of cartage, storage, selling and overhead expense in respect of the said sales, and, (b) an average amount per one hundred pounds of freight based upon the regular railway freight tariff, from factory to purchaser in case of each of such sales, and, (c) the average amount per one hundred pounds which shall be or become payable by the Company upon the sale of any and all beet sugar manufactured from the crop of 1932 for all Government taxes in respect of the manufacture and sale thereof, and the said price shall be calculated in accordance with the following schedule:—

	AVERAGE NET SELLING PRICE OBTAINED FOR SUGAR								
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
	4 00	4 50	5 00	5 50	6 00	6 50	7 00	7 50	8 00
Sugar in Beet	PRICE PER TON OF BEETS								
14%.....	5 00	5 00	5 00	5 50	6 00	6 50	7 00	7 50	8 00
15%.....	5 00	5 00	5 50	6 00	6 50	7 00	7 50	8 00	8 50
16%.....	5 00	5 50	6 00	6 50	7 00	7 50	8 00	8 50	9 00
17%.....	5 50	6 00	6 50	7 00	7 50	8 00	8 50	9 00	9 50
18%.....	6 00	6 50	7 00	7 50	8 00	8 50	9 00	9 50	10 00
19%.....	6 50	7 00	7 50	8 00	8 50	9 00	9 50	10 00	10 50
20%.....	7 00	7 50	8 00	8 50	9 00	9 50	10 00	10 50	11 00

The said price shall be increased by \$1 per ton of beets for each \$1 per 100 pounds of said proceeds of the Company's beet sugar in excess of \$8 per one hundred pounds, and shall be increased or decreased by fifty cents per ton for each 1 per cent of sugar content in the said beets in excess of 20 per cent or under 14 per cent, respectively.

Fractions of \$1 of the said proceeds of sugar and fractions of the percentage of sugar content shall be calculated and paid for proportionately in the same manner.

(B) The said net proceeds of the Company's Beet Sugar, after being computed by the Company from their books, shall be checked and confirmed or corrected by a reliable firm of Chartered Accountants to be appointed by a committee composed of the respective managers of The Imperial Bank of Canada, Chatham, Ontario, and the Canadian Bank of Commerce, Chatham, Ontario, and in case of difference of opinion between them, the appointment shall be made by the Manager of the Bank of Montreal, Chatham, Ontario. The certificate of the said firm shall be binding upon both the grower and the Company.

(C) Samples of the beets delivered at the Company's weigh stations or factories will be tested by the Company at its laboratories and the results of these tests shall be final and binding on both parties hereto. One sample shall

be taken and one test made of each wagon load and the average determined by dividing the sum of the test figures of all the loads by the total number of loads delivered by the grower. In the case of delivery by cars from points other than those at which the Company has weigh stations, as provided in paragraph 9, each car load of beets shall be tested by three samples, the average result of which shall be applied to all the beets in such car. In view of the great amount of detailed labour entailed by this provision it is agreed that, in the event of accident, bad weather, impassible road conditions or temporary disability of the Company's weighman or any other cause whatsoever, preventing the Company from making tests of one or more deliveries, then the average of the test of the other delivery by the grower shall be taken as the average of the whole. The method and operation of testing may be inspected at any time by the grower.

(D) Notwithstanding that the net return from sugar or the sugar content of the beet may fall below the figures given in the schedule set forth above, the lowest price which will be paid for sugar beets grown and delivered in accordance with the terms of this contract shall be \$5 per net ton.

(E) For Beets delivered by wagon or truck and unloaded by the grower in beet bins at the factory, the sum of \$.75 per net ton will be paid in addition to the compensation set forth in the above schedule and the Company guarantees a minimum price of \$5.75 per net ton for beets so delivered.

(F) Initial payments shall be made on the 15th of each month for all beets delivered hereunder up to the 20th of the preceding month and shall be at the rate of at least \$5 per net ton. Final payment of any balance due hereunder shall be made on the 15th of March, 1933. Provided, however, that the Company shall have the right to deduct from any payment due hereunder any indebtedness owing by the grower to the Company on any account.

9. Any grower or growers collectively who are unable to deliver beets at one of the Company's weigh stations may load full cars for shipments direct to the factory where the same, on arrival, will be weighed, tared and tested and paid for in accordance with the provisions hereof. In such cases the Company will receive only cars loaded to full minimum weights and will pay no charges other than railway freight.

10. All wagons or trucks used by the grower in the hauling and delivering of said beets shall have boxes with tight bottoms, also tight sides and ends for four inches above bottoms, and shall be free from holes and cracks of sufficient size for dirt to sift through. Beets must be forked from wagon or truck by the grower with a regular beet fork and all dirt remaining in wagon or truck must be weighed out with wagon or truck.

11. The Company positively does not guarantee to provide labour for the grower. If, however, the Company does provide labour for the grower, the grower agrees to pay the labour at the current rate per acre for the season of 1932.

12. Beets delivered under this contract to be weighed and tared at.....
 All samples for tare must be forked into tare baskets in the manner usual in unloading the beets from wagons or trucks, and shall not be hand picked or otherwise treated in such manner as to reduce the average quantity of dirt in the delivery which is being sampled.

13. This contract not valid until approved by an officer of the Company or its Chief Agriculturist, and no agent of the Company has any authority to change or alter the terms and conditions of this contract.

Date.....1932

Canada and Dominion Sugar Company, Limited. (Signature of Grower)

Approved.....

Chief Agriculturist. Fieldman, Canada and Dominion Sugar Co., Ltd.

MICHIGAN SUGAR COMPANY

SEBEWAING PLANT

Sugar Beet Contract Concerning Raising and Delivery of Sugar Beets for Campaign of 1932

WITNESSETH, That for and in consideration of the mutual covenants and payments hereinafter set forth, the respective parties hereto mutually undertake and agree as follows:

1. The Grower agrees to prepare the land for, plant, block, thin and cultivate during the season of 1932,.....acres of sugar beets on the lands described on the back of this contract, situated in Section..... Township.....County of and State of Michigan.

2. That the seed used shall be only that furnished by the Company, for which the grower shall pay 15 cents per pound, and not less than 15 pounds per acre shall be planted. The cost of the seed shall be deducted from the first payment made for beets delivered. The title to said seed and to said crop of beets from the time when same begins to grow, shall be and remain in the Company. The Company shall not be required to accept return of any seed from the grower.

3. The Grower agrees that he will harvest and deliver to the Company, all sugar beets grown by him, when and as directed, at the factory or in cars at designated receiving stations of the Company.

4. The Grower further agrees that all beets grown and delivered by him under this contract shall be properly topped at base of bottom leaf and shall be free from dirt, stones, trash and foreign substances liable to interfere with the work at the factory, and shall be subject to proper deductions for tare, and that he will protect the beets from sun and frost after removal from the ground; but in no event shall the Company be held liable in damages for any failure or partial failure of the crop or any injury or damage to beets, or for beets not harvested, or for beets not delivered to the Company. The Company has the option of rejecting any diseased, frozen or damaged beets, beets of less than 12 per cent sugar or less than 80 per cent purity, or beets that are deemed by the Company to be not suitable for the manufacture of Sugar, and reserves the right to direct delivery of all beets up to October 15, 1932.

5. The Grower further agrees that the Company has the privilege at any time during the growing and harvesting season to enter upon the land set forth for the purpose of determining the condition of the land and the quality and condition of the beets grown under this contract; and, in case the Grower does not give the beets proper care, or fails to harvest and deliver the crop, then the Company shall have the right to enter upon the land described above, and to care for, cultivate, harvest, deliver and retain the crop and charge the expense thereof to the Grower.

6. The Company agrees that all beets grown under this contract and delivered to its factory or designated receiving stations loaded on cars in good condition in accordance with the terms of this contract, will be paid for by the Company on the following basis.

The price per ton (2,000 lbs.) of beets delivered hereunder to the Company shall be determined upon the average net return per one hundred (100) pounds of sugar received by the Company from sugar manufactured by the Company at the Sebewaing and Caro plants of the Company located within the State of Michigan from the 1932 crop and sold by the Company during the period

beginning with the opening of the selling season covering the 1932 crop of sugar and closing February 1, 1932, and also upon the average sugar content of cossettes of all beets sliced, in accordance with the following schedule:

SUGAR CONTENT IN THE BEETS

Price per 100 Lbs. Sugar	Sugar Content (%)												
	18%	17.5%	17%	16.5%	16%	15.5%	15%	14.5%	14%	13.5%	13%	12.5%	12%
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
7 00	11 90	11 55	11 10	10 85	10 50	10 15	9 80	9 45	9 10	8 75	8 40	8 05	7 70
6 75	11 49	11 15	10 81	10 47	10 14	9 80	9 46	9 12	8 79	8 45	8 11	7 77	7 44
6 50	11 07	10 75	10 42	10 10	9 77	9 45	9 12	8 80	8 47	8 15	7 82	7 50	7 17
6 25	10 66	10 35	10 04	9 72	9 41	9 10	8 79	8 47	8 16	7 85	7 54	7 22	6 91
6 00	10 25	9 95	9 65	9 35	9 05	8 75	8 45	8 15	7 85	7 55	7 25	6 95	6 65
5 75	9 84	9 55	9 26	8 97	8 69	8 40	8 11	7 82	7 54	7 25	6 96	6 67	6 39
5 50	9 42	9 15	8 87	8 60	8 32	8 05	7 77	7 50	7 22	6 95	6 67	6 40	6 12
5 25	9 01	8 75	8 49	8 22	7 96	7 70	7 44	7 17	6 91	6 65	6 39	6 12	5 86
5 00	8 60	8 35	8 10	7 85	7 60	7 35	7 10	6 85	6 60	6 35	6 10	5 85	5 60
4 75	8 19	7 95	7 71	7 47	7 24	7 00	6 76	6 52	6 29	6 05	5 81	5 57	5 34
4 50	7 77	7 55	7 32	7 10	6 87	6 65	6 42	6 20	5 97	5 75	5 52	5 30	5 07
4 25	7 36	7 15	6 94	6 72	6 51	6 30	6 09	5 87	5 66	5 45	5 24	5 02	4 81
4 00	6 95	6 75	6 55	6 35	6 15	5 95	5 75	5 55	5 35	5 15	4 95	4 75	4 55
3 75	6 54	6 35	6 16	5 97	5 79	5 60	5 41	5 22	5 04	4 85	4 66	4 47	4 29
3 50	6 12	5 95	5 77	5 60	5 42	5 25	5 07	4 90	4 72	4 55	4 37	4 20	4 02

Payments upon intermediate sugar prices and sugar content, or on sugar prices or sugar content higher or lower than those shown in the foregoing schedule shall be in the same relative proportion.

The net return on sugar sold as aforesaid during said period shall be determined by deducting from the gross sales price all such charges and expenditures as are regularly and customarily deducted from gross sales price of sugar, in accordance with the Company's system of accounting heretofore established, showing net receipts from sugar sold. Deductions shall also be made for all excise and sales taxes, if any, imposed on the production or sales of such sugar.

The sugar content of the beets for a basis of settlement shall be determined by the campaign average of the cossettes from all beets sliced by the Company at its Sebawaing and Caro plants during the campaign of 1932. The tests shall be made by the Company in its factory laboratories and the Company's analyses as to sugar content and/or purity shall be accepted as final.

7. The net weight of beets delivered by the grower under this contract for the Company shall be determined by the net tons registered on the weight slip records of the Company.

8. The Company agrees that the minimum price for beets delivered under this contract at its factories, shall be Four (\$4.00) Dollars per ton (2,000 lbs.) and that the minimum price to be paid for beets delivered on cars at any receiving station outside the factory yards shall be Four (\$4.00) Dollars per ton (2,000 lbs.) less the cost of transportation of beets to the factory, payment for the beets to be made on the 15th day of each month for all beets delivered up to the 20th day of the preceding month.

9. Any additional payment that may be due under the terms of this contract shall be made not later than February 15, 1933: Provided, however, that the Company shall be entitled to deduct from any moneys that may be due under this contract for beets delivered hereunder, any and all indebtedness whatsoever which may be owing at any time by the Grower to the Company.

10. The Grower agrees that any advances made to him by the Company in the way of beet seed, cash for hand labour, or otherwise, shall be considered as part payment for the crop of beets and be a lien thereon.

11. The Grower covenants that he is qualified to execute and perform this contract, and agrees not to assign the same without written consent of the Company.

12. To ascertain the quality of said beets the Company shall have the privilege, at various times during the growing and harvesting season, of causing the beets to be sampled and polarized.

13. This contract shall not be valid until signed by an officer of the Company and no Agent of the Company has any authority to change or alter the terms and conditions of this contract.

14. This contract shall be binding upon the heirs, executors, administrators and assigns of the Grower, and the assigns and successors of the Company.

.....Grower
Michigan Sugar Company,

By.....

Dated at.....Michigan,

..... 1932

SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND EVIDENCE

TUESDAY, MARCH 15, 1932

No. 4

Reference,—Beet Sugar Industry

WITNESSES:

Mr. B. R. McMullin, President, Beet Growers Association, Barnwell, Alberta; Mr. E. L. Rogers, President, British Columbia Sugar Refining Company, Vancouver; Mr. William F. Russell, Beet Growers Association of Alberta.

APPENDIX "B"

MINUTES OF PROCEEDINGS

TUESDAY, March 15, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 10 o'clock in the forenoon.

Mr. Senn, the Chairman, presiding.

Members present:—Messrs. Bertrand, Blair, Bouchard, Bowen, Boyes, Brown, Carmichael, Gobeil, Loucks, McGillis, Moore (*Chateauguay-Huntingdon*), Myres, Perley (*Qu'Appelle*), Pickel, Porteous, Senn, Shaver, Simpson (*Simcoe North*), Smith (*Victoria-Carleton*), Sproule, Stewart (*Lethbridge*), Stirling, Thompson (*Lanark*), Tummon, Weese, Young—26.

Mr. B. R. McMullin, President Beet Growers Association of Alberta, was called and gave evidence on the subject matter of the Order of Reference.

Mr. E. L. Rogers, President of the British Columbia Sugar Refining Co., of Vancouver, called and gave evidence on the manufacturing problems of the Sugar industry.

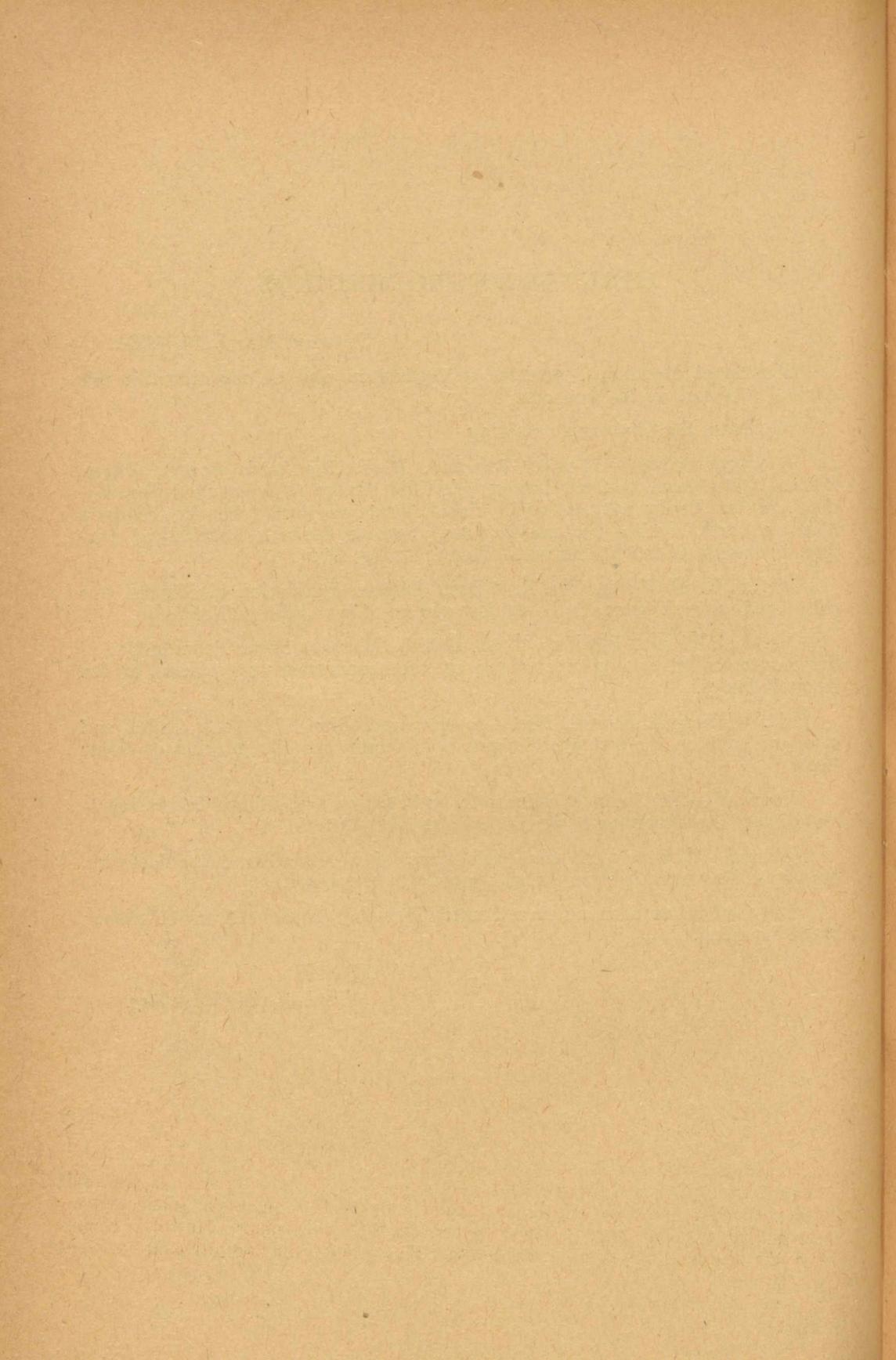
Mr. William F. Russell, Beet Growers Association of Alberta, called and gave evidence on the value of irrigation in relation to the growing of Sugar Beets.

Resolved,—that the next witness to be heard on the subject, be the representative of the Dominion Sugar Co., of Chatham, Ontario.

Ordered,—that the clerk print the contract of the Canadian Sugar Factories, Limited of Raymond Alberta, as an Appendix to the record.

The Committee then adjourned until Thursday, March 17, at 11 o'clock in the forenoon.

A. A. FRASER,
Clerk of the Committee.



MINUTES OF EVIDENCE

MARCH, 15, 1932.

The Select Standing Committee on Agriculture and Colonization met at 10 o'clock to consider the reference to the committee:

That all questions affecting the beet sugar industry in Canada be referred to the Select Standing Committee on Agriculture with instructions to inquire into the action which may be taken by the government by way of Customs duties, subsidies, bonuses or otherwise either in or without co-operation with the Provincial government for promoting the prosperity of the said industry and developing the production of Canadian-grown sugar, and report to the house.

The CHAIRMAN: Gentlemen, we are ready to commence. We have with us this morning three witnesses. We will call on Mr. McMullin. He is the president of the Alberta Beet Growers.

Mr. B. R. McMULLIN, called.

The CHAIRMAN: First of all, Mr. McMullin, will you tell the committee your occupation and your position?

WITNESS: My occupation is that of a farmer.

The CHAIRMAN: Where do you reside?

WITNESS: Barnwell, in the Lethbridge district. I am president of the Southern Alberta Beet Growers Association in that area.

AN APPEAL OF THE ALBERTA BEET GROWERS ASSOCIATION FOR EXPANSION BY AID OF THE FEDERAL GOVERNMENT

CHAIRMAN AND GENTLEMEN,—If I may have your sympathy, I would be pleased to draw your attention to a few facts leading up to the subject for which we have met.

- The precipitation of South Alberta.
- The establishment of homes.
- The soils—the established irrigation districts.
- Settlers and their problems.
- The live stock possibilities.
- Importation of farm products.
- The sugar factory and by-products.
- Labour and production.
- Population and consumption.

Southern Alberta has a semi-arid distinction as to location and while there is sufficient rainfall to provide grass for grazing purposes and in some seasons to produce a paying crop of wheat, yet the latter is very uncertain. The precipitation is about $14\frac{1}{2}$ inches annually, thus making it an unsuitable area for the establishment of permanent homes. When C. O. Card, with a small colony, came into Alberta Territory and settled on what is now known as Cardston, located in the foothills in 1884, the country looked to be ideal for settlement and in accord with the advertisements sent out by the Government. However, because of the scarcity of water on the prairie, they sought the foothill country where

springs and lakes were in abundance and while happy and content, with plenty of water and grass, they proceeded to carry on by a crude ranching method, reporting back to their friends they had found the goose that laid the golden egg, yet they little expected that from that small beginning the prairies would be settled, even in time, to the extent they have to-day.

The soil is principally of a sandy loam with clay subsoil, as is characteristic of arid and semi-arid soils. When sufficient moisture is had abundant crops are produced. Therefore, that comfortable and permanent homes might be established, the Government, as well as private companies, have established irrigation districts in the southern part of the province some twenty-two in number.

There is approximately 1,200,000 acres of irrigable land, and about 375,000 acres that are actually under irrigation. Settlers have come and taken contracts for land and water under these projects, hoping to pay for them by the one crop method or in other words by exclusive grain growing. After a number of years they find that because of drought, invasion of weeds, cut worms, grasshoppers, low purchasing power and the many unseen menaces over which they have no control, has made overhead charges too great, and therefore they find themselves unable to pay their taxes or water rates.

Now, that these earnest and hardworking settlers might be able to retain their homes and stay on the land, it is necessary that they diversify their crops to insure higher yields and this can only be done by suitable rotation of crops, part of which must be a hoed crop, together with a better and more substantial price. There is 200,000 acres of irrigated land in the Lethbridge district. It is a physical impossibility for the irrigation farm to compete with the non-irrigated, in the raising of wheat or coarse grains in that part of the country where these crops are successfully raised. Irrigation is a natural source of noxious weed distribution and the only way they can be kept under control is by sufficient rotation of a hoed crop. The sugar beet crop is the only one that can be raised in the west in sufficiently large acres to control the weed menace. It is true that such crops as corn, beans, potatoes and some other small crop help in this struggle. The sugar beet produces a cheap, succulent food for live stock. On the grain growing areas, farmers spend the winter months in practically idleness having few if any live stock on the farm. This is not practical on the irrigated farm. It is positively essential that live stock be a part of the enterprise. The sugar beet tops furnish the best of feed for both dairy and beef cattle; they have an estimated value of \$700 per acre as a cash return, while barnyard manure has an estimated value of \$2 per ton. When the sugar beet industry is properly stabilized, there will be other processing mills built in different parts of the country where the by-products of the factories will be available for live stock, such as beet pulp and beet syrup. Then the dairy beef and sheep industries can be made to prosper. The irrigation farmer will be able to maintain his family, educate his children, which is his bounden duty and the heritage they are entitled to as Canadian citizens.

He will be able to meet his necessary expenses and, in short, stay on the land. But this will never be accomplished until such time as the Federal Government throws sufficient protection around these enterprises in the west to insure an equitable price for the energy put forth. The fact that Canada's butter imports for 1931 was 2,821,317 pounds and their cheese imports were 1,446,147 pounds, shows a wonderful opportunity to convert the cheap feed produced on these farms into products required at home in Canada for Canadian people retaining the money at home for our own needs, which at the present time is going out to support others. We have one sugar factory in the province located at the town of Raymond, in the geographic district of Lethbridge and in the extreme south, that has a cutting capacity of 100,000 tons of sugar beet per season.

SUGAR BEET CROP FOR 1931

1. Seven hundred growers had 12,000 acres of beets; acreage was cut 20 per cent from 1930, from 14,000 to 12,000 because the factory could not handle them.
2. They produced approximately 105,000 tons of beets.
3. They received \$630,000 in total payment.
4. They employed 1,500 beet workers.
5. They paid the beet workers approximately \$250,000.
6. They extracted about 31,000,000 pounds of sugar.

The average sugar content of the Alberta beet for 1931 was 18.34 per cent, the highest in America. The average for the United States was 17 per cent and the average for England was 15 per cent.

The beet workers make fair wages, sufficient to maintain their families from year to year. Hungarian and Slovaks are the principal beet workers on the larger farms but much of the hand labour is done by the grower himself and his family. No beet worker unless overtaken by misfortune need to call upon the Government for relief.

The sugar beet industry is one of the most substantial enterprises that can be adopted by the Government of Canada to provide for a portion of the unemployed and perhaps on no other commodity can the Government obtain a revenue by the tariff that would be so evenly distributed over the population of the Dominion than on that of sugar because everybody uses it. As far as employment is concerned, the sugar beet crop provides over other crops produced on Western farms. On a wheat farm one man can handle, with the combined harvester and modern machinery of to-day, large areas of land which is stifling to the labour situation but the beet crop furnishes an army of hand workers.

To illustrate, two brothers, Brandley, by name, living in Raymond, Alberta, one has a 500 acre irrigated farm; where he employs three men the year around and twelve men during the summer months; his brother has a 1,000 acre farm on which he does all the work himself except to have his son drive a truck and hires one other man during the harvesting period of from four to six weeks.

The beet sugar has a wonderful market right at its very door as Premier R. B. Bennett said to a delegation in Calgary last year. The beet sugar industry of Alberta should supply the prairie provinces from the lakes to the mountains. The population of the three prairie provinces is 2,353,429 at 97 lbs. of sugar per capita, they require 228,282,613 lbs.

We believe that a zone should be established by the Federal Government in the prairies whereby 75% or 171,211,853 lbs. of the home product should be used allowing 25% of foreign sugar or such amounts as cannot be furnished by the local industry. According to chemical analyses taken by an official chemist in Calgary in March 9, 1927, shows direct polarization on two samples one of cane and one of beet sugars cane showed 99.4%, Alberta 99.8% which shows no marked difference as to quality, some little difference in favor of Alberta sugar, however, it furnishes every requirement of the housewife.

Gentlemen, in the interest of agriculture, that the families on these projects might be maintained, children educated that they may enjoy the heritage they are entitled to either by birth or adoption as Canadian citizens, that these farms may prove an asset to this country and that the present occupants may retain their homes, we humbly submit these facts.

The CHAIRMAN: Are there any questions, gentlemen?

Mr. YOUNG: You said there were one million two hundred thousand acres of irrigated land in southern Alberta?

The WITNESS: I said irrigable land.

Mr. YOUNG: Is it your idea that all this land should be irrigated and put under beet cultivation?

The WITNESS: Not exactly.

Mr. YOUNG: You said there were two hundred thousand acres in the Lethbridge district which is under irrigation?

The WITNESS: Yes, sir.

Mr. YOUNG: What quantity of beets would that land yield in a year if it was put in beets?

The WITNESS: What would they yield?

Mr. YOUNG: Yes.

The WITNESS: Well, we are producing between eight and a fraction tons per acre at the present time.

Mr. YOUNG: Approximately a little less than two million tons of beets; and what sugar would that yield? If you produced, say, one and three-quarter million tons of beets what sugar would you expect to get from that?

The WITNESS: I suppose someone can answer that better who is in the sugar business.

Mr. ROGERS: It would take two hundred and fifty pounds of sugar per ton of beets.

Mr. SPROULE: You say 18½ per cent sugar.

Mr. ROGERS: That was an exceptional year. I am speaking on the average. The average is 250.

The CHAIRMAN: I think we should let the witness give his own answers.

Mr. SIMPSON: You would not have all that 220,000 acres growing beets every year, would you; you would have to have a rotation of crops?

The WITNESS: Yes.

Mr. SIMPSON: You would not have a quarter of that, would you?

The WITNESS: I spoke of the rotation of crops. We consider that if we have one-quarter of our land under irrigation each year that would allow for a proper rotation.

Mr. TUMMON: I think one-quarter is about right.

The WITNESS: That is what I estimated.

Mr. TUMMON: You would have fifty thousand acres under beets?

The WITNESS: Yes.

Mr. TUMMON: Which would yield five hundred thousand tons of beets, which would make something less than one hundred thousand tons of sugar—seventy-five thousand tons of sugar?

The WITNESS: In that neighbourhood, yes.

Mr. TUMMON: You said also that irrigation is very bad for certain weeds, is that correct?

The WITNESS: Yes.

Mr. TUMMON: And you said also that irrigated lands could not hope to compete with unirrigated lands in the growing of grain, is that correct?

The WITNESS: In parts of the country where grain is successfully grown. In our part of the country it is semi arid. We raise wheat there and coarse grain, but not that we can depend upon them from year to year.

Mr. TUMMON: If you could get a grain crop ever year, it would be a profitable crop?

The WITNESS: Well, if you could get them on dry land it would, but not on the irrigated land, even though you got a good yield.

Mr. TUMMON: In other words, it does not pay to grow grain on this irrigated land?

The WITNESS: No, sir.

Mr. TUMMON: Would you say then that the irrigation project was a failure?

The WITNESS: As far as grain was concerned, yes.

Mr. TUMMON: And the only hope you have of making it a success is by the growing of sugar beets?

The WITNESS: Yes.

Mr. TUMMON: And even then you could only grow sugar beets on one-quarter of your land at a time?

The WITNESS: Yes.

The CHAIRMAN: What do you grow yourself?

The WITNESS: A rotation of grain, alfalfa, sweet clover, beets, potatoes, corn and other similar crops trying to bring about a four year rotation.

The CHAIRMAN: Your idea is that the growing of beets is what makes the rotation system possible?

The WITNESS: Yes.

Mr. TUMMON: And the other things you grow would be possible in buttressing up the beets?

The WITNESS: Yes.

Mr. SPROULE: What does it cost to irrigate the land?

The WITNESS: Irrigation charges are \$2.50 per acre.

Mr. PORTEOUS: Per annum?

The WITNESS: Yes.

Mr. PORTEOUS: Is that cost all borne by the farmer?

The WITNESS: Yes.

Mr. CARMICHAEL: Could the witness give us the average cost per acre of producing sugar beets and also the average revenue per acre on what he grows?

The WITNESS: On different crops? I can read you the statement I have here, gentlemen, if you care to hear it. I thought, perhaps, I would have to give a good account of myself, and in order that I might know what I was talking about I have struck off an estimate of my own farm. I know more about my own farm than I know about anybody else's, especially this year. I have here labour costs in the raising of beets \$20 per acre, seed \$2.36, machinery \$2.75, irrigation \$2.50, rent taxes account \$2.75. That is an expenditure of \$30.36 per acre. The returns from this crop are \$1,639.44 on 54 acres.

Mr. PORTEOUS: What is the return per acre?

The WITNESS: Well, labour for one year \$20. The returns from that would be \$1,080. That is the gross return.

The CHAIRMAN: On 54 acres?

The WITNESS: Yes.

Mr. SPROULE: Did you sow with fertilizer on that?

The WITNESS: We have only sowed fertilizer the last year.

Mr. SPROULE: Just the last year?

The WITNESS: Yes. Commercial fertilizer you have reference to?

Mr. SPROULE: Yes. Does it make much difference in your crops?

The WITNESS: Yes. It pays us for using it.

The CHAIRMAN: Mr. McMullin, in your estimate of labour cost did you include your own labour or just the amount you paid out?

The WITNESS: Our cash contract price for labour this year was \$20.

The CHAIRMAN: That does not include your own ploughing and preparation of the soil—the hilling of the beets?

The WITNESS: No sir.

Mr. GOBEL: What is that labour?

The WITNESS: That is the beet worker. That is the contract cash price for labour.

The CHAIRMAN: Do you make that contract with the company and do they furnish the labour?

The WITNESS: No, with the individual.

Mr. YOUNG: What does he do for that?

The WITNESS: He thins, hoes and weeds.

Mr. YOUNG: Who does the seeding?

The WITNESS: The farmer.

Mr. YOUNG: That is not included in the \$20?

The WITNESS: Oh, no.

Mr. YOUNG: Who ploughs them out?

The WITNESS: The farmer.

Mr. YOUNG: That is not included in the \$20.

Mr. TUMMON: Who loads them?

The WITNESS: The farmer.

Mr. TUMMON: That \$20 is simply confined to the man who handles the beets after they come out of the ground?

The WITNESS: It is the hand work.

Mr. BERTRAND: That includes the topping?

The WITNESS: Yes. That includes the four operations—the thinning, the hoeing twice with the hoe, the weeding and then the topping.

Mr. BERTRAND: Could the witness tell us how much these Hungarians and Slovaks are earning each day they are working?

The WITNESS: Each day? I do not know. It depends upon speed of the workman just as much as anything else. Some will thin an acre a day and some will thin half that.

Mr. BERTRAND: Do the women work?

The WITNESS: Yes. I have on my farm three men and one woman. One woman is married.

Mr. YOUNG: You pay a man \$20 an acre. How many acres will a man handle in a season—one individual?

The WITNESS: From ten to eleven.

Mr. YOUNG: About \$255 a year?

The WITNESS: Yes.

Mr. YOUNG: How many days will he work?

The WITNESS: That is hard to say offhand. Approximately, he would work about two months.

Mr. YOUNG: Fifty days?

The WITNESS: Two months and a half.

Mr. YOUNG: Sixty-five days?

The WITNESS: Yes.

Mr. GERSHAW: Mr. McMullin, you have had a good deal of experience, and I wonder if you would tell us a little more about the statement you made that the beet grower did not require any assistance from a government?

The WITNESS: The beet worker?

Mr. GERSHAW: Now, could we get your opinion of the situation of the beet grower? For instance, how close to a factory does he have to live in order to be able to market his beets?

The WITNESS: The beet grower himself?

Mr. GERSHAW: Yes.

The WITNESS: Well, we are about 60 miles. That covers the extreme distance that they are shipping beets from now. It is between 55 and 60 miles.

Mr. SPROULE: How far are you from your railroad siding where you load your beets?

The WITNESS: One mile and a half.

Mr. SPROULE: How far would you say a farmer could be from a siding to load beets profitably?

The WITNESS: That depends. I know one man at Raymond, Mr. Baker, who hauls his beets eight miles by truck, and he considers that he is just as well off as a man with a team living within two miles of the siding.

Mr. GERSHAW: What did you get per ton for your beets last year?

The WITNESS: Five and a half—initial payment.

Mr. GERSHAW: Plus a bonus for the sugar content?

The WITNESS: Whether we get anything in addition or not.

Mr. GERSHAW: Do you figure that you can pay all the costs including interest on your investment and your own work and other out-of-pocket costs for five and a half?

The WITNESS: No, sir.

Mr. CARMICHAEL: Is that five and a half a guaranteed price?

The WITNESS: Yes.

Mr. CARMICHAEL: And your average production is from eight to ten tons per acre?

The WITNESS: Yes, the average from the district.

Mr. CARMICHAEL: Your revenue per acre should be higher. I figure, from your own figures it would be thirty and some cents per acre. With an average production of from eight to ten tons and a guaranteed price of five and a half a ton, you should exceed \$50 per acre revenue.

The WITNESS: I did not read the footings. Labour at \$20 per acre—this is a 54 acre plot—costs \$1,080, seeding \$2.36, amounting to \$127.44; machinery \$2.75, amounting to \$148.50; irrigation \$2.50, amounting to \$135; rents, taxes and so forth \$2.75, amounting to \$148.50; making a total of \$30.36 per acre or \$1,639.44 for the plot. The yield of ten tons at \$55 would be \$55 an acre—\$2,970. The costs are \$30.36, and that would amount to \$24.65.

The CHAIRMAN: How much is that net?

The WITNESS: Leaving \$1,330.56. Now, that is direct charges. Indirect charges: Horse expense, \$6.82.

The CHAIRMAN: Per acre?

The WITNESS: Per acre. \$368.28. Owner's labour \$12.31, amounting to \$664.71, leaving a total of \$5.51 per acre or \$297.54.

Mr. PORTEOUS: Is that profit?

The WITNESS: Gain.

Mr. YOUNG: In addition to that, Mr. McMullin, you spoke of a \$7 cash value of your pulp. Will you include that?

The WITNESS: I might as well say that we have not enjoyed any privileges of by-products yet. We are too far away. Now, I have other crops here if you care to hear about them: Barley 40 bushels at a cost of twenty-five cents per acre, \$10.17, loss \$2.17; alfalfa, two, and a half ton, cost per bushel \$3.70, cost per acre \$9.30, gain \$10.70; potatoes, three and one-half acres, a yield of six tons costing \$5.83, cost per acre \$35, and produced at a loss of \$8; summer-fallow showed a loss of \$7.50; sweet clover, as a reclamation on cleaning up the land and summerfallow, \$8.50; irrigation one hundred and four acres, cost per acre \$2.50, amounting to \$260; labour, taxes, land expense, cost per acre \$2.75, amounting to \$286. Cost of living not produced on the farm and machinery repairs amounting to \$450 show a loss of \$1,317.74. If you take the gains from that of \$1,300.52 you have a net loss of \$17.22.

Mr. STEWART: For what size farm is that?

The WITNESS: That is a farm of 158 acres.

Mr. PORTEOUS: According to your statement beet producing would be as profitable as any other product except alfalfa?

The WITNESS: Yes.

Mr. GERSHAW: You said you could not make any money selling at around \$5.50. At what price do you think you could afford to grow sugar beets—what price per ton?

The WITNESS: In our organization this year we chose a committee of three to figure out the actual cost of raising beets and they brought in a statement of \$5.80 as the actual cost for producing the beets.

The CHAIRMAN: That includes all kinds of labour?

The WITNESS: Yes.

Mr. BOUCHARD: Does that include the loss in your other crops in the rotation, or only the beets?

The WITNESS: No, sir; each rotation is given apart.

Mr. BOUCHARD: By itself?

The WITNESS: Yes.

Mr. YOUNG: You said that after growing beets you get a much better crop of other things. Do you give the beets any credit for that in your statement?

The WITNESS: It is not so that you always have a better crop. Land that produces beets for two years does not produce a very heavy crop.

Mr. YOUNG: Two consecutive years?

The WITNESS: Yes, two consecutive years, the land does not produce a very heavy crop.

Mr. YOUNG: For what reason?

The WITNESS: I do not know. I suppose the nitrogen is taken out of the soil. It is depleted to that extent. That is our experience.

Mr. SIMPSON: How does your second year crop compare with your first year?

The WITNESS: There is generally a dropping off, unless you manure the land for the second crop, of a couple of tons.

The CHAIRMAN: Now, gentlemen, I do not want to stop your discussion at all, but almost half of our time has gone and we have two more witnesses.

Mr. GERSHAW: You spoke of the conditions of the farmers in the Lethbridge district. Are you acquainted with the conditions in the C.P.R. irrigation project at Bassano and Brooks?

The WITNESS: No sir.

Mr. GERSHAW: Are you acquainted with the situation at Vauxhall?

The WITNESS: No, I am not.

Mr. GERSHAW: You do not know how the farmers there are getting along?

The WITNESS: They are not raising beets, and I know that they have been trying to keep their heads above water by raising alfalfa seed, but of late years they have not found a market for that. It leaves them in bad shape.

Mr. YOUNG: You said you were too far from a factory to get any benefit from this \$7 value as to fertilizer?

The WITNESS: No, that \$7 value is from the beet pulp—beet tops.

Mr. YOUNG: You get no benefit from that?

The WITNESS: Oh, yes, we have all of that. That is valued at \$7 an acre on our farm as feed.

Mr. YOUNG: You credit that to the beets?

The WITNESS: Yes, sir.

Mr. BOYS: If you were close enough to factories to use the beet pulp, would you not profit from that?

The WITNESS: The value that you actually derive I am not prepared to say, but at the present time it costs sixty cents a ton.

Mr. LOUCKS: Can you preserve it?

The WITNESS: Yes. We are in the experimental stage as far as that is concerned. I am feeding steers this year and I stacked my tops for the first time and I did it with the beet pulp and also the straw, but I found that they burned pretty badly in places. I investigated this matter during the winter and I found that others put them together in a stack by themselves, tramped them well and they preserved perfectly.

The CHAIRMAN: What kind of silage do they make?

The WITNESS: The best.

Mr. YOUNG: You said something about establishing a zone. Will you enlarge on that?

The WITNESS: Well, the idea is to provide for more sugar factories. We know that our people are clamouring for an opportunity to raise beets. They are raising grain at a loss. Their lands are becoming so foul and dirty that they are becoming discouraged trying to produce and make a living. The point is that we need more factories so that the by-products can be available for the farmers in the vicinities of the factories, and throughout the country if possible in order that the livestock industry may be made a paying proposition, which it might be if the by-products were available. In Raymond where they are close to a factory they are feeding thousands of cattle and sheep each year. That is true of sheep anyway and hundreds of cattle. In Raymond there is a regular feeding yard. They are getting the advantage of the beet pulp and the beet preserves. As far as the zone is concerned, Mr. Bennett told us that he thought that from an agricultural standpoint it would be a fine thing for the prairies to furnish their own sugar that the settlers on the prairies might be able to make a profitable living by the growing of sugar beets together with other crops. As soon as foreign sugar comes in, of course, our prices are cut down below paying prices.

Mr. YOUNG: In establishing this zone for the Prairie Provinces, would you have all of them getting their supplies from Alberta facilities; would you push out sugar from Eastern Canada?

The WITNESS: There is no Eastern Canada comes that far.

Mr. YOUNG: It comes to Winnipeg. In fact, I have bought it in Saskatchewan. The last bag of sugar I bought came from Halifax.

Mr. STEWART: You say you want expansion there. Are the members of the beet growers' association prepared to give more acreage to the growing of beets if they get an opportunity? If they were given the opportunity, what acreage could you put in beets this year, and what acreage next year?

The WITNESS: We could furnish sufficient acres this year for another factory; next year we could produce more than that. If the people of that southern district knew in time to prepare their land during this year they could produce beets for another factory next year very easily.

Mr. STEWART: How far apart should these factories be?

The WITNESS: Well, we are paying freight on these beets according to mileage and it comes pretty expensive where it is a very long haul.

Mr. STEWART: What would you consider an economic haul?

The WITNESS: Mr. Rogers could answer that question. I would say from ten to twenty-five miles—ten to fifteen miles—the closer the better.

Mr. YOUNG: You think you should have a factory every twenty or twenty-five miles or every fifty miles?

The WITNESS: Yes.

Mr. YOUNG: Is that your idea—every fifty miles?

The WITNESS: I would not say as to that. The idea is to have sufficient factories to take care of the irrigated districts wherever they are. They are not dense. The irrigated areas do not cover all the country. There is an irrigated project there and another one here.

Mr. YOUNG: Your idea is that we should encourage the beet industry in the irrigated districts?

The WITNESS: That is the idea.

Mr. LOUCKS: How many tons would the average farmer produce?

The WITNESS: Those I referred to produced about one hundred thousand.

Mr. YOUNG: You said that the most equitable way of raising the revenue would be by placing a tariff on sugar, and then you say that we should get our sugar from your fields. Now, will you tell me how we are going to raise revenue on sugar if we get the sugar from the Alberta fields?

The WITNESS: That is a question, I presume.

Mr. BOYS: The idea was to raise the protection for your industry?

The WITNESS: Yes.

Mr. BROWN: You take the position, when it is a question of protecting a Canadian industry, that we can put the question of revenue aside.

Mr. PORTEOUS: That is a by-product.

Mr. SIMPSON: Might I ask what the tariff per ton was for the sugar beet in 1929 and 1930?

The WITNESS: For 1930 it was \$7; for 1929 it was \$7, I guess, or about that.

Mr. SIMPSON: That means that the prices for the 1931 crop were \$1.50 less than for the two previous years?

The WITNESS: Yes.

Mr. GERSHAW: You spoke of another factory. Would the farmers who are growing sugar beets be interested in financing a factory?

The WITNESS: Well, the farmers would be interested no doubt, but they are helpless as far as that is concerned. They have expressed a willingness, however, to subscribe for that purpose if some one will furnish the means and take from their crops each year fifty cents or some such amount to apply on their subscription. They would be willing to do that.

ERNEST T. ROGERS, called.

The CHAIRMAN: Will you tell the committee, Mr. Rogers, your position in your company?

The WITNESS: I am president of the British Columbia Sugar Refining Company of Vancouver and also of the Canadian Sugar Factories Limited of Alberta. We acquired the latter company last spring. I would like to read this statement which sets forth our attitude with respect to the question of expansion.

“ STATEMENT OF BRITISH COLUMBIA SUGAR REFINING CO. LTD.,
WITH REGARD TO THE BEET SUGAR INDUSTRY IN ALBERTA,
THE EXPANSION THEREOF, AND ITS RELATIONSHIP TO THE
CANE INDUSTRY.

March 15, 1932.

Before dealing with the question of expansion, we would like to outline briefly the events which led up to our acquisition of the beet factory at Raymond, Alberta, because we feel that there is a general misunderstanding as to the motives which prompted us to purchase it.

In the year 1925, the plant was brought to Raymond by the Utah-Idaho Sugar Co., and for the first four years of operation heavy losses were sustained each year. These losses were due in part to climatic conditions, but chiefly to the fact that it was impossible to obtain a sufficient tonnage of beets to enable the factory to operate economically. The following figures illustrate the tremendous difference between the quantity of beets available, and the quantity which the factory could have handled during that period.

	Tons
Capacity of factory	100,000
Beets Sliced 1925	35,543
“ “ 1926	35,614
“ “ 1927	31,174
“ “ 1928	35,282

In other words the factory was operating at only one-third capacity, and that condition, together with the fact that sugar prices fell continuously throughout the period, caused the heavy losses referred to above.

In the year 1929, however, the factory obtained sufficient raw material to operate at about 60 per cent capacity, and for the last two years it has been able to operate at maximum capacity, the figures being as follows:

	Tons
Beets Sliced, 1929	58,000
“ “ 1930	104,000
“ “ 1931	100,000

This change in the situation, brought about largely by the fall in the price of wheat, should have resulted in great benefit to the company, but unfortunately two causes militated against any benefit being felt. One was the drop in the price of sugar to record low levels, and the other, the unfavourable climatic conditions which prevailed during the 1930 harvesting period.

As a result of the steadily falling price of sugar, the Utah-Idaho Sugar Co. not only lost money in Canada, but also and to a much greater extent in the United States where it operates a considerable number of factories. In order to improve its financial condition, which had become precarious to say the least, it offered the Raymond factory to us.

In considering this offer, we could see reasons both for and against accepting it. On the one hand the price of sugar was such that there was little

incentive to invest money in the Beet Industry, and moreover, the past history of the factory disclosed anything but favourable results. On the other hand we felt sure that the price of sugar must sooner or later return to normal, and, with an adequate supply of beets practically assured for some years to come, we considered the chance of ultimate success quite promising.

The principal reason however which finally decided us in favour of purchasing the Plant, was a desire on our part to familiarize ourselves with the beet sugar industry, so that, in the event of any major development, we would be in a position to participate in it, rather than stand aside, as straight cane Refiners, and watch our markets disappearing. We wish to stress this point, because the assertion has repeatedly been made that we purchased the Raymond Factory in order to put it out of business. If anyone here present still holds that view, we would like to point out that at the present time we are working on improvements to the factory, which will cost, when completed, approximately \$250,000. Surely it must be evident that we would not commit ourselves to an expenditure of such magnitude in times like these, if it were our ultimate intention to close the Plant.

Our reason for making these improvements this year is as follows: When we took over the factory we found it in very poor mechanical condition, due to the fact that the previous owners had no funds available for other than the most urgent repairs, expenditures on ordinary maintenance having been withheld pending a return to better times. Shortly after the factory had passed into our hands, we made some minor improvements—plugging leaks, etc., but as we were not fully conversant with the process of beet sugar manufacture at that time, we decided to delay action on any major changes until we had had the benefit of at least one season's operating experience. Consequently we commenced our first campaign with a factory which was in no condition to operate efficiently.

In spite of this, the results of last season's operations were most satisfactory, due to the almost ideal weather conditions which prevailed all through the harvest. Late in September a light frost occurred, which checked the growth of the plants, and this was followed by warm sunny days and cool nights which caused the sugar content to increase at a rate hitherto not experienced in this district, and very rarely seen anywhere on this continent, except in California.

The greatest risk which the Alberta factory has to face is from heavy frost early in the fall, which freezes the beets and renders them unfit for sugar making. Last campaign the loss from that cause was so small as to be considered negligible, and so, with all these favourable conditions, the factory experienced the first really successful run since it commenced operations in 1925. We should mention here that the 1929 campaign was also satisfactory, except for the fact that the factory only operated at 60% capacity that year.

Needless to say we were more than gratified with our first year's experience, but at the same time we fully realized that our success was due entirely to unusually favourable weather conditions, which we could hardly expect to be repeated for some time to come. We therefore decided to prepare for a siege against the prevailing low sugar prices, and the less favourable weather conditions which must be expected from time to time, and, with that end in view, we mapped out a program of improvements which, when completed, will give us a factory at least as efficient as any on this continent. This will mean that the cost of converting beets into sugar will be cut absolutely to the bone, so that, if future operations are not successful, it will be due only to some cause quite beyond our control.

Coming now to the question of expansion, it has been stated in the House that we are not at all anxious to expand. That statement is true only in this sense: That under present conditions we are not anxious to do so, because we believe that on the average—that is, taking the good seasons with the bad—there is no profit to be made in beet sugar making as long as sugar prices remain

at present levels. But if the present Government wishes to assist the Industry to a point where there appears to be a reasonable chance of making a profit, we will be quite prepared to take a hand in the expansion, that being the very reason why we went into the business in the first place.

We wish to point out however, that, whatever form it takes, the assistance afforded to the Industry must be quite substantial if immediate expansion is desired, because the price of sugar in Canada to-day is lower than it has ever been before.

We understand that with a view to gauging the amount of assistance necessary, an attempt will be made to compare the cost of beet and cane sugar manufacture. In our opinion such information would be of little value, because the selling price of sugar to-day bears no relation whatever to the cost of production. It may be stated without fear of contradiction that Cuban sugar for instance, is selling for anything from a third to a fifth of what it cost to produce, and there is no immediate prospect of any substantial increase in price. Aside from this, the cost of production of a commodity which is made under so many different conditions, is quite impossible to determine, since it varies greatly from one country to another, and from one producer to another in the same country. There are so many variables, such as climatic conditions, wage rates, taxes, etc., which go to make up the total cost, that no set figure can be established.

As for the cost of refining raw sugar, here again there is a considerable variation, though not as great as in the case of original production, because the weather does not enter into it. This variation is due to the quantity and value of sugar lost in the refining process, changes in the cost of packages, fuel, and other supplies, fluctuations in the cost of labour, taxes and so forth.

We might mention here that some years ago, an attempt was made by the United States Tariff Board to compare the cost of domestic beet sugar production with the cost of producing cane sugar in Cuba. As far as we can remember, they went to Cuba first, and for several months gathered evidence of the various costs at a representative number of plantations. They then returned to the United States to investigate the Beet Industry, and found incidentally that its costs varied all the way from $5\frac{1}{2}$ to 10 cents per pound between factories. In the meantime, the price of sugar had fallen rapidly, so that the Cuban cane grower received less for his cane, and the factory worker less for his work—in other words, the cost in Cuba had fallen, so that in the end, all the evidence which had been gathered at such trouble and expense proved quite worthless.

As to our own costs, we would prefer not to give these, as such information would prove of considerable value to our competitors. In any case, past costs, varying as they do, are of no value in gauging future results for the reasons we have already mentioned.

If costs are of no value, the question arises how to determine the extent of the assistance required by the Beet Industry. The only suggestion we can offer is the method adopted by practically every other country, that is the process of trial and error, coupled with a study of what other countries have done in the way of assistance, and the results achieved in those countries.

We ourselves, at such short notice, have no definite proposal to offer, but we will be only too glad to make a study of any proposals which may be put forward, and to give our opinion of their relative value, and the likelihood of their achieving the desired result.

Of the suggestions already offered, we would like at this time to give our comments on one, namely, the proposal that the Government put up all or part of the necessary capital for the construction of new factories. We are absolutely opposed to this suggestion, because we feel satisfied that it would not

only result in loss to the taxpayer, but also would seriously injure the industry which it was designed to help. If such a scheme were adopted, the opportunity would be grasped by promoters, who, with probably no knowledge of the beet industry, and without financial risk to themselves, would erect factories indiscriminately throughout the country, without regard for the number or type of growers available, or for the problem of disposing of the finished product. If the Government contributed only a portion of the cost, the interest of these promoters would probably be more in selling stock than in producing sugar, and the final result would be losses to all concerned, including the growers themselves.

We have mentioned for the first time the problem of disposing of the finished product, and would like to state here that it is a very real problem, even with only one factory producing. In spite of all the efforts of our predecessors and ourselves to dispel the prejudice against beet sugar, we still find it firmly rooted in the public mind. At the present time we are doing our best to sell our beet sugar output in the territory adjacent to the factory, because in so doing we receive a higher net return, due to the lower freight charges which we would pay. If such a policy could be carried out, it would not only benefit the factory, but would also benefit the growers to an equal extent, because the price paid for beets, under our sliding scale contract, is based on the net return which we receive for the sugar. Unfortunately our efforts have met with only slight success. In the city of Calgary for instance which is a favourable point for distribution from Raymond, the sale of beet sugar is only half the sale of cane, and the same condition prevails at other points. As a result, we are obliged to market our Alberta product at points as far east as Yorkton and Weyburn, and as far North as Edmonton, and the average net return is greatly reduced on that account. Incidentally we might mention that if two factories were operating, the problem of marketing would be much more serious, since they would have to divide between them the scanty local market, and then go much further afield to dispose of the balance of their production.

In view of this situation, we are very much in favour of a proposal made in the House that the Government should conduct an advertising campaign to stimulate the use of beet sugar. If we were to embark upon such a campaign it is doubtful whether any benefit would ensue, because the public would realize that we were interested financially, and would not on that account accept any statements we might make at their face value. But if the campaign were undertaken by some Government body with no financial interest in the matter, it is probable that the existing prejudice against beet sugar, a prejudice without any foundation whatsoever, would be very largely overcome.

While this is perhaps not a proper place to discuss freight rates, we would like to state, in closing, that if Canadian rates on beets could be reduced to the level prevailing in the United States, that in itself would be of great assistance to the industry and particularly to the grower. At the present time, rates in Alberta are approximately double the rates for corresponding distances in the neighbouring beet territory in Utah and Idaho. One of the largest items of cost to the Industry in Alberta is the freight paid on the raw material."

The CHAIRMAN: Have you with you a copy of the contract for last year and this year with the growers?

The WITNESS: I have not got this year's yet. I do not know if it has been printed. I have last year's.

The CHAIRMAN: The other day we had the Dominion Sugar Refiners here and they filed with us a copy of their contract.

The WITNESS: I could send it to you. I do not believe it has been sent out.

The CHAIRMAN: There are certain questions that enter into that such as the sugar content.

The WITNESS: It is exactly the same as last year.

The CHAIRMAN: Are your methods for determining the price to the grower the same as those used by the Dominion Sugar Company?

The WITNESS: It is the same principle. I do not know whether they work out exactly to a cent. It may be a little higher or a little lower.

The CHAIRMAN: I think you had better send us a copy.

The WITNESS: I can give you last year's now, and this year it will be exactly the same except that the minimum is reduced to \$5.

Mr. PORTEOUS: Did you say that you are the president of the B.C. Sugar Refineries and also the Alberta Sugar Factories?

The WITNESS: Yes.

Mr. PORTEOUS: What is the relation between these two companies; does the B.C. Sugar Refinery handle any beet product at all?

The WITNESS: We own the Canadian Sugar Factories outright, although they are under a separate corporation. We bought the stock of the Canadian Sugar Factories from the Utah and Idaho Sugar Company.

Mr. PORTEOUS: Where is that factory?

The WITNESS: Raymond, Alberta.

The CHAIRMAN: You do not manufacture any cane sugar at Raymond?

WITNESS: No, none at all.

Mr. PORTEOUS: Is there a factory at Vancouver?

The WITNESS: Not a beet factory, a cane refinery.

Mr. PORTEOUS: You do not do anything but refine sugar at Vancouver?

The WITNESS: The beet process is a combination of both. It converts the beet right into refined sugar. The beet is done in that process; the cane sugar process is in two stages—producing the raw sugar in the tropics and converting it into refined sugar.

Mr. PORTEOUS: You do not handle any beets in the Vancouver plant?

The WITNESS: None at all.

Mr. BROWN: There was a question. You mentioned that the increase in the amount of raw sugar produced and handled at Raymond was brought about largely because of the low price of wheat. Now, what would likely be the effect of the production of beets if wheat should go back to a normal price?

The WITNESS: I think we would have greater difficulty in getting acreage, but, on the other hand, I believe now that the farmers have got accustomed to the beet crop they realize the value from the point of view of rotation, and they would be loathe to give it up entirely; but I think there would be isolated cases. In the total it might affect our capacity if wheat had a substantial increase in values. Mind you, I am not an agricultural man at all; that is just my own opinion from what I have heard.

The CHAIRMAN: I would like to ask you another question. You said that you did not want to enter into any discussion as to the relative prices of the production of cane and beet sugar—that is, to give an absolute figure—but could you give us an idea from the limited experience which you say you have in the manufacture of beet sugar as to which you manufacture the more cheaply?

The WITNESS: Oh, there is no question, the cane is the cheaper. Of course, the beet sugar is protected. The beet sugar has protection as opposed to the cane.

The CHAIRMAN: In what way?

The WITNESS: Well, the difference in the tariff. There is a tariff on raw sugar coming into Canada of \$1.30 a hundred pounds. On top of that the Raymond factory had an advantage of around fifty cents. It cost us from fifty to sixty cents to put sugar into—to compete with Raymond sugar.

The CHAIRMAN: Even at that you would prefer to manufacture all cane sugar, would you?

The WITNESS: No. I have no preference at all. I would not think of building a factory under present conditions unless something was done to assist it. It is absolutely out of the question; the price of sugar is lower than it has ever been, and this is not the time to build beet factories unless there is some very substantial assistance granted to the industry.

Mr. TUMMON: Is it possible to refine the raw sugar, say, in the Raymond factory?

The WITNESS: Well, it would not be commercially feasible, no.

Mr. TUMMON: What I mean is, that the process that is now used for the refining of the beet sugar would be the same process that is used for refining the raw?

The WITNESS: They are absolutely different processes. You would not recognize the two factories. There is very little in common between them.

Mr. YOUNG: What percentage, Mr. Rogers, of the Canadian market for sugar is supplied now by Canadian refiners?

The WITNESS: Do you mean beet or cane sugar?

Mr. YOUNG: I mean all sugar. What percentage of our sugar do we import refined and what percentage of it comes from our own refineries?

The WITNESS: I think only about five or six per cent—six per cent is imported.

Mr. YOUNG: Is it not a fact that the Canadian refineries supply from 98 to 99 per cent of our wants?

The WITNESS: I do not think it is quite as high as that. I think it is 94 per cent. I think you had some figures from the statisticians on that. Was it not 7 per cent that came in? I really do not know that figure offhand.

Mr. YOUNG: In other words, we could not expand our production of sugar very much without depriving some Canadian industry of part of its market at the present time?

The WITNESS: There is no question about that at all. For instance, this Raymond factory has deprived us of capacity; as its capacity goes up our capacity comes down. We are prepared to go ahead and expand if given enough assistance. I do not say—I will not pretend that we are eager to go and build more factories when we have this capacity in Vancouver, but we are prepared to do it, if that is the wish of the people.

Mr. YOUNG: Taking the sugar industry of Canada as a whole, there is very little possibility of expansion as far as the home is concerned?

The WITNESS: Unless more population comes in.

Mr. YOUNG: Now, you spoke of the capacity of your factory at Raymond being 100,000; 100,000 in what period of time?

The WITNESS: That is the economic period between 90 and 100 days.

Mr. YOUNG: And you figure that the factory would be economically idle the rest of the year?

The WITNESS: Yes.

Mr. YOUNG: For what season of the year do you operate your cane sugar factory at Vancouver?

The WITNESS: Every day in the year.

Mr. YOUNG: A cane sugar factory is a more economical proposition than a beet sugar factory?

The WITNESS: Well, the labour demand has less fluctuation; in fact, it has none at all. We have the same staff on summer and winter.

Mr. BOYS: Might I ask a question. You are refining the cane sugar and also manufacturing the beet sugar. Now, how does the labour benefit to this country compare when you consider the refining of the cane sugar and the manufacture of the beet sugar as well as the growing of the sugar beet?

The WITNESS: In considering the beet industry you have to consider the agricultural side of the question as well as the factory, and if you take that into consideration the labour used for beet production is very much greater than for cane sugar refining.

Mr. BOYS: About what percentage?

The WITNESS: I am afraid I could not answer that offhand. I am not familiar with agriculture.

Mr. BOYS: It would be considerable at any rate?

The WITNESS: Yes, very considerable.

Mr. BOYS: In regard to the world's supply of sugar at the present time, have you got statistics showing a lowering of the world's consumption or requirements at the present time?

The WITNESS: I have not got them with me, but I can say offhand that there is a surplus stock of sugar in the world to-day of five million tons; that is over and above normal stock.

Mr. CARMICHAEL: We had a previous witness here and his evidence was that the world's supply was eight million tons and the world's requirements four million tons. Now, if that is a fact, would not bonusing the industry in Canada tend to aggravate that situation by producing more sugar when there should be a curtailment rather than greater production?

The WITNESS: That is more theoretical than actual. It would be just a drop in the bucket to compare three hundred thousand bags for a factory—to compare that with a large amount like four million tons. It would hardly be noted. It is a fact, however, that every little bit helps.

Mr. YOUNG: Supposing the government decided to give a bonus to the grower of beets and that an unfavourable year came along in which it was difficult for the refiner to get along, would the fact that the farmer was going to get a bonus on his production have any influence on the price you decided to give him for his beets?

The WITNESS: I do not see how a bonus to the farmer can stimulate expansion in the industry unless the factory gets some share of it, either by giving a lower price for beets or understanding beforehand that it will be divided up with the grower. The bonus to the grower, as I understand it, is merely to help him over the bad time, not to promote more factories. It does not help us at all.

Mr. BOUCHARD: Do you charge the retailer the same price for beet sugar as you do for cane sugar?

The WITNESS: We try to. We do not deal with the retailer, but the wholesaler. We sell in Alberta at the same price. We rely on the "made in Alberta" spirit to buy up all the beet sugar. In Saskatchewan we have been obliged to make a differential between cane and beet sugar on account of this prejudice. We are hoping that that will only be temporary.

Mr. YOUNG: It would not be commercially sound, would it, to build factories close enough together so that the farmers would be able to get the benefit of this pulp as a product?

The WITNESS: No. From the standpoint of the factory the factories should be a considerable distance apart because your biggest freight charge is on the sugar, not on the beet. If two factories are close together, say, in Alberta, they are shipping to Winnipeg side by side. It is obviously better if you had one factory in Winnipeg and one in Alberta and shipping half the distance.

Mr. BROWN: What would be the smallest unit that would be commercially practicable in the amount of raw product, the number of tons?

The WITNESS: I think one hundred thousand tons. That is the experience in the United States—a one hundred thousand ton factory is the smallest unit, a one hundred thousand ton factory operating one hundred days. That is the smallest unit, but in the United States they have larger units. A large sized factory goes to three hundred thousand tons and there are a few very large ones, as high as five hundred thousand.

Mr. YOUNG: Then you spoke of a system of trial and error. Do I understand you to mean that we should start off giving a bonus to the farmer and if that does not work out right try giving one to the factory, and if that was not sufficient we would increase it until we pleased everybody?

The WITNESS: As far as the bonus to the factory is concerned, I understand it is merely to help the farmer, just as the wheat bonus does, and I do not think that will help build factories at all. When I spoke of trial and error I meant a tariff. If you have a cent a pound tariff on and you do not get along you would add to that the following year. It would not be entirely guesswork because you can follow what other countries have been doing such as Great Britain, European countries and the United States.

Mr. YOUNG: Could you give us the history of the British experience in regard to its recent scheme for bonusing the sugar beet industry?

The WITNESS: No, I cannot. I can tell you this: it had its defects. They put such a high bounty on beet sugar that a lot of factories were built in those districts which were not suitable for raising beets, and the bounty was on a diminishing scale, and when it fell to its lower level these particular factories had great difficulties, and I believe they have got to give them more assistance.

Mr. YOUNG: Is it true—I have seen the statement—that the British Government would have money ahead if they had paid these men good wages and destroyed the beets?

The WITNESS: I do not know if that is true. As I understand it, the purpose of the British Government was to have a supply of sugar in time of war. They remembered that they had very little sugar during the submarine blockade and they decided that they were going to have some kind of sugar regardless of what it cost them. Also, I think there was a desire to get the people out of the cities and onto the land, and the beet industry not only gives direct labour, but on account of its improving crops, it stimulates farm work generally.

Mr. YOUNG: They did not find it to be an economically sound proposition?

The WITNESS: I do not think the subsidy will ever be taken off, if that is what you mean.

Mr. SPROULE: What did you say the tariff was on the refined sugar in Canada?

The WITNESS: It is \$1.89.

Mr. SPROULE: What is it on the raw sugar?

The WITNESS: It is \$1.29.

Mr. BOYS: What percentage of beet sugar is sold in Canada? Could you give us an idea of that?

The CHAIRMAN: Do you mean of the total amount?

Mr. BOYS: Yes, in comparison with cane sugar?

The WITNESS: I think it is about 10 per cent.

Mr. BOYS: Would you think of the quota system—making it compulsory that a certain amount of beet sugar would be sold in Canada?

The WITNESS: Well, I cannot understand how you would work it. Would it be possible to sell the beet sugar concentrated in certain districts under a quota system?

Mr. BOYS: A zone system.

Mr. PICKEL: From the point of view of the manufacturer, which would be more profitable, cane or beet sugar?

The WITNESS: Well, neither is profitable to-day.

Mr. PICKEL: Which does the manufacturer favour the more—to manufacture cane or beet sugar?

The WITNESS: They are both losing money so fast to-day that there is nothing to choose between them. I have some figures on beet sugar companies in the United States. Last year the three largest companies in the United States which was the year ending March, 1931—the Great Western is the largest and it lost \$489,000, the American Beet Company lost \$1,764,000, and another company lost \$595,000.

The CHAIRMAN: Is that taken from their balance sheet.

The WITNESS: Yes. That is in their published balance sheet. The Utah-Idaho Sugar Company lost about \$2,095,000. In the cane sugar industry I have not any figures here, but I know that in Cuba all the companies are losing money, and a lot of them are in liquidation.

Mr. PICKEL: What about Canadian companies—refineries?

The WITNESS: The refineries are different. They take the spread between the raw and refined. They are not producers; they are distributors and refiners. I did not intend to convey the idea that they had been losing money. I thought you asked about manufacturers. The refinery does not often lose unless on a very erratic market such as after the war. It takes the spread between the raw and the refined.

The CHAIRMAN: I do not suppose that in view of the fact that you are losing money to-day you want to go out of the sugar business?

The WITNESS: I did not say we were losing money, Mr. Chairman, I was speaking of the manufacturers, the raw sugar manufacturers, which we are not; but in the case of Raymond we only have this one year's experience which was abnormal on account of weather, and we did not lose money. We made money this year.

The CHAIRMAN: The question before this committee is, whether we can stimulate the production of beets in Canada profitably.

Mr. BROWN: With regard to the question of weather, in taking over that plant at Raymond did you make any investigation as to what might have been expected over a period of years as regards to weather and its effects upon the beets?

The WITNESS: I have the temperature charts going back to 1920. It is not very promising when one reads this; but, on the other hand, before we definitely purchased it we made some inquiries in the neighbourhood and the weather can be very largely overcome by the experience of the growers. The experience in 1930 was very unfortunate, but I believe the growers here present will admit that it might have been prevented if the necessary steps had been taken to prevent the frost that did occur.

Mr. BROWN: What would those steps be in the case of an early frost?

The WITNESS: We have a system now of field silos. In the case of a frost we shut all our receiving stations down. We do not receive beets into the main factory. All those piles of beets are piled high and if we have one patch of those beets in the middle and it starts to rot it will spread like wildfire through the pile. That is what happened in 1930. Now, if another frost hit us in the future we would close down our receiving stations and back the beets up into the farmers' hands and they would pile them in small piles of such dimensions that the beets would not have a chance to heat up.

Mr. BROWN: Is it not true that in some years the beets would be frozen before there would be time to cut them?

The WITNESS: These frozen beets will keep in the silo piles fairly well.

Mr. BROWN: To what extent is the sugar content destroyed by the frost?

The WITNESS: That depends on the conditions at the time they are in storage. I think they would still be suitable for sugar making if they have been properly piled in the silo pile.

Mr. SIMPSON: The first witness gave us the cost of the growing production of the sugar beets and also the profit or loss. You say that you hesitate to give us the equivalent cost in the processing or manufacturing of the sugar. That does not give the committee very good grounds to work on.

The WITNESS: Well, I tried to point out in my brief but I did not see much advantage to comparing the cost of cane and beet sugar. If I gave you our Raymond cost, going back five years, it would not mean anything at all; but each year when you know what happened that year you know that will not happen again. Our costs are going to be lower in the future. Those costs would not be worth anything. If I am asked to give them I can give them.

Mr. SIMPSON: You do not take the same chances in your processing or manufacturing of the sugar as the grower does in the production of his beets, do you?

The WITNESS: Very much greater chances. In 1930, and before, we took over 20,000 beets for which we paid \$6 plus the \$1 freight—\$140,000 worth of beets were never sliced at all. They rotted in the ground. The yield was so low that they were hardly worth processing at all. That is what shoots our costs up.

Mr. STEWART: That was the first time that had happened in twenty years?

The WITNESS: In 1925 there was a very early frost.

Mr. STEWART: Nothing like that.

The WITNESS: I think I gave out figures to you in a letter. If we had in 1925 and 1926 100,000 tons we would have had considerable loss due to this early frost.

Mr. McMULLIN: In parts of the district. In our part of the district there was no loss; the beets were all harvested before the frost came. The frost came in October.

The WITNESS: In 1926 the frost came in September and went down to ten above zero on the 22nd of September.

Mr. SPOULE: Do you say that it destroys the beets when it freezes them?

The WITNESS: When they thaw. The freezing does not destroy them. It is the thawing when the chinook comes along.

Mr. SPOULE: They freeze before you lift them at all.

The WITNESS: In 1930 they froze in the ground. There were 60,000 tons frozen in the ground in 1930. That is just about one-half the crop. They say that is absolutely abnormal, very exceptional.

Mr. SPOULE: You spoke of leaving them in the farmer's hands. You mean that you leave them piled up in the field?

The WITNESS: Yes. As soon as the ground thaws out the farmer ploughs them out and silos them for which we pay him the cost of siloing, but he takes the loss if the beets deteriorate in the silo. That is his loss. This was done by our predecessors. They took the stand that the industry could not exist if they had to take a gamble on the weather as well as on the price of sugar. They had to put back on the farmer that risk. The farmer is the man who can lessen that risk by his care of the crop.

Mr. SPROULE: Would there be much difference in those beets if they froze in the ground or out of the ground?

The WITNESS: Once they are in the pile they will not freeze.

Mr. BOYS: Do you mean that you erect a silo, a cement building?

The WITNESS: No, it is a name they use; it is a pile.

Mr. McMULLIN: It is a pile on the top of the ground covered with beet tops.

The WITNESS: Banked up with earth on the side.

Mr. STEWART: The reduction in the acreage from 14,000 to 12,000 was made by the Utah-Idaho Sugar Company. In a statement I made in the house the other day I said it was done by your company. I retract that statement and correct it. Now, do eastern manufacturers ship any refined sugar to the west of the mountains?

The WITNESS: No.

Mr. STEWART: Do you get any beet refined sugar landed in Vancouver?

The WITNESS: No. From the beets, do you mean?

Mr. STEWART: Yes.

The WITNESS: No.

Mr. STEWART: Then with a \$2.30 dumping duty you have no competition?

The WITNESS: We have never seen that applied. Even before that was applied we had no beet sugar in Vancouver for over a year. I do not know whether they apply that or not.

Mr. STEWART: You get \$2.30 first, as a dumping valuation on the refined sugar to-day.

The WITNESS: Does that not only apply to Canada?

Mr. STEWART: It refers to all sugars—\$2.30.

The WITNESS: We could do without it.

Mr. STEWART: General tariff. In 1930 we had 50,000,000 pounds of refined sugar imported to Canada. Last year we had 20,000,000 pounds. So, practically the whole of the sugar of Canada is really produced by the cane sugar refineries.

The WITNESS: Yes; and the beet.

Mr. STEWART: What is your capacity in your cane refinery at Vancouver?

The WITNESS: Well, we have never had a chance to demonstrate. I should mention—

Mr. STEWART: Are you working to full capacity?

The WITNESS: Never. The demand for sugar is a seasonal one. In the summer time, during the preserving season, our demands are sometimes more than double our average. Our capacity is about right for the summer months. six million pounds a week, but if you multiply that by fifty-two weeks you get a ridiculous figure.

Mr. STEWART: What is your output a year?

The WITNESS: One hundred and fifty million pounds.

Mr. STEWART: Then you ship your sugar as far east as where?

The WITNESS: Oh, pretty well east of Saskatchewan. You can say the three Prairie provinces.

Mr. STEWART: You do not get as far as Brandon?

The WITNESS: No.

Mr. STEWART: Not quite that far?

The WITNESS: Some distance from that.

Mr. STEWART: Do you meet any competition from eastern competitors?

The WITNESS: Yes. Our prices in eastern Saskatchewan are all based on eastern prices. As you go east our prices go up.

Mr. STEWART: Your output is 160,000,000 pounds a year?

The WITNESS: I said 150,000,000 pounds.

Mr. STEWART: Now, I have here a statement made by the Financial Post in which it says in regard to raw sugar, "it goes to the British Columbia Sugar Refineries in Vancouver and from there it is shipped to many points in western Canada, virtually dominating the market." That means, according to this statement, that there is not any competition between the sugar refineries in eastern and western Canada?

The WITNESS: There is absolutely none, I admit that.

Mr. STEWART: Now, Mr. Rogers, you are getting a dumping duty of \$2.30 per hundred pounds.

The WITNESS: I do not know anything about that.

Mr. STEWART: A dumping valuation.

The WITNESS: That is not put in for us at all. We have no benefit from that.

Mr. STEWART: You are getting a dumping valuation of \$2.30, and when they pay all the duty that is imposed, the added duty, crediting the exchange, refined sugar can be laid down in Canada at \$5.05. That is the statement given out by the Canadian Grocer on February 12, 1932. Now you produce 150,000,000 pounds of cane sugar a year. You can bring that into Vancouver from Cuba or the British West Indies by boatload?

The WITNESS: Oh, yes.

Mr. STEWART: And you can bring it in at the same price as if it were landed at Montreal?

The WITNESS: The freight is a little higher.

Mr. STEWART: Very very little?

The WITNESS: Not much; five cents a pound, perhaps.

Mr. STEWART: And the price of raw sugar today is about 80 cents?

The WITNESS: That is New York.

Mr. STEWART: Yes. Well, add 25 cents on for your extra tariff and the duty is \$1.28. That is not the preferential. You can get the preferential for 28 cents. The cost of the raw sugar and the duty to the sugar refinery in Canada cannot be more than \$2.25 for 107 pounds?

The WITNESS: That is today.

Mr. STEWART: That is today, yes; and Canada has shut out sugar, so it costs \$5.05 to come in. Now, the point I want to get at is this—I am not objecting to it, because I agree with it—I agree we should give Canadian industries every chance—but you are getting nearly a cent and a half to two cents a pound on your 150,000,000 pounds that you manufacture a year. You can readily see the profit there is?

The WITNESS: We are not taking that profit. You spoke of a tariff of \$5.05. We are not netting four cents today.

Mr. STEWART: You are selling at \$4.50.

The WITNESS: We are selling at \$4.50 in Vancouver. That becomes \$4.23 as you go east and absorb the freight which averages four cents. We are getting something like \$3.90 in Saskatchewan.

Mr. STEWART: What I am trying to get at is this, that Canada certainly has allowed for the welfare of the Canadian industry, and I have no objections to that, but I think Canada is expecting something from the cane sugar industry to look after the farmer and see that he gets a chance to grow sugar beets.

The WITNESS: I have not said anything that we are not prepared to do that.

Mr. STEWART: It is more like a quid pro quo.

The WITNESS: Yes.

Mr. STEWART: Did you make any profit at the Raymond sugar factory this year?

The WITNESS: Yes, we did.

Mr. STEWART: I am glad to know that.

The WITNESS: It was much to our surprise.

Mr. STEWART: You have not tried to zone it out—the selling of the sugar?

The WITNESS: Yes. That is what I said in my statement. We are trying to sell it in the territory right around the factory.

Mr. STEWART: There was a complaint from Edmonton. Edmonton had worked up quite a demand and after it had been taken over by your company it was not shipped north.

The WITNESS: That is a fact. Edmonton is the most unfavourable point of all the points to which we ship beet sugar. By withdrawing from Edmonton we got a higher return and the grower got a higher net return. We have been forced to go back to Edmonton because we have to sell a big quantity and we cannot dispose of it.

Mr. STEWART: We are at this stage in the economic life of this country where we want to have just as little disturbance as possible, and if there are hundreds of pounds of sugar which we manufacture at Raymond we disturb a hundred pounds formerly manufactured in Vancouver. In Vancouver they may have three hundred men working; we will have fifteen hundred to two thousand working in Raymond. Now, we think that a fair chance has been given to the Canadian cane sugar refineries, and with this I agree, and we are expecting them to give the farmers who live in those districts opportunities to live and operate their farms and to reduce their overhead on the irrigated land. I think that that is the position we take.

Mr. YOUNG: That is what you want to do. How do you propose to do it?

Mr. STEWART: Just give them a chance to grow sugar beets. With the dumping valuation of \$2.30 the price will take care of itself.

Mr. YOUNG: You are going to give them a chance to grow sugar beets, and yet you do not want to disturb the sugar industry.

Mr. STEWART: We want as little disturbance as possible. In Canada today we have two and one half times the capacity in our sugar refineries that our population can take care of. Now, we have built up a great export trade which has been cut off, and they cannot take care of their capacity.

Mr. YOUNG: What will you do for the farmer that cannot grow sugar beets?

Mr. STEWART: He will be unfortunate.

Mr. YOUNG: He will have to pay a little extra for sugar so that the farmer who can grow sugar beets will be able to educate his children.

Mr. SPROULE: You are short sighted.

Mr. YOUNG: I am trying to see the whole country.

Mr. SPROULE: They have two thousand acres growing beets which would be two thousand less growing grain.

Mr. YOUNG: I am afraid that will not affect the world's market for wheat. If a farmer is buying cane sugar for a certain price and turns over and buys beet sugar for a greater price—

A MEMBER: He is not paying more.

Mr. YOUNG: Yes, he is paying more; because when he buys cane sugar a portion of that price goes into the revenues of the country.

Mr. STEWART: The British preference—with the British West Indies 95 per cent of it goes into the pockets of the British West Indies and not into the pockets of the sugar refiners of Canada.

The WITNESS: As far as the West Indies are concerned, it does not matter if it is full duty sugar or foreign sugar, the government gets the money. If it goes to the West Indies in the form of preferential treatment the West Indies gets the money. All right, but they buy your flour at a fancy price in return.

Mr. STEWART: That is not the point. We are talking about the duty.

The WITNESS: As far as the revenue is concerned, most of the sugar is preferential and has the lower duty.

Mr. STEWART: It all goes to someone who raises the duty in the West Indies?

The WITNESS: Yes, in the West Indies.

Mr. PICKEL: Do you import any of your cane sugar from the Phillipines?

The WITNESS: From Fiji.

Mr. PICKEL: Is it a large amount?

The WITNESS: Yes, quite a large amount.

The CHAIRMAN: We have Mr. Russell with us to-day. He is here representing the beet growers of Alberta, at his own expense, I understand.

WILLIAM F. RUSSELL, called.

The WITNESS: Mr. Chairman and gentlemen, I might explain that I am a farmer just as Mr. McMullin is a farmer, but there is a little difference in our positions. Probably it will be necessary for me to explain just a little. I was born and raised in an irrigated territory. My whole life has been spent under irrigation farming. I came to this country in 1900, and I helped to construct the first irrigation system of any consequence in the Dominion of Canada. I planted beets for the first sugar factory that came into this country, and I raised sugar beets in Utah and Idaho before coming here. I am not a college graduate, but I am considered more or less of an expert in irrigation. The government of the province of Alberta employed me to help and educate the farmers in Lethbridge in order to give this country new methods in practical irrigation. I happened to be in the position of having grown-up sons who operate my farm under my direction, and I am at the present time employed by the provincial government on the Lethbridge northern in that capacity—not as a professor, not as a graduate, but as a practical farmer. We had twenty acres of beets on our farm last year, and we grew practically two hundred tons of beets. I am a member of the Beet Growers' Association, and a member of the executive board of that association, and I am here at the request of the association. I may correct the Chairman by saying that the Beet Growers' Association are paying my expenses. I would just like to go into the irrigation part of this question if I may. I do not know how much time the Chairman is going to give me. The province of Alberta and the Dominion of Canada, the C.P.R. and English capital have invested in irrigation in the province of Alberta

somewhere between twenty and fifty million dollars. As has already been said, we live in a dry country. It was conceded years ago that the settlement of that country would not be practicable without irrigation, and that was the thing that brought about the first irrigation system that came in. It has had several setbacks. In the season of 1902 we had nearly three feet of rain, and those new settlers coming into the country to irrigate thought it was foolish with that much rain, and they left the irrigated lands and went on to homesteads and all that kind of thing. Somebody made the remark in the House of Commons not long ago about the wind blowing through the wide open spaces. If you were out in our country you would know what the wide open spaces means. We have an immense country only partially populated at the present time. We have an immense acreage under irrigation which is only partially settled. The C.P.R. have a district at Coaldale, and I think they have had about five sets of settlers on it trying to reclaim the land under grain growing methods. It has been said that this is a great factor in irrigation—not any more than it would be without irrigation if you had the moisture to germinate the seed and make it grow. But we have them there and we have to combat conditions, and the consequence is that we have introduced crops to clean up the land, and under irrigation our outlook is just the opposite of the dry farmer. Those people came into the wide open spaces. They are like the child who brings back a bag of candy. He is not satisfied with one piece of candy, he must have the whole bag. That is the trouble with the dry farmer. In Alberta, Saskatchewan and part of Manitoba, they are not satisfied to build a home, to take a moderate piece of land and farm it, but they want to farm the whole country. Under irrigation the outlook is different; we must take the acres and produce more, increase the production to the maximum. In order to do that we must increase the fertility of the soil by adding to it fertilizer. In our country we are handicapped to a greater or less extent by the climate—more than they are handicapped to the south. Our seasons are short and certain crops are adapted to our country. We grow the finest wheat in the world because of our location. There are other countries, probably, that grow more wheat per acre than we do in Canada, but they cannot grow the quality. The climate gives us the same result with sugar beet. We should grow the best sugar beets because our climate is fitted for sugar beet, and that is the only hoed crop we can grow in this country that will give us a successful crop. More than that, as my friend Dr. Sturges said, we want to build homes for Canadians. We want to introduce people on these irrigated lands who will succeed. We believe it is good business for the government and good business for the people to settle that country and help to redress part of that investment that has been made in irrigation. The clamour, of course, now is for better farming. The only way to get better farming is to go into diversified farming or rotation of crop which will build up the soil and make it produce more in twenty years from now than it is producing to-day. We should not be in the position that we find ourselves in under grain farming where in twenty years we find our land worn out and gone. That has been the history of wheat growing countries. I do not need to comment further on that. That is the fundamental thing, however, in connection with beet growing in the Dominion of Canada; we have a market at home for sugar. We consume, as has been said, one hundred pounds of sugar per capita. Now, if we are going to live in this country we should first live at home. My grandfather used to have this motto: Live on the farm. I have heard him say many times, "if I can sell \$100 worth of material a year that \$100 is all the cash I need, because I can live on the farm." That is what we are trying to do in introducing this beet farming. We do not feel that our standard of living in this country should be lowered. We do not feel that it is fair for us to have to compete with the labour of the Pacific isles. We are here in a good country and we have a good class of people,

and the only thing that has been wrong is our mental attitude on the prairies. That attitude has been: Get some land and grow some wheat, sell some wheat and buy some more land, sell some more wheat and buy some more land and then go to California or Florida or some other place for the winter. Now, if we can introduce into our country a more stable method of farming I am quite satisfied that we will make Canada a better place for our people to live in and have a more contented people.

Now, I am going to go from that to something else.

Mr. BOUCHARD: I think that is one of the most interesting points that has been touched upon by a witness—sugar beets as a factor in introducing home life on the farm. I would like if you could go into that in a little more detail. How will it work out? I think that is a most interesting point.

The WITNESS: Thank you very much. I may say you are at liberty to interrupt me at any stage and ask me any question, and your questions will not interfere with my thoughts.

Mr. BOUCHARD: What is the relation between sugar growing and stock raising, for example? How does it come into your rotation? How is it going to work all the year around?

The WITNESS: That is just the point I was going to turn to. The growing of sugar beets is the foundation of that irrigated territory for livestock, beef raising, dairy cattle and every other line of livestock. It is the natural foundation for it. It builds it up. I am going to give you a letter I have here from the Secretary of the Livestock association of southern Alberta. In the past we have been wrong; we have been shipping our livestock out of this country as feeders. The other men have been making the profit. Now, I am going to give you some of the experiences at the Raymond plant. Last year we fed in that territory around the Raymond sugar plant—not all of them, however—we fed pulp, and we fed the sugar molasses and the beet top. The cattle fed from the by-product of the beet in the Raymond territory went to the Toronto exhibition and took first and second place as fat cattle.

Mr. STEWART: For a carload lot?

The WITNESS: For carload lot. That is what I am speaking of. Last year carload lots went into the English market and into the Scotch market against the best Scotch type of cattle and topped the market. They were fattened and finished in the Raymond district. You have heard of the red label beef association where the rancher brings his cattle in and turns them over to the farmer to be fattened. The farmer fattens them and they divide up the spoils. We are fattening this year twenty-four hundred head. Now, those cattle are going to go on the market soon. Some of them are almost ready. I went out there just a week or so before coming here.

Mr. BOUCHARD: What proportion of beet tops can you introduce into your ration without injuring the animal? Can you feed them only beet tops?

The WITNESS: You have to make a balanced ration in order to feed your cattle. That is balanced up with alfalfa hay, timothy hay and coarse grains which are ground and fed. As the cattle advance they increase in their consumption of coarse grain, and, of course, continue to consume by-products from the beets.

Mr. PORTEOUS: It would compare to a certain extent with corn silage?

The WITNESS: Just the same as corn silage. Beet pulp is practically the same thing, but there is only a small area that can participate in the feeding of the pulp on account of the cost of the freight to bring the pulp back, so that a great many of those cattle are being fed and taken into the proximity of the sugar factory itself. The dairy people take the beet pulp from there and feed it to their cattle. The dairy people claim they can haul the beet pulp, and they do haul it, in some cases seventy-five miles.

Mr. STEWART: More than that.

The WITNESS: Yes, I think they hauled more than that. In fact, there were some trucks sent to High River.

Mr. SPROULE: Would that be dry pulp?

The WITNESS: No, wet pulp, right out of the silos of the sugar factory. I do not know to what extent they use it, but all of the dairies within twenty miles feed the pulp and claim it pays them to haul it and pay the price at the factory, that it returns. Now, in regard to the increase in acreage from year to year, when the Utah-Idaho sugar people came into Alberta with their sugar plant they only required, or asked for 6,000 acres. That was a capacity of sixty thousand. Our lands were weedy and dirty, and we had to make special preparation and clean up the land for sugar beets. Our yields would be low in that class of land. Every year the acreage increased and the yield increased. Our average yield in the province of Alberta has raised faster than in any other district that I have been able to find record of. Our average yield this year was just a trifle under nine ton. Our average yield last year was a little over nine ton.

Mr. STEWART: It was 8.75.

The WITNESS: This year, and I think in 1930, it was a trifle over. Now, I am going to go down to the States for a few minutes. Colorado is the highest producing district for sugar beets—on irrigated land in all cases their average is only eleven ton, and they have been in that game there for thirty years. The Idaho average—and they have been in the game nearly that length of time is less than eleven tons—about ten and one-half tons.

Mr. SIMPSON: Before you leave that question, what relation has dairying and beet raising to the home life on the farm as compared with beet growing or grain growing? Wheat growing is a seasonal occupation whereas beet growing and dairying are yearly occupations, is that right?

The WITNESS: Yes. That is the point I was making. Not only that, but that kind of a place is a home.

Mr. BOUCHARD: But what is your rotation, and what is the result on a following crop of wheat compared with wheat growing alone?

The WITNESS: Well, the yield of wheat would increase in time, because you are increasing the fertility of your land. You are adding the commercial fertilizer and you are adding the natural fertilizer which you make on your farm with your livestock. That naturally builds up the soil to a point where it produces a bigger yield per acre. It does not only do that; it builds up a home where you have all kinds of vegetables and all kinds of small fruit, and it builds up a home which your young people when they leave want to come back to. My good friend, Mr. McMullin here has built up a home of that kind with trees and shrubberies, and when his boys and girls go away they are glad to come back home again. If you go on to some of the wheat farms out in the wide open spaces you find that the children are glad to get away from home, and when they go away they stay away.

Now, if you will pardon me for a personal reference, I may say that I do not know how many men in this gathering are as fortunate as I am, but I have the good fortune to be the father of seven sons, and those boys are glad to stay in this country. We have tried to build a farm that is attractive. The two boys who are operating the farm have gone to the high school and have graduated from the Agricultural college in the province of Alberta and are satisfied to be on the farm. I have brothers who are dry farmers—went into dry farming because they thought irrigation was too much work. Just as quickly as they can get off and get somewhere else they are off.

Mr. BOUCHARD: Don't you think it would be possible to introduce in the west, in different parts, the old rural civilization that we have kept in the east? It is not, perhaps, as prosperous as the other during times of great prosperity, but it is more resistant in times of depression?

The WITNESS: I am quite satisfied, my dear sir, that we have got to retrace our steps in the Prairie Provinces. We have got to go back, like the little boy whose mother asked him to go to the grocery store to get a loaf of bread and when he had gone a few moments he came back and said, "Mother what was it you asked me to get?" His mother said, "son, you were in too big a hurry. If you had waited I would have told you before you left." Now, that is the position our prairie farmers have been in; they have been in too big a hurry to make a fortune and leave. Now, that has been the downfall of the settlement of the Prairie Provinces. Our population came to get rich and leave. We want to change that. We want a population to come into Alberta and live in Alberta.

Mr. CARMICHAEL: What is the percentage of beet growers in the Prairie Provinces as compared with the percentage of grain growers?

The WITNESS: In the Prairie Provinces last year we grew twelve thousand acres of sugar beets. That would not be a little garden spot in comparison.

Mr. CARMICHAEL: Your argument should be used for the grain grower to try to establish him and build up permanent homes. You are using your argument only for a small garden patch of beet growers.

The WITNESS: We want to extend it. As I said in the beginning, there are in the neighbourhood of thirty to fifty million dollars of capital being invested by governments and private parties in the irrigation of this country to make it stable.

Mr. BERTRAND: How many beet growers could you put up in your district?

The WITNESS: Seventy-five thousand. It has been estimated that the sugar factories directly and indirectly create the foundation for a living for ten thousand people.

Mr. PICKEL: What acreage would be available for beets?

The WITNESS: I would say twenty-five per cent of the total arable area would be available or would be suitable for raising sugar beets. We can increase the production of sugar beets to nearly the possibilities of production. You may not think we can do that, but we can take your lands that are adjacent to railroads and suitable otherwise. Get that into sugar beets and it will help to stabilize the districts which are dried out. Our livestock population can come in and get hay and seed and they can do much which will help to stabilize the wheat grower on the dry land. It will put them in a position where the government will not have to come out and buy feed and groceries for them to raise the next crop of wheat.

The CHAIRMAN: I think we are all pretty well satisfied that if the production of beets can be stimulated it will be all to the good. What are your suggestions now as to how that can be done?

The WITNESS: Give the farmers a chance to raise the beets. That is all that I can say: I am not a professor.

Mr. PICKEL: What proposition do you make to do that?

The CHAIRMAN: That is what we are trying to find out.

The WITNESS: Somebody said that they did not care to disturb the present industries to any great extent. However, we must disturb those industries for the benefit of the people of Canada. It is a question in my mind of capital against people. Here we are with a big country crying for population, and population crying for an opportunity to make a living and to stabilize the country.

Mr. PICKEL: Don't you think that the sugar companies have a great deal to do with it? It will be their attitude toward the raising of sugar beets that will stimulate it. If they like to increase the production of beet sugar it will be done. If they are working against the beet sugar production and manufacturing cane sugar all the time it will have a deterring influence on the raising of beets.

The WITNESS: Yes.

Mr. PICKEL: What about the attitude of the sugar companies?

The WITNESS: I am quite sure that if I were in Mr. Rogers' position I would not be in favour of increasing the beet sugar industry.

Mr. PICKEL: You would not be?

WITNESS No. If I were in his position. If I had my money invested as he has his invested I am quite sure that I would not be in favour of anything that would disturb my business.

Mr. PICKEL: Well, that is his business—the manufacture of sugar from beets.

The WITNESS: Sure.

Mr. PICKEL: Which would be the more profitable—the manufacture of sugar beets or the manufacture of sugar from cane?

The WITNESS: Well, of course, that is his end of the business.

Mr. BOYS: What is your proposition as to how you would regulate this matter to give the farmer a better chance?

The WITNESS: In the province of Alberta we have 731,605 people according to the last census, in the province of Saskatchewan we have 921,785, in the province of Manitoba we have 700,139, making a grand total of 2,353,429 people who can consume approximately a bag of sugar a year which would mean that in those provinces we consume 2,353,429 bags of sugar. Now, agriculture has two primary positions in this country and in every other country: They are the primary producers and they are the primary consumers. Now, we have a situation before us to-day. I do not know how many thousands of people we have unemployed—how many people this government is supporting through direct relief. Now, it does not make any difference to a man of that type whether the price is fifty cents for a bag of sugar or ten dollars; he cannot buy it; but if we will create a situation where he can get a job working to earn his own living he probably can pay ten dollars a bag for it and enjoy it. My proposition is this: That the beet sugar industry be increased and fostered to supply 75 per cent of that consumption.

Mr. PICKEL: Could that be done through the Raymond area?

The WITNESS: That could be done through the Lethbridge or southern Alberta area.

Mr. PICKEL: What is the capacity of the irrigated lands at the present time? Is it up to capacity, or could it be increased?

The WITNESS: It is hardly touched.

Mr. PICKEL: Are there other other areas in Alberta, perhaps in Saskatchewan, that might be irrigated?

The WITNESS: That could be increased. As I said every factory will increase the population. As their population increases so your consumption increases. Now, we have what is termed the C.P.R. west section which is 218,000 odd acres with only 49,750 acres of that irrigated. We have the C.P.R.

east section at Brooks and Bassano with 400,000 acres of arable land with only 93,000 under cultivation and irrigation. We have the A. R. and I. section at Lethbridge with 130,000 acres arable and with only 75,000 acres irrigated up to last year. Then there is Canada Land & Irrigation Company with 202,000 acres and with only 9,809 settled and irrigated.

Mr. PICKEL: Are those all good beet lands?

The WITNESS: Yes, they are all good beet lands. Now, in the Lethbridge district, the Lethbridge northern has 95,000 acres of irrigated land, 80,000 acres of it irrigated last year, united 34,500 acres—

Mr. SIMPSON: Have you enough land under irrigation at the present time to produce the quantity of sugar you have referred to?

The WITNESS: Yes, and double that.

Mr. PICKEL: I think Mr. Rogers left the impression that they find it difficult to get the required quantity of sugar beets.

The WITNESS: They will have no difficulty whatever. I tried to explain that in my remark a while ago. When the Utah-Idaho people came in they only asked for 6,000 acres to be prepared that year. That was a 50 per cent capacity. That acreage increased every year until in 1930 they had 14,000 acres which was more than the capacity of the factory in 1931. They had to reduce this on account of the capacity of the factory. I understood from Mr. Rogers' statements that the expenditure they are making there will increase the working capacity of the mill, and the acreage will probably be increased 10 per cent this year. We can increase that acreage 100 per cent this year, and in five year's time with safe and sane development we can produce 75 per cent of the sugar consumed in these three provinces. Now, I would like to read these statements into the report.

The CHAIRMAN: I think you had better put them in and they will be included in the minutes.

The WITNESS: I thank you Mr. Chairman and gentlemen for the good hearing you have given me.

"THE BRITISH BEET SUGAR INDUSTRY

(Taken from Barclays' Bank Limited MONTHLY REVIEW, August, 1931)

Experiments in sugar beet cultivation and sugar beet manufacture have been made in the United Kingdom since the early part of the nineteenth century, but it is only in comparatively recent years that efforts have been made, with financial assistance from the Government, to establish the industry on a substantial scale. In 1922, the excise duty on sugar was abolished, but the considerable reduction of the customs duty in the 1924 Budget rendered difficult the position of the factories handling the English-grown beet sugar and on July 30, 1924, it was announced that the Government had decided to provide a subsidy for the industry, while at the same time reimposing the excise duty at the preferential rate applicable to imported Empire sugars. The British Sugar (Subsidy) Act, passed in March, 1925, granted a subsidy on home-grown sugar for a period of ten years, from and including the 1924-25 season, at the rate of 19s. 6d. per cwt. of sugar produced for the first four years, 13s. per cwt. for the next three years, and 6s. 6d. per cwt. for the remaining three years. The industry is now about to enter upon the third and last of these stages, and the following figures, extracted from a report recently published by the Ministry of Agriculture, show the great strides which sugar beet production has made in this country during the past seven years.

SUGAR BEET PRODUCTION IN GREAT BRITAIN DURING THE SUBSIDY PERIOD

Year	Number of Growers	Total Acreage of Beet	Beet Produced (Washed weight)	Yield per Acre	Sucrose per Acre
			Tons	Tons	Lbs.
1924.....	4,039	22,637	183,713	8.1	3,027
1925.....	10,504	56,243	431,185	7.7	2,809
1926.....	20,661	129,463	1,117,072	8.6	3,346
1927.....	31,859	232,918	1,503,019	6.4	2,330
1928.....	25,050	178,047	1,369,781	7.7	2,995
1929.....	32,204	230,553	2,003,586	8.7	3,440
1930.....	40,415	348,920	3,060,498	8.8	3,288

From 1924 to 1930 the number of growers increased tenfold and the acreage of beet fifteenfold, while the number of sugar factories in operation rose from three to eighteen and the labour employed in the manufacturing process from 1,455 to about 9,900 persons. A comparison, however, appearing in the Year Book of the International Institute of Agriculture shows that the average quantity of sugar per acre produced in Great Britain in the years 1926-1929 inclusive was only 2,493 pounds (raw basis). The result was much less favourable than in any of the other principal beet-growing countries, the figure for Holland, for example, being 3,929 pounds. The average yields of sugar beet per acre were 7.77 tons in Great Britain, against 13.10 tons in the Netherlands.

The State assistance rendered to the industry during the seven years 1924/5-1930-31 was substantial and, including the difference between the customs duty on foreign-grown sugar and the excise rate, has been equivalent to almost exactly 2½d. on every pound of home sugar produced or ¼d. on every pound of sugar consumed in the United Kingdom during that period. Details of the total production of the British beet sugar industry and the State assistance afforded to it during the subsidy period are given in the appended table and, according to the figures appearing in the last two columns it will be seen that the report estimates that nearly all the financial aid afforded was retained by the industry.

Season	Production			Financial Assistance			
	Sugar (All Polarizations)	Molasses	Total Subsidy	Revenue Abatement	Total Assistance	Retained by Sugar Beet Industry	Passed on to Consumer
		(Million cwts.)			(£'s Millions)		
1924-25.....	0.48	0.11	0.51	0.05	0.56	0.56	.....
1925-26.....	1.04	0.27	1.12	0.22	1.34	1.34	.....
1926-27.....	3.07	0.75	3.32	0.66	3.98	3.98	.....
1927-28.....	3.80	1.14	4.21	0.81	5.02	5.02	.....
1928-29.....	3.90	0.98	2.82	1.17	3.99	3.54	0.45
1929-30.....	5.84	1.48	4.23	1.77	6.00	5.33	0.67
1930-31*.....	8.49	2.11	6.14	2.67	8.81	7.83	0.98
Total.....	26.62	6.85	22.36	7.35	29.71	27.61	2.10

*Provisional.

The experience gained has confirmed the opinion that this country is eminently suitable for sugar beet cultivation and, owing to the expansion of the industry, one-fifth of the sugar consumed in Great Britain during 1930 was home produced. The report states that "the crop has helped to maintain arable cultivation in those districts in England where it is largely grown" and "during

the prevailing depression in agriculture the farmer has found in the sugar beet a saleable crop which has generally yielded a profit at a time when cereal prices have been abnormally low."

Owing to the recent difficulties confronting British producers through the depression of the world sugar market and the fact that the subsidy is due to be reduced during the coming season, the Government has felt it necessary to render further assistance to the industry and, early this year, it was announced that subject to certain conditions a special advance up to 1s. 3d. per cwt. would be made for one year, payable on 300,000 cwts. of sugar manufactured per factory in the 1931-32 campaign. In the event of a substantial rise in the price of sugar, the price is to be deducted from the normal subsidy due in the succeeding two years.

The report draws the conclusion that when the subsidy expires on October 1, 1934, the industry should be able to prove that, judged by its standards of accomplishment and by the structure and virility of its organization, it has been fully worthy of public support."

NET SUGAR RETURNS RAYMOND FACTORY AS FURNISHED TO BEET GROWERS UNDER CONTRACT

Crop Year	Net	Sugar Content	Paid Net for Beets
	\$		\$
1925.....	5 87	14.41	5 90
1926.....	6 27	16.49	7 72
1927.....	5 99	17.87	8 16
1928.....	5 32	17.33	7 00
1929.....	4 83	18.19	7 00
1930.....	4 54	15.95	6 52
1931.....	4 70Est.	18.34	6 50Est.

LANDS IRRIGATED IN SOUTHERN ALBERTA

	Acres Irrigable	Acres Irrigated
C. P. R. West Section.....	218,980	49,750
C. P. R. East Section.....	400,000	93,375
A. R. & I. Co.....	130,000	75,000
Canada Lands & Irrigation Co.....	202,640	9,809

IRRIGATION DISTRICTS IN ACTUAL OPERATION

Lethbridge Northern.....	approximate area.....	Acres 95,000
United.....	" "	34,500
Taber.....	" "	22,000
Magrath.....	" "	5,000
Raymond.....	" "	6,600
New West.....	" "	4,500
Little Bow.....	non irrigated.....	2,800
Total.....		170,400

The Committee adjourned.

APPENDIX " B "

CANADIAN SUGAR FACTORIES, LIMITED

SUGAR BEET CONTRACT

ALBERTA

1932

No.....
Acres.....

ORIGINAL

This agreement made in duplicate this.....day of.....
A.D. 1932, between Canadian Sugar Factories, Limited, a Body Corporate,
having its Head Office at the Town of Raymond, in the Province of Alberta,
hereinafter called the Company, and.....of.....
in the said Province of Alberta, hereinafter called the "Grower."

Witnesseth that the Grower shall during the year 1932 from beet seed fur-
nished by the Company plant on land approved by the Company.....
acres only of sugar beets and shall deliver and sell the entire crop so planted to
the Company subject to the terms and conditions hereinafter written, and the
Company shall pay for the said crop in accordance with this Agreement; [in
consideration whereof and the acceptance by the Company of this Agreement
the Grower does hereby release and forever discharge the Company of and from
all manner of actions, causes of action, suits, debts, dues, sums of money, claims
and demands whatsoever at law or in equity arising out of the receiving by the
Company of frozen or damaged beets, or payment therefor, during the year 1930
or any previous year.]

1. The Company shall furnish to the Grower beet seed at the rate of
Eighteen Pounds per acre at 15 cents per pound, and the planting if done by the
Company at the Grower's request, shall be under his supervision and he shall pay
the Company 65 cents per acre; provided that if the Grower requests fertilizer
to be drilled with the beet seed, an additional charge of 20 cents an acre shall be
made, said fertilizer to be furnished at the expense of the Grower. Provided
further that should the Grower plant his own land with the Company's drills
a charge of 10 cents per acre shall be made for plain drilling and 15 cents per
acre for fertilizer drilling.

2. Beet seed supplied by the Company shall be used only on land con-
tracted to the Company and the Grower will be credited with seed returned to
the Company in good condition prior to the first day of July, 1932.

3. The Grower shall at his own expense during the proper season thereof
properly cultivate the said lands and care for the said crop of beets (in a good
and husband-like manner), but in no event shall the Company be held liable for
any failure or partial failure of crop or any injury or damage to beets. The
Company has the privilege of crop inspection and sampling beets at any time
during the season.

4. Delivery of beets grown upon the said lands shall be made at the Grower's
expense in the following manner: (a) Between September 15 and October 5,
1932, as and when directed by the Company; (b) On and after October 5, 1931,
the Grower shall deliver without further notification from the Company, except
as provided in clause (d), the remainder of the said beets which meet the con-
tract requirements, it being understood and agreed that the Company shall not
be obligated to receive any beets after the 10th day of November, 1932, except
siloed beets. (c) The Grower agrees to keep all livestock out of beet fields until

after beets are harvested and to properly protect said beets from frost, sun, wind and weather after removal from the ground. (d) The Grower agrees to silo beets when notified to do so by the Company, and he may have the privilege of siloing not over 25 per cent of his crop, after October 10, on notification to scalemen or fieldman. The Company agrees to pay the Grower 40 cents per ton additional for all beets properly siloed and delivered, which meet the requirements of this Contract. Frozen or improperly topped beets must not be siloed. Delivery of siloed beets shall be made only as directed by the Company, and the Company agrees to accept delivery of siloed beets, before slicing storage beets, except in case of storage deterioration. (e) All deliveries of beets shall be made at the Factory, or into piles seven feet high, or as directed by the Company, at the.....receiving station.

5. The Grower agrees to properly top beets by completely cutting off all leaf structure at the base of the crown, and extra large beets shall be trimmed of all crown structure; they shall be free from leaves and excess dirt, stones, trash or foreign substances. The weight of dirt and trash delivered with beets shall be determined and deducted by the Company at the time of delivery. The Grower agrees not to drive over piled beets belonging to the Company, nor to unload dirt, stones, trash or other foreign substances in the vicinity of the place of delivery. All wagon or truck boxes shall be of tight construction to prevent spilling of dirt during unloading. The Company reserves the right to close all receiving Stations during periods of extreme cold and stormy weather.

6. The Company has the option of rejecting diseased, frozen, shrunken, damaged or improperly topped beets, or beets having a sugar content of less than 12 per cent or below 80 per cent Purity.

7. Settlement for beets delivered by the Grower to the Company will be made in accordance with the following table, and shall be based on the campaign average of the cassettes and the average net price per pound received by the Company for all sugar produced at its plant from the 1931 crop of beets:

AVERAGE NET PRICE OF SUGAR PER 100 POUNDS

Sugar Content	\$9.00	\$8.50	\$8.00	\$7.50	\$7.00	\$6.50	\$6.00	\$5.50	\$5.00	\$4.50	\$4.25
18.0.....	\$12 75	\$12 04	\$11 34	\$10 63	\$9 92	\$9 21	\$8 50	\$7 79	\$7 08	\$6 38	\$6 02
17.5.....	12 32	11 63	10 95	10 26	9 58	8 90	8 21	7 53	6 84	6 16	5 82
17.0.....	11 89	11 23	10 57	9 91	9 25	8 59	7 93	7 27	6 61	5 94	5 61
16.5.....	11 47	10 83	10 19	9 55	8 92	8 28	7 64	7 01	6 37	5 73	5 41
16.0.....	11 05	10 43	9 82	9 20	8 59	7 98	7 36	6 75	6 14	5 52	5 22
15.5.....	10 63	10 04	9 45	8 86	8 27	7 68	7 09	6 50	6 01	5 32	5 02
15.0.....	10 22	9 65	9 09	8 52	7 95	7 38	6 82	6 25	5 68	5 11	4 83
14.5.....	9 81	9 27	8 72	8 18	7 63	7 09	6 54	6 00	5 45	4 91	4 63
14.0.....	9 41	8 89	8 37	7 84	7 32	6 80	6 28	5 75	5 23	4 71	4 45

Prices of beets for combinations not shown in the tables (including fractional parts) will be increased or diminished in proportion.

It is mutually agreed that the minimum price of beets delivered under this contract shall be \$5.50 per ton. The Grower agrees to pay as freight the sum of 25 cents per ton on all beets delivered to the Company whether by railroad, wagon, truck or otherwise; the Company agreeing to pay the balance of freight not to exceed \$1 per ton, on all beets delivered to it; all excess of freight over and above \$1 per ton shall be borne by the Grower in addition to the 25 cents hereinbefore mentioned, and the Grower hereby authorizes the said Company to deduct the said 25 cents and the said excess over \$1 from payments due to the Grower, for the beets so delivered, after the minimum price of \$5.50 has been paid.

An initial payment of \$5 per ton for beets hereunder shall be made as follows: On or about 1st of November, 1931, if delivered prior to 16th of October; on or about 1st of December, 1931, if delivered after 15th of October but prior to 16th of November; on or about 20th of December, 1932, if delivered after 15th of November, and the balance of the minimum price shall be paid on or about the 20th day of December, 1932. If the total price payable to the Grower under the provisions of this paragraph, less freight deductions, shall be in excess of the minimum heretofore mentioned, further payments will be made from time to time in such amounts as the Company may consider justified. Final payment for all beets delivered hereunder shall be made in accordance with the terms of this contract on or about 1st of October, 1933, or when all sugar produced from said beets has been sold.

8. It is further agreed that the Company is hereby authorized to deduct from any moneys due for beets delivered by the Grower, and to pay to Alberta Co-operative Sugar Beet Growers Association as service charge, 2 cents per ton with a maximum of \$3 deduction, unless the Grower notifies the Company in writing in the month of July 1932, not to make such deduction.

9. The Grower may, at his own expense, have representatives (Weighmen, taremen, accountant or chemist) in scale house, tareroom and laboratory to inspect weights and work done, and to check, within ten days after final settlement date, the net amount received by the Company for sugar sold, such representatives to be experienced in the line of work to be performed and satisfactory to the Company.

10. Any advances made to the Grower by the Company, either in seed, fertilizer, money or otherwise, shall constitute part payment for the beets grown and delivered, and the Grower agrees that the same shall be deducted from the initial or any subsequent payment to him, or shall be paid by the Grower in cash.

11. This Agreement constitutes the entire Contract between the parties hereto and no act, omission, waiver, modification, alteration, erasure or addition made by any Agent of the Company or any person whatsoever shall be binding upon the Company. This Agreement may be assigned by the Company and shall bind the Grower, his Heirs, and Legal Representatives and the Company, its Successors and Assigns, and shall not be transferrable by the Grower without the written consent of the Company.

CANADIAN SUGAR FACTORIES, LIMITED

Signed, Sealed and Delivered in the presence of.....

By

Agent.

.....

Grower.

SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND EVIDENCE

THURSDAY, MARCH 17, 1932

No. 5

Reference,—Beet Sugar Industry

WITNESSES:

Mr. Charles H. Houson, President, Canada and Dominion Sugar Company, Chatham, Ont.; Mr. Alexander W. McIntyre, Assistant General Manager, Canada and Dominion Sugar Company; Mr. W. F. Russell, Alberta Beet Growers' Association.

MINUTES OF PROCEEDINGS

MARCH 17, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock in the forenoon.

Mr. Senn (The Chairman) Presiding.

Members Present.—Messrs. Barber, Bertrand, Blair, Bouchard, Bowen, Boyes, Brown, Carmichael, Cayley, Coote, Elliott, Gobeil, Jones, Loucks, Lucas, McGillis, McMillan (*South Huron*), Moore (*Chateauguay-Huntingdon*), Motherwell, Mullins, Myers, Pickel, Porteous, Rowe, Senn, Shaver, Simpson (*Simcoe North*), Smith (*Victoria-Carleton*), Spotton, Sproule, Stewart (*Lethbridge*), Stirling, Taylor, Thompson (*Lanark*), Tötzke, Tummon, Weese, Young.—38.

Mr. Charles H. Houson, President and General Manager of The Canada and Dominion Sugar Company of Chatham, Wallaceburg and Montreal, was called, heard and examined on the subject matter of the Reference.

Mr. Alexander W. McIntyre, Assistant General Manager of The Canada and Dominion Sugar Company, was heard on the assistance required to better the Sugar Beet industry.

Mr. W. F. Russell, Alberta Beet Growers Association, was recalled and gave further evidence on the conditions in Alberta.

On motion of Mr. Tummon,—

Resolved,—That, the sub-committee appointed to prepare a list of the witnesses to be heard be empowered to draft a report thereon to be submitted to the Committee at their next sitting for approval.

The Committee then adjourned to the call of the Chair.

A. A. FRASER,
Clerk of the committee.

MINUTES OF EVIDENCE

HOUSE OF COMMONS,

MARCH 17, 1932.

The Select Standing Committee on Agriculture and Colonization met at 11 o'clock to consider the reference to the committee:—

That all questions affecting the beet sugar industry in Canada be referred to the Select Standing Committee on Agriculture with instructions to inquire into the action which may be taken by the government by way of Customs duties, subsidies, bonuses or otherwise either in or without co-operation with the Provincial governments for promoting the prosperity of the said industry and developing the production of Canadian grown sugar, and report to the House.

The CHAIRMAN: Gentlemen, we have a quorum here this morning. We have with us this morning the representatives of the Canada and Dominion Sugar Company of Chatham. Before hearing them, however, Mr. Rogers, who gave evidence at our last meeting, wishes to correct a statement which he made, and with your permission we will afford him that opportunity.

Mr. ROGERS: Mr. Chairman and gentlemen, I do not know whether the mistake was mine or whether it was a mistake in the reporting. The statement appeared on page 82 line 16. I am reported to have said that there was no competition between refiners in eastern and western Canada.

I wish to state that, in making that answer, I understood Mr. Stewart to have said: "That means . . . that there is not any competition between refiners in *western* Canada," and my answer: "There is absolutely none, I admit that" referred to the fact that our Company operates the only two refineries in western Canada.

If the question was as stated in the Record: "That means . . . that there is not any competition between refiners in eastern and western Canada," my answer should have been:—

There is very active competition between eastern and western refiners.

Mr. STEWART: I asked the other day if you made any money out of the Raymond sugar refinery last year. Would you mind telling us how much you made?

Mr. ROGERS: I cannot say definitely how much we did make. We have only sold about one-third of the sugar and I do not know what the price is going to be by the time we shut up the year's operation.

Mr. STEWART: The reason why I ask is that I am given to understand that Mr. Rogers made the statement as to the amount of money that the Raymond sugar factory made at a meeting which was held in Lethbridge.

Mr. ROGERS: I stated how much we made?

Mr. STEWART: Yes; a definite amount.

Mr. ROGERS: I do not think I did, sir. I do not think I made that statement.

Mr. STEWART: What is the estimated amount?

Mr. ROGERS: The estimated amount would be about \$250,000. That is providing that present prices hold up until the end of next August when we finish marketing the crop. That estimate was based on prices which existed at that time. Since then the price has gone down ten cents due to a fall in the price of raw, and it may fall again. I do not know.

Mr. PICKEL: What is the capitalization of the factories?

Mr. ROGERS: The capitalization is \$1,600,000. There is just one factory in Raymond. That is the capital of the fixed assets. We have to have another million on top of that for financing the crop. We pay for the beets before we sell the sugar.

CHARLES H. HOUSON, called.

The CHAIRMAN: Now, gentlemen, we have with us Mr. Houson, and also another representative of his firm, and with your permission we will hear Mr. Houson. You might tell us, Mr. Houson, who you represent.

Mr. HOUSON: I am president and general manager of the Canada and Dominion Sugar Company. I would like, with your permission and the permission of the members present, to give a brief resumé of the history of our company.

Mr. McMILLAN: Is Chatham your headquarters?

The WITNESS: Yes, our headquarters are at Chatham. We have plants at Chatham, Wallaceburg and Montreal.

Mr. STEWART: The plant you bought at Montreal was what?

WITNESS: The Canada Sugar Company. The brand was the Redpath brand of sugar.

Mr. BOYES: Are you the president?

WITNESS: I am president and general manager.

Mr. PORTEOUS: The Montreal plant is used for refining cane sugar?

WITNESS: Refining cane sugar, yes.

THE BEET SUGAR INDUSTRY

STATEMENT BY CANADA AND DOMINION SUGAR CO. LIMITED, CHATHAM, ONTARIO

1. Sugar Beets were first grown for industrial purposes in Canada in 1881 and during the ten years following that date, plants were erected at Coaticook, Berthier and Farnham in the province of Quebec. Each of the plants proved a failure after a short trial, due mainly to insufficient beet acreage, incompetent factory management and the small size of the factories, the largest of which was only of 200 tons daily slicing capacity. The operating methods of these factories also were reported obsolete and impracticable.

2. However, annual experiments at the Ontario Agricultural College from about the year 1889 demonstrated the suitability of the soil and climate of Ontario for the production of sugar beets, with a sugar content and purity practically equal to those grown on the continent of Europe.

3. The Beet Sugar industry in Canada received its first real start in the year 1901, at which time four factories were constructed and made ready for operation the following year. These were at Wallaceburg, 700 tons daily slicing capacity; Dresden, 600 tons; Berlin (now Kitchener) 500 tons, and Warton 500 tons.

4. Even at this time the experience in beet sugar manufacture was far from encouraging, as the obstacles to the success of the industry in its early stages were still in existence. At the commencement of operations in the year

1902, a great number of supposed expert sugar men were secured from Germany and Holland to operate the various factories. These men did not understand local conditions, which were altogether different from those in their own countries and it was, therefore, not until Canadians learned the business thoroughly that any progress was made in the efficiency of operation.

5. For the first five years of operation (1903-1907) the Ontario Government granted a bounty on domestic beet sugar of one-half cent per pound, the total amount not to exceed \$75,000 a year. Notwithstanding this assistance, however, the factories at Dresden and Warton were unable to survive the trying period of experience gaining. The Warton factory was closed after two seasons and removed in 1908. The Dresden factory was dismantled in 1904.

6. The factory at Raymond, Alberta (erected in 1903) also succumbed after a few years of unsuccessful operation and in 1917 the machinery was removed. The present factory at Raymond, Alberta, was erected in 1925. (The first factory is not to be confused with the present one).

7. The Berlin (now Kitchener) factory drifted along until the year 1909, when it went into liquidation and was taken over from the bondholders by our Company.

8. In the meantime our Wallaceburg plant had met with many difficulties, not the least of which was the problem of marketing even the small output of the early years of operation. So pronounced was the attitude of the wholesalers against our sugar that we were finally forced to go direct to the retail trade. In the years which preceded advent of the chain grocery system we developed our retail trade from coast to coast so that at one time we carried on our books some 35,000 retail accounts. In the early years, however, before this point was reached, many obstacles in the path of the company, were met and overcome. On more than one occasion, the original directors, rallied to the support of the company with several hundred thousand dollars of additional backing. But for their faith in the possibilities of the industry and the courage to support that faith, the Wallaceburg venture must inevitably have gone the way of the other early plants.

9. In developing our retail business we found ourselves at a disadvantage through not being able to supply sugar during the inter-campaign period when our plant was closed. This led to the installation of refining equipment in the factory and from that time on we refined raw cane sugar at Wallaceburg every year.

10. During the war years, with the rise in the price of sugar the demand for beet acreage increased greatly and in 1916 our Company erected a plant at Chatham with a daily slicing capacity of 1,200 tons of beets. The head office of the Company was also moved to Chatham and the name "Dominion Sugar Company, Limited" adopted. The three plants at Chatham, Wallaceburg and Kitchener were successfully operated to maximum capacity each year until 1920.

11. In 1920 there occurred the greatest sugar debacle of all time, resulting in the ruin of many sugar distributing firms in this hemisphere and causing appalling losses to the refiners and manufacturers on this continent. Our Company was fortunately able to ride through this storm with capital and reserves unimpaired. The great increases in freight rates which went into effect during the year, however, forced us to close our Kitchener plant following the campaign of 1920-21, as we could not secure sufficient beets for operation nearby owing to the low yield per acre in that district. This plant was later dismantled and the buildings and site disposed of at a fraction of the original cost.

12. In 1922 beet sugar was threatened with an excise tax of 49 cents per hundred, a measure which must have proved a severe setback had it been put into effect on January 1, 1923, as was enacted. Friends of the industry raised

a storm of disapproval, however, and the tax was abandoned in 1923, but, at the same time a reduction in protection of 50 cents per hundred was made. The reduced rates of duty have been in effect ever since.

13. During the last six or seven years our Company has carried on a continuous policy of improving and enlarging our beet sugar plants, not only by using inventions, designs and betterments devised by our own engineers but by adopting every worthwhile improvement brought out by the industry at large and scrapping all equipment which could be replaced by better appliances provided the latter could pay for their cost in improved efficiency. Thus the two plants which originally had a combined capacity of 1,900 tons of beets daily have been enlarged and improved year by year until in 1931 their combined average daily slicing was 4,300 tons per day. The loss of the Kitchener plant has been more than made up by the increase in Chatham and Wallaceburg and the efficiency of operation greatly improved.

14. The refining operations which had been carried on at Wallaceburg for many years had gradually developed until, by 1930, a point had been reached which called for progression. All raws refined there had to be shipped from Montreal at a considerable cost and the refined product largely returned eastward for marketing. There were also inherent in a beet sugar plant some disadvantages in refining which could not be overcome, at least not without an expenditure unjustifiable economically. Our Company, therefore, absorbed the Montreal refinery of the Canada Sugar Refining Company, Limited, retaining control of the new Company which was formed. The officers of our old Company are still in charge, eight of our old directors are directors on the eleven-man board of the new Company and we retain our head office at Chatham, Ontario, in the heart of the sugar beet country. The new Company was formed in December, 1930, before we had contracted for one acre of beets for 1931 and when we were, therefore, still free to do as we chose in the matter of beet acreage. We increased our acreage over previous years and actually handled the largest crop in the history of the Company. For this year we are contracting for an acreage equal to 1931, so that a normal crop will provide full capacity operations at our plants.

15. We have about four thousand growers of sugar beets on our books. These men are steady supporters of the industry growing beets year after year in the rotation of their crops. We paid out over two million dollars to them a few months ago for the crop of 1931.

16. There are some fifteen hundred agricultural workers engaged in caring for the beet crop during the growing and harvesting seasons. These people have come out to work sugar beets from Holland, Belgium and Bohemia. I understand that the policy of bringing in these people has been assailed on the floor of the House of Commons. Only lack of proper information or unwarranted prejudice could lead to an attack on the good repute of these immigrants. They are a hardworking, thrifty, honest, law-abiding, healthy people, readily adjusting themselves to our laws, customs and methods and hence, quickly assimilated. They have been coming into Canada for many years, ever since the industry was established and hundreds of them have taken up farms in the vicinity of Chatham and Wallaceburg. As evidence of their agricultural skill, they have met with marked success in farming and many of them have their farms clear of debt and substantial assets in addition. The second generation are true Canadians, stand high in the school reports and are a credit to any country. The workers themselves are skilled agricultural labourers and are of great assistance to the farmers of the district in handling other crops besides working in sugar beets, which require their services only in spring and fall.

17. During the beet campaign nearly one thousand hands are employed by the company in the factories and beet growing district. This labour is employed at a time when other local industries are in slack production and the employment is, therefore, very timely and helpful to the labour situation.

18. Considerable revenue from the beet industry has accrued to railroads and truck carriers not only from the carriage of beets but also from fuel, limestone, miscellaneous supplies, refined sugar, beet pulp and molasses. Approximately half a million dollars each campaign is paid out in freight charges.

19. Besides these local benefits to the community very considerable purchases are made in Canada of items used in the manufacturing process, such as bags, limestone, cooerage stock, miscellaneous supplies, etc.

20. Sugar beets is one of the most useful crops available in the farmer's system of rotation. The sugar beet demands deep ploughing, thorough preparation of the soil, liberal fertilization and better cultivation than ordinarily is given to other crops. After the sugar beet, the main root itself, is removed from the soil, the great network of small fibrous roots branching out in all directions for considerable distances, remains and gradually rots, leaving a mass of valuable organic matter distributed throughout the subsoil as feed for following crops. The Germans attribute the great increase in the yield of their cereal crops entirely to the growing of sugar beets which they regard as indispensable to their farm program.

21. Following are the various rates of duty on raw and refined sugar since the inception of the industry in Ontario:

	Raw sugar 96° basis		Refined sugar 100° basis	
	Gen.	Pref.	Gen.	Pref.
In 1902, it was.....	0-83½	0-52½	1-24½	0-83
In March 1913 amended to.....	0-57½	0-40½	1-07½	0-83
In August 1914 amended to.....	1-37½	1-03½	2-07½	1-63
In April 1921 amended to.....	1-68712	0-85	2-39	1-59
In May 1923 amended to.....	1-28712	0-45	1-89	1-09
In April 1926 amended to..... where it now stands.	1-28712	0-28712	1-89	1-09

22. These rates of duty are very moderate as compared to those of nearly all foreign countries. Following are the rates in a few of the principal countries:

Country	Preferential		General Tariff	
	Raws	Refined	Raws	Refined
	\$	\$	\$	\$
United Kingdom.....	0-955	1-265	1-766	2-535
United States.....	2-00	2-12	2-50	2-65
Germany.....			2-917	3-457
France.....			1-733	2-438
Italy.....			2-101	3-152
Canada(*).....	0-28712	1-09	1-28712	1-89

*The preferential rate on raw sugars entering Canada is of negligible benefit to the Canadian buyer as practically the entire preference is absorbed by the island producer in exchange for which a preference is granted on imports from Canada of flour, fish, butter, potatoes, etc.

23. In closing this statement I should like to say a word or two in appreciation of the Canadian farmers and more especially the farmers in our own district in Southwestern Ontario. Comparisons are odious but I would place our farmers up against the best to be found anywhere else and I know they

would hold their own. In my opinion, the farmers have been the first, as a class, to adjust themselves to the changed conditions with which we have all had to deal in the past two years or more. The farmer has had more than his share of adjustments to make and he has responded in a way that merits our admiration. In the beet sugar industry, as we have explained, it has been customary for trained beetworkers to do the arduous hand labour necessary in raising the beets. For years almost all of this work has been done by the hired labour. As the price of sugar has declined, thus reducing the price of beets, the farmer has buckled in and tackled his sugar beets himself. Last season thirty per cent of the hand labour of blocking, thinning, hoeing and topping was done by the farmers themselves. The farmers have accepted the reduced prices without kicking, in fact, on the contrary, we have many letters of appreciation from them. It has meant a lot to us in the face of the ruinous sugar prices which are ruling and we, on our part, are carrying on and we are going to continue to carry on and take all the acreage we can handle in appreciation of the farmers' attitude. I take pleasure in paying this tribute to the farmer.

Submitted to the Committee on Agriculture and Colonization, Thursday, March 17, 1932, by Canada and Dominion Sugar Company, Limited, Chatham, Ontario.

I would like to say, Mr. Chairman, that Mr. McIntyre, my assistant, has something prepared in connection with additional matters.

The CHAIRMAN: It has always been customary for the members of the Committee to base any questions that they care to ask on your report.

HON. MR. MOTHERWELL: Are the growers around Kitchener sending their beets to the other two factories?

The WITNESS: From Huron county they are. We had some steady growers that had been growing for the Kitchener plant for years, and we have always accepted the arrangement although we do so at a sacrifice, because the freight rates in that territory to Wallaceburg are higher. However, we have always kept in touch with those growers. I have in mind, particularly, a man named Mr. Andrew Hicks from Centralia. Perhaps, some of you gentlemen know him. He was M.P.P. in the Ontario parliament. I have here the acreage that comes from Kitchener. We have four hundred acres here on our books from Huron county.

MR. GERSHAW: Something was said about the difficulty in getting the wholesalers to handle the beet sugar. I wonder if you can give any reason why they object to handling it?

The WITNESS: Well, of course, there was an extreme prejudice in the early days of taking hold of beet sugar. There was a general feeling that beet sugar was not just as good as cane, and the fact that yellow sugars were not produced from beets perhaps had some effect; but I might say that there was a decided under-current from the wholesalers. I never did get their reason for taking that stand, but it carried on for some years until, probably, after we got pretty well our sugar sales into the hands of our retail trade. From then on our dealings with the wholesalers were all right.

HON. MR. MOTHERWELL: Anything which you move onto the market has to fight for its place, with established concerns.

The WITNESS: Yes.

MR. BROWN: Is your beet sugar labelled as beet sugar?

The WITNESS: Yes.

MR. GERSHAW: What would you say as to the quality of the beet sugar as compared with the quality of the cane sugar?

The WITNESS: Well, the qualities, as far as the bulk sugars are concerned, analyse absolutely up to full standard and are up to quality and compare favourably with refined sugar produced from raw cane.

Hon. Mr. ELLIOTT: Could the average customer, if he were receiving your sugar from the beets and a sugar from the cane tell the difference?

The WITNESS: He could not.

Mr. GERSHAW: And does it all retail at the same price?

The WITNESS: There is a little differential provided for beet sugar. At the same price cane sugar still has a preference on the market.

Mr. SIMPSON: What would that be?

The WITNESS: About five to ten cents a hundred.

Mr. TUMMON: That is, the beet sugar price is that much less than the cane.

Mr. GOBEL: Did you say five or ten cents a pound?

The WITNESS: A hundred pounds.

Mr. GOBEL: A hundred pounds—that is what I mean.

The WITNESS: Yes.

Mr. TOTZKE: Are there some uses for which the cane sugar is preferable to the beet sugar?

The WITNESS: We find beet sugar meets all requirements as far as bulk sugar is concerned.

Mr. TOTZKE: What do you mean when you say bulk sugar?

The WITNESS: Well, the beet sugar factories, as a rule—in fact, not as a rule—as a matter of fact, I do not know of any beet sugar factories in this country or in the United States, that only operate for seventy or eighty or ninety day periods, that go in for special packages or into the manufacture of cut loaf, and all the sugars that the cane refiner is warranted in doing, for the reason that the cane refinery is operated the year around.

Mr. TOTZKE: Are those special sugars a better sugar than the bulk sugar?

The WITNESS: No. They are made up in different form.

Mr. BOYES: There is a brand of sugar known as Redpath; is that cane sugar?

The WITNESS: That is our brand of cane sugar.

Mr. SHAVER: Do you sell direct to the retailer?

The WITNESS: Yes. We sell to the retailer, the chain stores, the wholesaler and the manufacturer.

Mr. PICKEL: What is the relative or comparative price of granulated sugars in United States and Canada?

The WITNESS: As far as Canada and the United States are concerned, the price in Canada—in the first place we must deduct the discount. We always allow to the wholesaler in Canada five per cent discount from the list price. In the States they allow two per cent discount. I would say that year in and year out the price is pretty close. At the present time the price in the United States is just a trifle lower.

Mr. GOBEL: Do you suggest that difference of five or ten cents per hundred pounds goes to the consumer or is absorbed by the retailer?

The WITNESS: We sell the retail trade and the retailers who buy from us get the benefit of that.

Mr. BERTRAND: Do you sell equally the beet and cane sugar to the retailer?

The WITNESS: Oh, yes.

Mr. COOTE: Did I understand the witness to say that the sugar was sold to the retailer at the same discount as to the wholesaler?

The WITNESS: No, we recognize the wholesaler.

Hon. Mr. ELLIOTT: Did you give a comparative statement of costs during the different years you have been in operation—the costs to the wholesaler from your company—the average costs of what you sold through the year? Do you happen to have handy a comparative statement of that kind?

The WITNESS: I do not think we have that prepared.

Hon. Mr. ELLIOTT: Has there been any change in the relative prices of the beet sugar and the cane sugar in the last ten years?

The WITNESS: No.

Hon. Mr. ELLIOTT: The relative prices have remained practically the same?

The WITNESS: Yes.

Hon. Mr. ELLIOTT: Now, as to acreage. Take the acreage in western Ontario. How has that compared, say, during the last ten years?

The WITNESS: Mr. McIntyre, my assistant, has those figures which he would like to bring up a little bit later, if that would be agreeable to you, Mr. Elliott. That is a very good point which you have raised there, and we have it all prepared to bring it before you.

Mr. BROWN: And will you give us the prices which you are paying for the beets?

The WITNESS: Yes. That is all to be brought out in the suggestions for aid to the industry which, when you get through with me, I will leave to Mr. McIntyre.

Mr. MACMILLAN: You spoke of four hundred acres from Huron county. How many farmers would that represent?

The WITNESS: I have not got the exact number, but a general average of about eight acres would mean about fifty growers.

Hon. Mr. ELLIOTT: Do you find the sugar content that you get from Huron county up to that which you get from Middlesex?

The WITNESS: I am sorry that we have not Mr. Hicks with us to-day. I had an interview with him for two hours the other day. I cannot tell you that it is much higher, but I will say it is just as high.

Mr. MACMILLAN: Mr. Elliott knows that.

Mr. YOUNG: Mr. Houson, you said something about keeping your Wallaceburg factory busy in the off-season by refining cane sugar?

The WITNESS: Yes.

Mr. YOUNG: Do you find that an economical practice?

The WITNESS: It has been very economical. The unfortunate part of it is that it is not situated properly geographically. We are compelled to bring our raw sugar either from New York to Wallaceburg or else from Montreal. During the last few years, on account of the fact that we buy preferential raw sugar, they come in to the port of Montreal. Now, those sugars from Montreal are shipped to Wallaceburg at a high rate of freight, and they must go east; so that there is a geographical location which is not just quite right for economical refining. That is one reason why, in order to protect our freight, we had to purchase a cane sugar refinery located at Montreal.

Mr. MULLINS: What do you do with the pulp in Ontario?

The WITNESS: We sell what we can of it. Before we leave, we have some advertising matter which we brought down with us indicating just what we have done in the way of attempting to market this pulp. The Canadian trade will not absorb it to any great extent. I would say that the most tonnage that we could deliver to the Canadian stock men would not be over 20 per cent

of our output, the balance being at the present time exported. I might say that we are doing all we can in the way of advertising to educate the stock breeders to use this pulp. There is no question about its value.

Mr. MULLINS: You dry it, I see.

The WITNESS: Yes, we dry it.

Mr. YOUNG: I understood you to say that the most economical point at which to refine cane sugar is at the seaport?

The WITNESS: Yes.

Mr. YOUNG: And your Ontario factory, devoted to beet sugar, must be idle a part of the season, or else you must devote the other part of that season to refining cane sugar at a higher cost than it could be refined otherwise?

The WITNESS: Yes. If we were not on the water it would be impracticable to refine cane sugar, because of the extremely high freight. Wallaceburg is particularly well situated. We have a river there that has quite a substantial depth of water. In fact, I would say it is quite necessary to have a territory for beet growing in the interior; you must draw your beets from all sides. To have a location on the waterfront or at a seaport would be good for cane refining but not for beet sugar manufacturing.

Mr. YOUNG: You spoke of certain disadvantages that were inherent in a beet sugar plant. Would you tell us what they are?

The WITNESS: In order to produce yellow sugars a bone char plant is necessary. It is a method of filtration. That is a very expensive equipment. A bone char plant would cost to construct at least a million dollars.

Mr. YOUNG: You have to have that in order to produce yellow or brown sugars from beets?

The WITNESS: Yes.

Mr. YOUNG: And no such plant is necessary in the case of cane sugar?

The WITNESS: Yes. All the cane refineries are built with a bone char filtration. There is no cane refinery that has not got a bone char filtration.

Mr. YOUNG: They are entirely different?

The WITNESS: They are entirely different. There is no beet plant in America that is equipped with bone char filtration.

Mr. YOUNG: If these plants are entirely different plants what is the advantage of refining cane sugar in a beet plant?

The WITNESS: It was necessary that we take care of our retail trade during the summer. That goes into the operation of producing cane sugars at Wallaceburg.

Mr. YOUNG: Then you said there are fifteen hundred workers caring for the beets. Does that apply to all Canada or the Ontario territory?

The WITNESS: In our territory.

Mr. YOUNG: You also said that half a million dollars were paid in freight charges. Is that freight on raw sugar and on beet sugar as high as the freight on refined sugar?

The WITNESS: No.

Mr. YOUNG: Then if you were not paying this half a million dollars out in freight charges to the railways they would be receiving a still higher figure on refined sugar that they would be hauling into the country?

The WITNESS: Of course, when I say that the freight rate is no higher, I mean that you concentrate the beets. For instance, a beet will test, perhaps, fifteen per cent, and when we condense that down to the point of the actual sugar in the beet I would say the freight rate would be just as high as on

refined sugar. Of course, in the beet business you freight your beets in and then you have your refined sugar rate out.

Mr. YOUNG: Of course, in the case of refined sugar, if you did not have your beet factory located where it is the refined sugar would come all the way from Montreal. The railways would get a higher rate on a lesser tonnage and it would be less expense to them, and no additional cost to the people?

The WITNESS: Well, I would not say that; no.

Mr. YOUNG: They will certainly receive a higher rate on refined sugar than on beets or on raw.

Mr. TUMMON: Is it not a fact that if you manufacture from beets the freight is going and coming, both on the beets and on the refined sugar?

The WITNESS: Yes, and the refined sugar as well. It is a matter of tonnage. The number of cars that are hauled to the factory of beetroot is something enormous.

Mr. YOUNG: That is the point I was trying to make: The railways will be at a tremendous amount of expense in excess of what they would be if they were hauling the refined sugar alone?

The WITNESS: The railways are very anxious for the beet traffic. They must see a tremendous revenue in it in order to get that traffic in and also to secure the refined traffic out.

Mr. TUMMON: Does it not come down to this: That if you are making beet sugar in Canada which is selling practically at the same price as the refined sugar, that the railways are receiving the average freight of hauling the beets to the factories?

The WITNESS: Yes.

Mr. YOUNG: And losing the freight they would receive in hauling the refined sugar from Montreal to the consumer?

The WITNESS: They secure the revenue of the refined sugar from the factory to destination.

Mr. STEWART: Is not the freight on the raw cane that is brought into Canada going out of the country? You are paying it to the railroads in Canada for the tariff on beets?

The WITNESS: Yes.

Mr. STEWART: Now, the freight bringing in the raw cane sugar into Canada—that money goes entirely out of this country, is that right?

The WITNESS: As far as the raw sugar is concerned.

Mr. STEWART: The money you pay to the railways of Canada stays here?

The WITNESS: Absolutely.

Mr. YOUNG: The freight in hauling refined sugar from Montreal to the consumer does not go entirely out of the country. The freight on raws consumed to Montreal is a very negligible quantity. What is your net protection now?

The WITNESS: It is \$1,287 general tariff.

Mr. YOUNG: You net—you pay a certain duty on your raw and you receive a certain duty on your refined; what is the difference?

The WITNESS: Fifty-two cents a hundred pounds.

Mr. YOUNG: That is the same whether it comes from the British West Indies or Cuba; it does not matter?

The WITNESS: Yes.

Mr. YOUNG: And can you give us your conversion profits—the cost of converting raw into refined sugar?

The WITNESS: Well, Mr. Chairman, I would be quite agreeable to pass that information to you. We have competition, you know. I do not feel like giving it out to the public unless I am forced to do it.

The CHAIRMAN: No. You will not be forced to do it.

The WITNESS: We prefer—

Mr. YOUNG: One other question. Of what advantage is the preferential tariff to you as a refiner?

The WITNESS: Why, practically the entire preference goes to the West Indies.

Mr. YOUNG: They absorb it all.

The WITNESS: Yes, in lieu of other benefits in the way of grain and other commodities shipped from Canada to the West Indies.

Mr. YOUNG: And your net protection is 52 cents?

The WITNESS: Yes.

Mr. McMILLAN: In the case of the Huron county farmers, are they at any disadvantage in the matter of freight rates?

The WITNESS: We have always absorbed the extra freight. The freight is much higher. Our contract at the weigh station calls for \$5 a ton, delivered at the station, and \$5.75 delivered to the plant. Some of those freight rates in Huron county run as high as \$1.70. In fact, in one or two cases it runs as high as \$2; but the growers that have been producing for us for years—in those cases we absorb that difference.

Mr. CARMICHAEL: I would like to ask one question. Evidence was given at our last meeting by the representative of the Vancouver and Raymond refineries to the effect that they should receive some additional government help, I understand, in regard to the construction of additional factories to help the industry in the West. So far as the industry in the West is concerned, do you feel that any additional help is necessary to keep the industry going successfully?

The WITNESS: If it is to be expanded from what it is to-day, yes; very decidedly, yes. No men with capital to-day would invest in new plants under present conditions. We are operating our plant to absolutely full capacity. I would like to have that understood. We cannot take one acre more than we are taking.

The CHAIRMAN: What does it cost you to duplicate your plant?

The WITNESS: Of course, our plants are large. At Chatham we have a plant that is capable of turning out from twenty-two hundred to twenty-five hundred tons of beets daily, and a plant of that size would cost all the way from two million to two and a half million dollars. That is not all. In addition to that you must have very decided cash reserves.

Mr. BROWN: In view of world marketing conditions how much expansion is advisable?

The WITNESS: Now, if you will permit me, Mr. McIntyre has something in connection with the aid to the industry that has a direct bearing on that.

The CHAIRMAN: I would like to ask another question or two. Suppose you did duplicate your plant, could you get enough beets grown in that locality to operate it?

The WITNESS: This year we could; but we do not know what might happen next year. That also will be brought out in Mr. McIntyre's statement.

Hon. Mr. ELLIOTT: Of course, that depends on the relative cost of beets?

The WITNESS: Exactly.

The CHAIRMAN: Considering the matter as a pure business proposition, do you think you would be justified, supposing the cost of refining cane and beet sugar were an absolute equality—do you think you would be justified in increasing your plant?

The WITNESS: We cannot increase our present plants. It would mean the building of an additional plant. While our people are perfectly agreeable to expand when they think the proper times comes, I would say this that the encouragement would have to be quite substantial.

The CHAIRMAN: You have a certain encouragement to-day, Mr. Houson, from the fact that you are enjoying a very fair protection.

The WITNESS: That would not be sufficient.

The CHAIRMAN: The object of this committee is to find out if it is practicable to increase the area of the beet sugar industry.

Mr. McMILLAN: I would like to emphasize one point raised by Mr. Houson with respect to the Belgian people. There has been a number of them in Huron county, and I have found them amongst our best citizens, and many of them are on farms for themselves.

Mr. PORTEOUS: Mr. Houson, in your opinion what is the maximum of an economical unit in a beet factory?

The WITNESS: That depends pretty much on the territory or locality.

Mr. PORTEOUS: You mentioned 200,000 tons.

The WITNESS: Our two plants are large. One slices 1,800 tons and the other from twenty-two hundred to twenty-five hundred tons. Now, in our territory those two plants are about an ideal size.

Hon. Mr. ELLIOTT: Would it be more economical, in view of the cost of freight, shipping the sugar beets, if you were going to start another plant—would it be more economical to duplicate your present plant at Chatham, say, than to build another plant out in some other section where you have a shorter haul for the beets?

The WITNESS: Of course, our two plants cannot be increased in capacity, so I would say under those conditions if we were increasing our capacity it would be necessary for us to build in a new territory.

Hon. Mr. ELLIOTT: Now, there is just one more question I would like to ask. Is there any arrangement by which you are limited to the acreage which you can handle?

The WITNESS: Oh, yes.

Hon. Mr. ELLIOTT: In competition with other sugars?

The WITNESS: Oh, yes. That is, as far as beets are concerned?

Hon. Mr. ELLIOTT: Yes.

The WITNESS: Oh, yes, indeed. It is impracticable to operate a sugar beet plant after, I would say, Christmas time—on or about December 20 to 25.

Hon. Mr. ELLIOTT: I have not made myself clear. I understand that you are now leasing, perhaps, 30,000 acres?

The WITNESS: Yes.

Hon. Mr. ELLIOTT: That is this year in your Wallaceburg district?

The WITNESS: Yes.

Hon. Mr. ELLIOTT: Now, assume that you were in a position to handle 45,000 acres, which would be an increase of 50 per cent; is there anything to prevent that in the way of arrangements amongst the sugar companies?

The WITNESS: Not at all.

Hon. Mr. ELLIOTT: So that when we speak of increasing the capacity, do you think that the beets could fairly compete with cane sugar if you increase the acreage?

The WITNESS: Well, beets at the extremely low price ruling to-day shows absolutely no return for the manufacturer. As a matter of fact, our company is carrying on to-day without any anticipation of an adequate return.

The CHAIRMAN: Your report is different from the Raymond factory report, evidently.

The WITNESS: That is a fact as far as we are concerned. I assure you, gentlemen, that we are carrying on, and we intend to carry on, but we do not expect any return.

Hon. Mr. ELLIOTT: And you are working your factory to capacity?

The WITNESS: Absolutely. I can tell you, Mr. Elliott, that anyone who is in close touch to that farming community in western Ontario, as I am, I believe would take exactly the same attitude as I am taking. I know the farmers pretty well, and they are having their trials and troubles, and we want to help them as much as we can, even though we have to wind up at the end of the year just on an even balance.

Mr. PORTEOUS: You are referring to the Wiarton plant; do I understand you to say that your company took that plant over?

The WITNESS: No, the Kitchener plant which was formerly known as the Berlin plant, we took over. The Wiarton plant closed after two years of operation.

Mr. PORTEOUS: It was an independent company?

The WITNESS: Yes.

The CHAIRMAN: Those factories, I suppose, are dismantled?

The WITNESS: Yes. Moved to the States.

Mr. TUMMON: Does the danger of frost hurt you at all?

The WITNESS: Yes. That is something to contend with. In 1920 we operated until February, and I am safe in saying that every beet we sliced through our mill after December 20th showed us loss, although the price of sugars at that time was quite high. The continual freezing and thawing of the beets deteriorated them.

Mr. PORTEOUS: As far as the refineries are concerned, the factories where you refine the sugar from the raw material are making more profits than your beet factories; is that so?

The WITNESS: They are at the present time; I mean to say from my experience one year the beet industry shows a better return than the cane and probably the following year the reverse will occur.

Mr. PORTEOUS: What I would like to know is, in your opinion what effect would the raising of the tariff on raw and cane sugar, so that there would not be such a spread between the raw and refined sugar, have on the beet industry?

The WITNESS: Well, the beet industry would, of necessity, have to have quite a substantial increase in tariff, and, as a matter of fact, we have some figures on that which we would like to bring out when we can get to it.

Mr. COOTE: I would like to ask two or three questions. The first question is: Mr. Houson, apparently, is well acquainted with the condition of the farmers in that area. Does he think that it pays as well to grow sugar beets at the present time as other products?

The WITNESS: It pays better.

Mr. COOTE: To what extent is your refinery at Montreal operating—to what percentage of its capacity?

The WITNESS: We have been closed down now since last December, and we will not start operating again until May.

Mr. COOTE: Then if you were to build another plant somewhere in the province of Ontario for sugar beets and if that plant were to operate and produce a few thousand tons of sugar, I suppose it would naturally keep your plant at Montreal closed a little bit longer, would it not?

The WITNESS: Exactly.

Mr. COOTE: Could you tell us as to the possibility of the sugar refineries in Canada providing the sugar that we can make and sell in Canada; and is it quite sufficient from a refining point of view?

The WITNESS: Well, that is a big question. There is a surplus of sugar to-day in the world of about ten million tons. That will be brought out a little later. The prices of sugar are the lowest in the world's history and to attempt expansion of that sort at the present is something we would have to give very careful consideration.

Mr. COOTE: I am not asking you to expand. I am asking if you can tell us whether the sugar refineries of Canada now operating at full capacity can supply all the sugar we can use in Canada?

The WITNESS: They can supply more than double the quantity.

Mr. COOTE: Then, if we built any more sugar factories in Canada for refining either cane or beet sugar—

The WITNESS: It would mitigate against the present plants that are operating and would result in their operating less time and therefore it would alter the cost of production.

Mr. TOTZKE: Mr. Houson said it was not practicable to slice beets after Christmas on account of the alternate frosting and thawing of the beets. Is the cost of storage of those beets prohibitive?

The WITNESS: Yes. We experimented with a suggestion made some twenty years ago for drying the beets. That was further experimented with, I understand, in England, and so far it has proven a failure. It might work out to advantage to cut up the beets and dry them and store them if the sugars were selling at a very high price, but with the present price of sugar it would just be absolutely impracticable.

Mr. TOTZKE: My idea was more in the nature of a cold storage for the beets.

The WITNESS: No. You have never been to Chatham, I presume, or in that territory? We have acres of ground—acres and acres of ground just covered with mountains of beets in the fall.

The CHAIRMAN: I want to remind you, gentlemen, that half our time has gone and we still have other witnesses.

Mr. BOYES: About what acreage of beets do you get from Middlesex county?

The WITNESS: Not very much—twelve hundred acres.

Mr. BOYES: Is the percentage of sugar from the beets produced good?

The WITNESS: Very good.

Mr. CAYLEY: How is the industry in Michigan?

The WITNESS: We have something on that coming later.

Mr. STEWART: Mr. Houson, Mr. Coote, the member for McLeod, questioned you with regard to the capacity in Canada. You say it is two and one-half times and you are working to full capacity, and that the cane sugar supplies the requirements of the country at the present time?

The WITNESS: Yes.

Mr. STEWART: The people of Canada are not responsible for the fact that the cane sugar refineries increased their capacity two and one-half per cent over the consuming capacity of the country for the last twenty years. The capacity was expanded in order that we might get export trade, because at one time they shipped millions of pounds to Great Britain of refined sugar.

The WITNESS: We have got that capacity there. I am not going to say how it got there; it is there.

Mr. STEWART: The people of Canada are not responsible for making a return to the same sugar refineries of that amount of capital, are they?

The WITNESS: The capacity is there.

Mr. STEWART: But it always was when they increased into what they have to-day. You are not working to more than forty per cent of your capacity; the rest was to meet the export trade, and it should be the export trade that should pay you any dividends on that amount of capital, is not that so?

The WITNESS: To-day, of course, there is no export.

Mr. STEWART: No. There is no export; but you had a large export business at one time.

The WITNESS: Yes.

Mr. STEWART: The other day one of our witnesses told us that in as far as cane sugar refineries are concerned this dumping valuation was of no value to the cane sugar refiners of Canada. There is a dumping valuation which comes into effect now of \$2.30, a fair valuation of \$2.30, and we were told Tuesday by Mr. Rogers that it was of no value to the cane sugar refineries.

The WITNESS: It is very valuable from the beet sugar standpoint.

Mr. STEWART: But you say it is no value from the cane sugar standpoint?

The WITNESS: The cane sugar refineries, as the price of raw sugar reduces, reduce their refined price irrespective of what figure is set.

Mr. STEWART: I have here a statement that the *Canadian Grocer* dated February 12th which is as follows:—

Canadian sugar refiners got a nice "break" last week when Hon. E. B. Ryckman, Minister of National Revenue, announced a new ruling bearing on the value of imported refined sugar.

The WITNESS: I might say in answer to that that we made representations to the honourable Mr. Ryckman from the beet sugar standpoint and advised him that these Cuban refined sugars were coming into Canada at such ridiculously low prices that it was absolutely ruining the beet sugar industry, and if it continued we did not know what was going to happen; we could not very well carry on.

Mr. STEWART: Is that not of any value to the cane sugar refiners?

The WITNESS: They will again reduce their prices later, reducing their prices as the imported raw sugar prices reduce—

Mr. STEWART: Let me make my statement, the same as I made it the other day. Raw sugars in New York to-day are 79 cents. What would they be in Montreal?

The WITNESS: At the present time, about \$2.10 a hundred.

Mr. STEWART: For raws in Montreal.

The WITNESS: That is preferential raw sugar. It is \$1 a hundred higher than the general tariff sugars because of the preference to the West Indies.

Mr. STEWART: When you lay down your raw sugar and pay your duty, you can lay it down with your freight at about \$2.50?

The WITNESS: Yes. A little less than that.

Mr. STEWART: We have refined sugar now coming in at \$2.30, and with all the other duties that go with it the price of refined sugar laid down in Canada is \$5.05 a hundred.

The WITNESS: We are not netting any such price as that. We are netting about \$4.20.

Mr. STEWART: The point I am trying to make is this: You have a spread of between a cent and a cent and a half in the refined cane sugars in Canada, and I think the country expects that it should get something in return for that. That is the stand I took the other day.

The WITNESS: I can only say that the representations we made in connection with this set price for foreign refined sugars was from purely an attempt to protect the beet sugar industry.

Mr. STEWART: I would like to ask you if these figures are correct: In 1930 the production of sugar in Canada was divided as follows, 9½ per cent of beets and 90½ per cent of cane then, the amount of money that was paid by the beet refineries was \$3,278,000, and that is nearly all wages, is it not?

The WITNESS: \$3,000,000?

Mr. STEWART: Yes. I have it here as \$3,278,000.

The WITNESS: The beet sugar industry of Canada?

Mr. STEWART: Yes.

The WITNESS: This last year?

Mr. STEWART: In 1930.

The WITNESS: I would say that is the total value of the product.

Mr. STEWART: No, no; the total value of the product is much higher than that.

The WITNESS: I only know we paid something like \$2,000,000 to the farmers for their beets, but I could not say—

Mr. STEWART: The total value is \$3,278,000. Now, then, that is only 9½ per cent of the sugar of Canada, and it gave to the Canadian people—from the farmers to the labourers—three and one-quarter million dollars; and that is far more, in wages, than was paid by the cane sugar refiners to all their employees, was it not?

The WITNESS: I could not say that. I will say this, that the beet sugar industry employs a tremendous amount of labour. There is no other industry that I know that takes care of as much labour as the beet industry.

Mr. STEWART: The 9½ per cent of beet sugar gives more to the people of Canada than the 90½ per cent of cane sugar which is supplied by the cane sugar industry gives to the people of Canada in the way of wages, is that right?

The WITNESS: Of course, the cane sugar industry answers its purpose.

Mr. STEWART: No, no; the total wages paid by the cane sugar is less than three and one-half million dollars. It is all here in the Trade report.

The CHAIRMAN: Perhaps you could get that better from the other witness.

The WITNESS: We have something to say in connection with the aid to industry.

Mr. STEWART: The other point I wanted to bring out was that on \$27,000,000 which were spent for raw sugars last year the trade increased the value of it by \$11,000,000, and yet on what was put into the beets it was only increased by \$1,000,000, and we sent out of the country \$27,000,000 and we added to the product \$11,000,000; is that correct?

The WITNESS: I could not say.

Mr. YOUNG: That does not go out in cash?

Mr. STEWART: Yes. I want to keep part of that money in Canada—keep part of that \$27,000,000 in Canada. All we spent here was three and a half million dollars.

Mr. YOUNG: Are you sure it went out in cash?

Mr. STEWART: It went out in trade.

Mr. BROWN: We sold some goods to buy the sugar.

ALEXANDER W. McINTYRE, called.

The WITNESS: Mr. Chairman and gentlemen, I am assistant to the president of the Canada and Dominion Sugar company. We have seen in the evidence that has been taken—at least in part of the evidence that has been taken, and also in the report in *Hansard* that there have been three or four different suggestions advanced in aid of the beet sugar industry. The first paper I shall read here deals with the various means proposed for assisting the beet sugar industry. The first one is the bonus or subsidy system.

COMMENT ON VARIOUS MEANS PROPOSED FOR ASSISTING BEET SUGAR INDUSTRY

SUBMITTED BY CANADA AND DOMINION SUGAR COMPANY LIMITED,
CHATHAM, ONTARIO

1. The bonus or subsidy system of aiding the Beet Sugar industry has been in effect in the United Kingdom since 1924. There were two beet sugar factories in existence at that time and since then seventeen have been built making the total daily slicing capacity of the nineteen plants about 26,000 short tons. During the first four years of the period while the subsidy was large, amounting to approximately \$4.50 per hundred, the industry thrived. Even the second period of three years, during which the subsidy was approximately \$3 per hundred was successful, though it is significant that no new plants were constructed during that period. The industry is now in the third period with a subsidy of approximately \$1.50 per hundred and already the Government has had to come to the rescue with added grants to prevent disaster. It must be borne in mind, too, that during this period sugar was protected by a considerable tariff although this was reduced somewhat by the excise tax. To explain clearly the net amount of the aid granted the industry we give the following figures which shows the subsidy minus the excise and plus the protective tariff:

Years 1924-5-6-7, per 100 lbs. about.....	\$5 33
“ 1928-9-30 “ “	4 33
“ 1931-2-33 “ “	2 70

During 1931 the Government made an extra grant of approximately 27 cents per hundred pounds bringing the 1931 total to approximately \$2.97 per hundred pounds. Strong pressure is being brought upon the British Government to secure an extra grant for 1932 greater than the one of last year. It is pointed out in support of this request for aid that the acreage planted to beets declined from 349,000 in 1930 to 234,400 in 1931 and that the industry must inevitably decline further unless additional state aid is granted. One Company has even gone so far as to state that unless immediate assistance is given the British Government will have a number of Beet Sugar factories on its hands, either to operate or dismantle.

2. The British Government has paid out in the years 1924-1930 some £22,366,000 in subsidy and has granted a remission of Excise duties of some 4½ million pounds. This money has had to be provided by methods of taxation entirely unrelated to beet sugar and the burden has therefore not been borne by the product which received the benefit of the grants. Aside from the consideration that this seems unfairly discriminatory, the decline in the industry raises grave doubts as to the ultimate effectiveness of the bonus or subsidy plan of assistance to beet sugar production. The bounty granted by the Ontario Government in the early years of the industry in our Province provides a parallel instance of the failure of the bonus system to successfully establish the beet sugar industry. But one concern out of five survived after the term of the bounty expired and only a transfusion of fresh capital saved it.

3. The plan of making loans for the erection of factories, in our opinion would be establishing a very dangerous precedent. Speaking generally there is always ample private capital ready for employment in an industry that provides attractive possibilities and if such capital is not available there are usually very good reasons. In the case of the sugar beet industry the unfortunate experience of the industry in Michigan, Ohio and Indiana is bound to act as a powerful deterrent. The physical conditions in the beet growing districts of these neighbouring states are closely akin to ours. The soil and climate are similar and methods of farming, rotation of crops, etc., are very much the same. Freight rates on sugar beets, however, a large item in the cost of operation, have been much higher in Ontario, for many years past. The United States also maintains a higher protective tariff on sugar. In spite of these advantages only three plants were operated in the Central States by their owners in 1931; four more were rented by bondholders or receivers and operated for the season; 15 were entirely idle and one has already been dismantled. Out of the twenty-two remaining plants with a total capacity of 24,000 tons of beets per day only seven operated with a total capacity of 7,300 tons. Prospects for current year are no better. Certainly the position of these plants would not be improved had they been built with Government loaned capital instead of by private subscription.

4. The idea of establishing a quota for beet sugar is a novel one. As I understand it, all those using sugar in the manufacture of any article are to be obliged to include a certain proportion of beet sugar. Perhaps it is intended also to make this apply to the wholesale and retail purchasers. This idea is apparently based on the assumption that there is at present some difficulty in marketing beet sugar and that if people are forced to take a certain quantity in order to obtain "cane" sugar, all difficulties will vanish and the industry can be made to expand to any given point. Unfortunately the problem is not so simple. For a number of years no difficulty whatever has been experienced in our case, at least, in marketing all the beet sugar available in competition with cane sugar. There is a slight differential in price against beet sugar, but the difficulty is not in marketing but in producing it at present selling prices in competition with sugar refined from tropical raws upon which the island producers are losing heavily. The increased demand resulting from the so-called "quota" would be of no assistance in lowering production costs or of increasing the competitive price of sugar. The position of the beet sugar producers would, therefore, not be improved.

5. Apart from the consideration that the sugar consuming public would undoubtedly find the beet sugar "quota" burdensome and resent its establishment as an unwarranted interference in trade, which would tend to make beet sugar unpopular, there are practical difficulties which would seriously impede the working arrangements of such a plan. I will mention just one of these impediments, namely, the matter of distribution. Beet sugar is manufactured

in Kent county in Southwestern Ontario and at Raymond, Alberta. As the industry is carried on at present the utmost possible volume of beet sugar is marketed within the shortest possible radius of the production points, thus reducing the freight charges to the lowest point practicable. Under the "quota" system, obviously no geographical lines could be drawn in the marketing of the sugar and the result would be a tremendous increase in freight on beet sugar thus reducing the net returns to the producers. This is assuming that the expansion in the industry would be confined to the two districts where beet sugar is now produced. If, to overcome the freight disadvantage, plants were constructed in other parts of Canada more serious difficulties would be encountered. The chief one would be the unfamiliarity of the farmers with the crop. This is undoubtedly one of the great causes of failure in the production of sugar beets. Actual results show that it is from seven to ten years after operations commence before a unit established in new territory—the term unit comprising both growers and factory—begins to be profitable. This has been the experience in the United States and also in Canada. It was exemplified in the early years of the industry in Ontario and it was paralleled twice in the case of Alberta. The farmers must learn how to grow sugar beets to advantage and there is no short cut to this knowledge, it has to come by actual experience. There are other practical considerations which tend to make the "quota" plan unworkable, but I think enough has been brought out to show the impracticability of this scheme.

6. Of the various plans which have been advanced as possible aids to our industry the suggestion of increasing the protection is the only one which commends itself to us. It is, of course, evident that any increase in the duty and hence of the price of sugar would have to be borne by the consumer. Yet sugar is so universally used that the burden would be spread over the entire population and hence would not be heavy on any one person or group. From the outset the revenue from the increased duties would be a very considerable aid to the Government in its financing. While this revenue would gradually decrease as the industry expanded and less sugar was imported, it would take some years before the augmented revenue was reduced by, say, one-half, and in that time the amounts collected by the Government would be very considerable.

The CHAIRMAN: Do you mean that that is on raw sugar or refined?

The WITNESS: It would have to be a protection on refined sugar.

The CHAIRMAN: Not on the raw?

The WITNESS: No. Now, we come to the estimate of the amount of additional protection required for expansion of the beet sugar industry in Ontario. In this statement I have tabulated the facts opposite each item. I have tried to work out, as far as possible from the grower's data, the time or material involved. It is not given in every case, but we give it in every case as the growers have submitted it to us.

ESTIMATE OF THE AMOUNT OF ADDITIONAL PROTECTION REQUIRED FOR EXPANSION OF THE BEET SUGAR INDUSTRY IN ONTARIO

SUBMITTED BY CANADA AND DOMINION SUGAR COMPANY LIMITED
CHATHAM, ONTARIO

1. In considering this question the approach which immediately suggests itself is that of the cost per acre of producing sugar beets. We have been collecting data on this subject for years past and we believe that the figures we give below are reasonably correct and representative of present conditions.

They are made up of the averages of figures submitted to us by some sixty growers scattered over the entire beet-growing district.

FARM COSTS PER ACRE OF SUGAR BEETS

Operation	Time or Material Involved	Value per Unit	Cost per Acre
			\$ cts.
Seed.....	14.1 lbs.	15c. per lb.	2 12
Fertilizer.....	201 lbs.	\$36.50 per ton	3 65
Plowing.....			2 52
Preparing.....	2 discings		
Seed Bed.....	1 rolling		2 41
Seeding.....			0 68
Thinning.....		Standard	8 00
2nd Hoeing.....		Contract	3 00
Topping.....		Labor Price	8 00
Cultivating.....	5½ times		3 25
Plowing Out.....			1 75
Hauling.....	(13.46 tons)		10.99
Rental of land.....			6 98
Manure.....	10 loads	½ residual	4 92
			58 17
Less value of tops.....			4 21
Cost per acre.....			53 96

The growers who submitted these figures obtained an average yield per acre on some 600 acres of 13.46 tons per acre. This is somewhat above the average over the whole territory. The growers with a lower yield per acre, however, would not show lower costs in any particular except haulage cost. With an average yield over a term of years of 9.2 tons per acre the haulage cost would be reduced as would also the value of the tops. The net cost would be about \$52 per acre, which with a 9.2 yield gives approximately \$5.65 per ton. On this basis the average grower would show a slight profit on his 1931 crop as the price paid for beets was \$6.265 per ton. The figures would be as follows:

9.2 tons sold at \$6.265.....	\$	57 64
Cost of production.....		52 00
Net profit.....	\$	5 64

In considering this net profit, however, it must be remembered that in the \$52 the grower has already included his own labour and the land rental as well as his out of pocket expenses. The amount he receives for his own labour, which is placed at his own valuation per unit, is \$21.60. If he does his own hand labour of thinning, hoeing and topping, which 30 per cent of the growers did in 1931, he adds \$19 more to the amount making a total of \$40.60 per acre. The great amount of labour necessary in sugar beet culture is one of the talking points sometimes used against the industry. Yet the farmer gets well paid for that labour, gets paid for his seed, fertilizer and manure, gets a fair allowance for land rental and something over in the way of dividend.

2. This brings up the question as to why, if the farmer can show an actual profit over and above all expenses, including his labour, there is not a much greater demand for sugar beets with resultant expansion of the industry. In considering this point, which is closely linked up with the question of the amount of additional protection required to induce expansion of the industry, let us inquire more closely into the practical aspects of sugar beet growing.

3. Sugar Beets are grown entirely under contract; the grower has no choice as to the disposition of the product, i.e., whether he shall sell or feed; when he shall

sell; and to whom he shall sell. He is (generally) obligated to a considerable outlay for hired labour long before the harvest. He does not get his money until late in the fall. True, sugar beets are a cash crop and the grower is sure of being able to sell at a minimum price but this guarantee is of no use to him should his crop prove a failure, as his out of pocket expense per acre may eat a hole in the returns from his other crops. The farmer in growing any crop must always be willing to gamble the cost of his seed, his own labour and time and the use of his land against the chance of a crop with an ordinary return per acre. In the case of the sugar beet crop, he also has the gamble of a heavy actual outlay per acre—indeed this outlay amounts to as much as the gross return per acre on many other crops. His own labour on sugar beets is also heavy at harvest time. For these reasons the net return on sugar beets must be much higher than on ordinary crops to make the crop an attractive one to the farmer.

4. During the last two years the prices of other crops have fallen so low that, although the price of sugar beets has declined also, the latter crop is still an attractive one to the grower. During last fall, when farmers were delivering sugar beets, prices of other field crops grown in the district were quoted by Chatham buyers, through whose hands passes the great bulk of the local produce, as follows:—

Produce	Price per Bushel	Yield per Acre (*)	Gross Value per Acre	
	cents	Bushels	\$	cts.
Wheat.....	40	27.5	11	00
Oats.....	20	42.2	8	44
Corn.....	45	66.6	29	97
Barley.....	36	34.5	12	42
Potatoes.....	20	123.6	24	72
Beans.....	60	14.2	8	52
Average.....			15	84

* The average yield per acre for Kent County as given by the Ontario Department of Agriculture for the year 1930.

It is obvious that with such prices as these, sugar beets, even at the minimum price of \$5 per ton, are attractive to the farmer who must obtain a certain minimum amount of cash to meet his money obligations such as taxes, implement and sale notes and, in many cases, interest and principal on a farm mortgage.

5. As we cannot look for, and indeed, do not desire, a continuance of the existing extremely low prices for nearly all farm products, the question of comparative values of sugar beets and other crops must be considered from a viewpoint of normal, or at least reasonable values of general farm crops. Note the following figures:—

Year	Average Price Beets	Acreage Grown
1923.....	10.52	18,114
1924.....	8.52	31,111
1925.....	5.95	29,358
1926.....	6.39	24,970
1927.....	7.90	21,571
1928.....	6.72	29,142
1929.....	7.64	23,401
1930.....	7.47	26,922
1931.....	6.265	31,382
Average.....	7.486	26,220

The high price in 1923 caused a great increase in acreage for 1924; the low prices in 1925 and 1926, due to low sugar content and lower sugar prices, caused a considerable decline for 1927; following the rise in price for the 1927 crop to \$7.90, an increase is noted for 1928 and so on. Over the whole period the average price of \$7.486 per ton did not actually produce a demand for acreage which would permit of expansion of the industry. I am convinced that in order to expand the industry a price minimum of not less than \$8.00 at weigh stations would have to be provided. This would mean approximately \$9.10 delivered at factories as the freight charges on beets average about \$1.10 per ton. With such a price and an average extraction of 247 lbs. of sugar per ton of beets paid for (our 10 year average), we would have a price of \$3.68 per hundred pounds of sugar in the beet.

6. The cost of manufacturing in the beet sugar industry is not greatly different from the cost of refining raw cane sugar. At the present time, due to abnormal conditions, the usual profit from the by-products, dried beet pulp and molasses, has disappeared. Normally, however, this by-product revenue would reduce beet sugar manufacturing costs to a point approximately equal to the cost of refining raw cane sugar. Hence it is not necessary to consider factory costs in trying to arrive at the comparative status of refined beet sugar and refined cane sugar for application of tariff protection. The real question concerns the comparative return to the farmer for his sugar beets vs. the *market price* of raw cane sugar. The *cost of production* of raw cane sugar at the present time bears no apparent relation to the market price as it is well established that all producers are turning out raw cane sugar at varying degrees of loss. If we take the present market price of raw cane sugar and set over against it the cost of sugar in the beet, as obtained in paragraph 5, above, we have the following:

Cost of Raw Sugar in the beet with beets at \$8.00 plus freight.....	\$ 3 68
Assured interest on investment in factories to attract capital to the industry....	0 56
	<hr/>
	\$ 4 24
Present market price of raw sugars delivered at refineries duty paid (\$1.94 plus .28712).....	\$ 2 23
	<hr/>
Additional protection required to induce expansion of the industry by making it attractive to both growers and factory.....	\$ 2 01

It would thus, in our opinion, require an increase in protection of at least 2 cents per pound under present conditions to assure any expansion of the beet sugar industry. This increase would need to be guaranteed for a term of years, say ten to twelve, to warrant the considerable capital expenditure involved. To say just how great an expansion would take place under such an increased protection would be pure guesswork on the part of any one.

CANADA AND DOMINION SUGAR COMPANY LIMITED.

I have a third statement which concerns present conditions in the world's sugar industry which I think you will find quite interesting and enlightening.

PRESENT CONDITIONS IN THE WORLD'S SUGAR INDUSTRY

SUBMITTED BY CANADA AND DOMINION SUGAR COMPANY, LIMITED

1. Those immediately connected with the sugar industry in any country are fully acquainted with the situation, both with respect to world conditions in sugar and the relation thereto of their own country's sugar industry. To anyone not closely connected with sugar matters the picture is a vague one. He knows that sugar is very low in price, that there is talk of over-production and plans afoot for restriction of exports, etc. As most other industries are

also depressed for the time being, he vaguely supposes that sugar is in the same boat with the rest and no worse off, and that, as general business conditions improve in due course, sugar will share the general benefits therefrom. Let us examine some of the major facts in connection with sugar so as to form a more accurate picture than this vague outline.

2. The world's production of sugar for the past ten years has been exceeding consumption by varying but considerable amounts as shown by the following figures, which are in tons of 2,240 pounds and are taken from Willett and Grays Statistical Sugar Trade Journal, the leading authority on sugar statistics:

WORLD'S SUGAR STOCKS

Year, Jan. 1st	Production (Tons of 2,240 lbs.)	Stock of sugar in principal countries
1923.....	18,359,484	2,433,603
1924.....	20,301,730	2,899,717
1925.....	23,988,789	3,206,304
1926.....	24,326,642	3,942,774
1927.....	24,116,980	3,564,498
1928.....	26,080,289	3,982,455
1929.....	27,535,100	4,780,092
1930.....	27,331,892	5,931,182
1931.....	28,723,025	9,919,118
1932*.....	26,317,634	10,210,764

* Latest estimate.

3. From the above figures it is readily discernible that the world has gone on steadily increasing production of sugar without regard to the volume of consumption. Even before the present slump in general business set in, the world's stocks of surplus sugar had mounted to dangerous levels. Still the increase in production went on and with the reduced demand occasioned by debased general conditions, the surplus stocks leaped to alarming proportions. The effect upon the prices of sugar is fairly well shown by the following table which gives the price of Cuban raws delivered at New York, without duty. This is also taken from Willett and Gray's Statistical Sugar Trade Journal:—

NEW YORK MARKET COST AND FREIGHT SUGAR QUOTATIONS CUBAN SUGARS, NET CASH, WITHOUT DUTY CENTS PER POUND

	Highest	Lowest	Average
1923.....	6.623	3.25	5.24
1924.....	5.625	3.00	4.186
1925.....	3.06	1.94	2.562
1926.....	3.375	2.188	2.568
1927.....	3.500	2.688	2.959
1928.....	2.875	2.00	2.459
1929.....	2.3125	1.6875	2.001
1930.....	2.0625	1.040	1.499
1931.....	1.55	1.09	1.329
1932*.....	1.20	.76	(not available yet)

* To date (March 17, 1932).

4. A study of these figures reveals that the sugar industry of the world has for a number of years past, been enduring the greatest crisis in its history and one of its own making entirely unrelated to general world conditions prior to 1930. During the last two years, of course, the general economic crisis has intensified the sugar situation and conversely, probably improvement in

world conditions would hasten the recovery of sugar. With the tremendous burden of the immense surplus stocks on hand, however, the general opinion is that the recovery of sugar is going to be a slow and painful process. We all know it will come eventually but unfortunately the economic cycles in sugar are of long duration. The factors involved are ponderous and slow-moving. Unfortunately, they have not even been set in motion in the right direction as yet, as sugar prices have apparently not even reached bottom.

Mr. STEWART: Would you have the farmers of western Canada, because there is an over-surplus of wheat stop growing wheat on the same lines as your argument in regard to the over-production of sugar? If it holds good in regard to sugar it should hold good in regard to over-production in wheat?

The WITNESS: We have not advised them to stop. On the contrary we are taking all the acreage we can handle.

Mr. STEWART: Your argument is that there should not be any more sugar produced in Canada on account of the large market.

The WITNESS: No. I am simply giving you the facts so that you can judge of the situation as we, of course, have to judge from the knowledge we have of the industry. I am simply giving you the facts.

Mr. PORTEOUS: Is it true that you can get a lot more contracts from the farmers for beets at the present price?

The WITNESS: Yes.

Mr. PORTEOUS: Why did you figure that out at \$8 a ton?

The WITNESS: I mentioned there that you have to consider that they are not getting normal prices for their other crops. I am sure that no one wants a continuance of present farm prices.

Mr. PORTEOUS: I want to ask you the same question as I asked the previous witness. What would the result be if there was less spread between the duty on raw cane sugar coming into this country and the refined? What would the result be to your business?

The WITNESS: To our business?

Mr. PORTEOUS: Yes.

The WITNESS: That is difficult to say. How much less spread?

Mr. PORTEOUS: Supposing it was half as much as it is to-day.

The WITNESS: I do not think it would make very much difference to us. Our big competition point is Toronto. We ship a great volume of our sugar to Toronto.

Mr. PORTEOUS: Would you not turn your attention more to the beet sugar industry?

The WITNESS: If you mean on present day conditions, I could only say that as business men I do not feel that we could expand under present conditions; we could not take any more acreage in our existing factories, and we would require an outlay of additional capital to build a new plant, which we do not consider is justified with the present world conditions.

The CHAIRMAN: Mr. McIntyre, you mentioned an increase in the tariff. What guarantee would the government or anybody have that if an increase in tariff were granted that the cane sugar refineries would not take full advantage of that and the beet sugar industry would be in no better position than it is to-day?

The WITNESS: Well, Mr. Chairman, only that in making any suggestion of an increased tariff we would have it apply to the refined sugar and keep the status quo, as far as the refining is concerned just where it is.

The CHAIRMAN: But, we want something more than that. Our idea is to raise the percentage of beet sugar produced in this country; that is the idea of this investigation.

The WITNESS: If you had an increased tariff of that amount your production of beet sugar, I feel, would increase.

Mr. CAYLEY: What is the American tariff?

The WITNESS: On refined sugar?

Mr. CAYLEY: Yes.

The WITNESS: \$2.65, general tariff.

Mr. CAYLEY: And you were suggesting how much for Canada?

The WITNESS: We were suggesting an increase of approximately two cents which would bring ours up to \$3.89.

Mr. CAYLEY: The tariff that they imposed in the United States did not help the American industry, did it? Did they increase their industry?

WITNESS: Of course, they have been subject to the same world conditions that we have. That increase came at a time when prices were declining very fast so that the price declined far more than enough to offset the increase in the tariff.

Mr. BERTRAND: In spite of the tariff, would we not be exposed to world conditions at the present time?

The WITNESS: Of course, but in the case of a protective tariff you are protected to the extent of whatever your amount of duty is.

Hon. Mr. ELLIOTT: Have American concerns fared as well as Canadian concerns in the last five years? My information was that they had not done as well.

The WITNESS: In Michigan, Mr. Elliott, practically all of the plants there have closed up with the exception of some which have been operated on leases. There were a few leased from the bond holders last fall.

Mr. CAYLEY: And they had a higher tariff.

The WITNESS: Yes. Their tariff is somewhat above ours.

Hon. Mr. ELLIOTT: It did not save their industries?

The WITNESS: No.

Hon. Mr. ELLIOTT: Now, with regard to prices, have you the various figures of the cost of sugar, say, for the last ten years?

The WITNESS: Yes. What you refer to is the market prices in New York?

Hon. Mr. ELLIOTT: Yes.

The WITNESS: I quoted a number of those which are now in the record. That is back for ten years.

Hon. Mr. ELLIOTT: Just for ten years. I just wanted to make sure.

The WITNESS: Yes. I quoted those and also in my memorandum I put in a list of the highest and lowest extremes which I did not read out to you to save time.

Hon. Mr. ELLIOTT: What was the highest, as you have it before you, for the last ten years?

The WITNESS: The highest price was in 1923. The cost of raw sugar, net, cash, without duty, at New York city, was 6.625.

Hon. Mr. ELLIOTT: And what was the lowest? Is that the average for the last year?

The WITNESS: No. That is the highest.

Hon. Mr. ELLIOTT: That is the average for the year?

The WITNESS: No. The highest price. The highest average for any of these years is in 1923—5·24.

Hon. Mr. ELLIOTT: And what was the average, did you say, for last year?

The WITNESS: For last year the average was 1·499—practically a cent and a half.

Hon. Mr. ELLIOTT: Now, as to setting your price paid to the farmer, you used the Willett and Gray standard to regulate that price?

The WITNESS: Yes, years ago we did.

Hon. Mr. ELLIOTT: And that is changed now, is it not?

The WITNESS: Our entire form of contract in 1923 was altered.

Hon. Mr. ELLIOTT: Was that alteration made in 1923?

The WITNESS: Yes. 1923 was the first year in which we came out with an entirely different style of contract which has since been adopted by a number of beet sugar companies in the western states.

Hon. Mr. ELLIOTT: And instead of having Willett and Gray as the standard now, I noticed a contract a short time ago by which, two or three bankers set the price.

The WITNESS: No. They did not set the price. The price is the actual price received and taken from our books. That price is audited and the committee of bank managers that you spoke of are in the position of arbitrators or referees. They appoint the auditors and are named in our contract.

Hon. Mr. ELLIOTT: Then, Willett and Gray does not govern with regard to these prices you pay farmers in Ontario?

The WITNESS: Not at all.

Hon. Mr. ELLIOTT: Why was the change made?

The WITNESS: There are a number of reasons, Mr. Elliott. I would say that one of them was the fact that during some of the years it was found that the prices quoted in Willett and Gray were not as accurate as we would like them to have been. The result was that disputes arose, or could arise, over the actual prices. We felt that by taking the price from our books, having it audited by a reputable firm of chartered accountants, that there could not be any dispute.

Hon. Mr. ELLIOTT: Then the change was made by your company?

The WITNESS: The change was made voluntarily by our company.

Hon. Mr. ELLIOTT: Rather than at the request of the growers?

The WITNESS: The growers never made any representations in the matter.

Mr. YOUNG: You made the statement that the increase in the duty of two cents which you suggested, would have to be paid by the consumer?

The WITNESS: Yes.

Mr. YOUNG: What is the total consumption of sugar in Canada?

The WITNESS: Well, it is approximately 900,000,000 pounds.

Mr. YOUNG: Then our cost of sugar would increase by about \$18,000,000?

The WITNESS: Yes.

Mr. YOUNG: Now, what is the importation of refined sugar in Canada?

The WITNESS: Well, the importation—the imports of refined sugar for the year 1931 were 20,704,900 pounds.

Mr. YOUNG: Now, it is going to cost the people of Canada an additional \$18,000,000 for sugar. All that two cents a pound and some twenty million pounds will go to the government.

Mr. STEWART: There are no importations to-day.

Mr. YOUNG: Twenty million.

Mr. STEWART: That is last year. There are none to-day.

Mr. YOUNG: That being the case the government would get no revenue?

The WITNESS: Of course, they would receive the revenue in the meantime on the importations of raw sugar that come in, because you could not expect your home industry to immediately leap to the point of supplying the entire requirements.

Mr. YOUNG: Your idea is to increase the duty on raw by the same amount as on refined?

The WITNESS: Yes.

Mr. YOUNG: You would increase the duty on raw sugar to the extent of \$2 a hundred?

The WITNESS: Absolutely.

Mr. YOUNG: And we would pay that much additional for our sugar. Precisely, how would that help the beet sugar industry?

The WITNESS: It would simply raise the price to that extent, so that the return to both the grower and the factory would be increased.

Mr. YOUNG: And it would enable us to pay a higher price for our beets?

The WITNESS: Yes.

Mr. YOUNG: Well, we pay an additional \$18,000,000 for our sugar. Now, what effect would that have on the jam makers who buy sugar in large quantities and want to export their jam?

The WITNESS: Any one who is engaged in the export trade gets a drawback of 99 per cent of all the duty paid on the product exported.

Mr. YOUNG: He would get a drawback?

The WITNESS: Ninety-nine per cent of the duty paid on any imported product.

Mr. YOUNG: He is not paying the duty; he is paying the price to your refineries. You are not giving him any drawback. He is not importing any sugar.

The WITNESS: You are looking ahead, I suppose, to a time when all sugar that is produced and used in the country would be beet sugar; is that the case?

Mr. YOUNG: No. I am looking to the time, which Mr. Stewart says has arrived, when all the sugar consumed by the country is made in the country. The maker of jams will have to buy his sugar in the country. Consequently, he would not pay any duty on it, but he will pay the high price. Where will he look for his drawback?

The WITNESS: In the meantime we have not reached the point where all the sugars are supplied by the home industry. There will for some time be raw sugars brought in and refined in Canada for the export trade.

Mr. YOUNG: The raw sugars are available for the export trade; but the Canadian maker of jams is not buying his sugar on the export market, but on the domestic market.

The WITNESS: There is a custom of the trade there which I do not believe you understand. Even under present conditions, any jam maker or any exporter who uses sugar in the product which he is going to export takes the precaution

to either purchase refined sugar from foreign countries, or, if it suits his needs, he buys long drawback sugar. He specifies that in his request for sugar, so that he gets the full drawback. There is no duty accruing to the government eventually. The government gives him back the duties paid on that sugar, and he is reducing the cost of his exportable product to that extent.

Mr. YOUNG: Even if he buys that sugar from Canadian refiners?

The WITNESS: Yes.

Mr. YOUNG: Supposing the purpose some men have in view is accomplished and he is supplied with Canadian beet sugar, what happens then?

The WITNESS: Of course, if you made such a rigid enactment that no foreign or refined sugar could be brought in under any conditions you would place him at a disadvantage, but failing that he could always import refined sugar, pay the full duty on it, put the article in his exportable product and get a drawback of 99 per cent when the product is finally exported.

Mr. YOUNG: All you can possibly do is to control the Canadian market.

The WITNESS: Yes, quite.

Mr. YOUNG: No tariff we can impose would help you—

The WITNESS: Well, it would help us, but it would also help the jam maker because the drawback provision would still remain.

Mr. YOUNG: Your increase in the tariff would not help him any.

Mr. ROWE: It would not hurt him?

The WITNESS: It would not hurt him any either,—

Mr. YOUNG: You might try to neutralize it. All you can possibly hope to do is to supply the Canadian market which I understand you practically supply now.

The WITNESS: That the sugar industry in Canada supplies?

Mr. YOUNG: Yes. Now, the only possible expansion must be at the cost of the present refineries of cane sugars, is that not so?

The WITNESS: Yes. That is true, except in as far as the increase in consumption caused by growth in population is concerned.

The CHAIRMAN: Gentlemen, Mr. Russell, who gave evidence at our last meeting on behalf of the Beet Growers Association of Alberta, told me that he had some further evidence to give. You will remember that the committee rose while he was in the middle of his evidence. Would it be satisfactory to allow him to hand in a brief and have it printed so that his evidence should be complete. We will, therefore, have Mr. Russell's brief included in to-day's proceedings.

W. F. RUSSELL, recalled:

Mr. Chairman and Honourable Members of this Committee, I appreciate the opportunity of appearing before you again.

I wish to compliment Mr. Houston for his attitude toward the farmers and the compliment he paid to them. I would add that sugar beet farming makes good farmers of poor farmers and better farmers of the good farmers.

I wish to give you some of the improvements that have been made in the Raymond district since the sugar factory was placed there in 1925.

The assessed value of the town was \$387,862 in 1925; in 1930 it was \$500,000; in 1931 it was \$628,870, almost double the value of 1925. This does not take into consideration buildings and improvements non-assessable, such as schools, churches, etc. New Buildings, etc., of this nature have increased approximately \$150,000, these increases coming at a time of world depression when building operations in the rest of the country are at a standstill.

The increase in population of this town has been approximately 40 per cent. The increase in population in the rural district has been more than 40 per cent. The farmers have made better homes for their families and they are improving the farm buildings, etc., all the time, making it a more desirable place to live.

I would say that approximately 75 per cent of the beets go through the city of Lethbridge, and more than 75 per cent of the money paid for the beets is spent with the business men of the city of Lethbridge. Lethbridge is about twenty miles from the factory. This city has erected several new business blocks and I think I am safe in saying that more than one hundred new homes have been built. Bank clearings have materially increased and general business has increased.

Settlement has doubled in the district east and in the Lethbridge northern irrigation district settlement has increased 75 per cent. Unless the sugar beet industry is expanded in the very near future, the further settlement of any of these districts must stop because without the sugar beet in the farm rotation they cannot succeed and pay the irrigation rates, taxes and other expenses which they must carry and I am afraid and fear the chances for hundreds of the settlers already placed on the irrigated land in all the irrigated areas of southern Alberta who have not the chance under present conditions to raise sugar beets in the rotation on their farms.

I am going to give the plan of settlement used by the C.P.R. in the Coaldale district east of Lethbridge. A statement given to me by S. G. Porter, Manager, Department of Natural Resources for the C.P.R.

I am handing you herewith a tabulated statement of the payments we have received from a group of settlers at Coaldale, Alberta, who bought land on a special "beet-growing" contract. The terms of payment under this contract are that the purchaser will put one-eighth of the acreage of the irrigable land in beets and turn the entire proceeds of that area over to us to apply on his land contract. The other seven-eighths of the area are entirely at his own disposal to use as he sees fit.

The statement which I am enclosing shows the name of the purchaser, the description of the land and the purchase price. The first column following the purchase price shows approximately what the annual payment would be under our ordinary long-term sale contract. In the following columns are the returns which we have received under the beet-growing contracts during the years they have been in force. The first group of these settlers began in 1927. A few others were added each year, as indicated on the statement. You will note that in almost every case substantial payments have been made every year, in many cases averaging more than the amount which would have been called for under a term contract. You can draw your own conclusions as to a proper comparison of the success of those farmers who have been growing sugar beets as compared with those who have devoted themselves to grain and other crops. As you are no doubt aware, a very low percentage of purchasers who are growing grain or other crops have been able to meet their land payments during the past two years. Some settlers have paid very little in 20 years with the ordinary contract.

STATEMENT OF PAYMENTS RECEIVED ON SUGAR BEET CONTRACTS IN ALBERTA RAILWAY & IRRIGATION BLOCK

Cont. No.	Name	Land	Purchase Price		Approximate 7% payment		1927	1928	1929	1930	1931					
			\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.				
649	J. J. Enns.....	NW $\frac{1}{4}$ 4-9-19 W 4.....	9,600	00	672	00	824	05	939	13	1,006	58	806	07	641	08
643	J. P. Dueck.....	S $\frac{1}{4}$ of SE $\frac{1}{4}$ 8-9-19.....	4,965	00	347	55	372	20	109	35	512	27	376	90	363	88
642	K. F. Enns.....	Pt SE $\frac{1}{4}$ 20 & NE 17-9-19.....	6,110	08	427	70	575	96	600	00	598	72	591	96	274	81
639	J. P. Dueck.....	N $\frac{1}{4}$ of SE 8-9-19.....	5,025	00	351	75	320	87	299	58	523	30	382	90	267	30
644	J. J. Wieler.....	Pt S $\frac{1}{2}$ 20-9-19.....	4,598	00	321	86	332	78	45	86	488	75	.....	.....	553	85
640	J. Reimer.....	Pt SW 20-9-19.....	5,206	00	364	42	245	08	128	27	521	56	373	23	176	58
647	H. Janzen.....	LS 15 & 16 of 33-9-19.....	4,836	00	338	52	317	20	95	52	733	30	430	37	273	46
648	G. Kroker.....	LS 9 & 10 of 33-9-19.....	4,547	00	318	29	155	42	35	58	654	88	493	02	258	60
653	J. Enns.....	NW $\frac{1}{4}$ 33-9-19.....	10,000	00	700	00	.....	.....	584	35	783	40	716	51	707	55
740	H. J. Goerzen.....	SW $\frac{1}{4}$ 33-9-19.....	8,570	00	599	90	.....	.....	350	03	659	30	418	16	876	13
641	I. G. Born.....	Pt NW 24-9-20.....	3,087	50	216	10	11	21	219	92	315	07	278	30	244	71
645	P. P. Quapp.....	LS 9 & 16 of 26-9-20.....	4,258	25	298	05	348	19	232	44	311	47	.....	.....	302	19
646	J. P. Quapp.....	LS 10 & 15 of 26-9-20.....	4,369	55	305	86	349	83	230	10	411	47	170	60	188	87
716	P. P. Dyck.....	LS 1, 2, 7 of 3-10-20.....	7,656	00	535	92	.....	.....	89	80	399	25	209	20	520	14
726	P. P. Harder.....	SW $\frac{1}{4}$ 3-10-20.....	10,305	00	721	35	.....	.....	480	45	700	88	581	00	622	59
724	P. H. Kopp.....	NE $\frac{1}{4}$ 4-10-20.....	7,401	75	518	10	.....	.....	490	12	668	03	509	89	373	42
746	A. Langeman.....	LS 15 & 16 of 27-9-20.....	4,400	00	308	00	.....	.....	.....	.....	165	43	362	96	250	51
773	H. Brucks.....	LS 7 & 8 of 27-9-20.....	5,189	60	363	27	.....	.....	100	00	362	20	230	22	107	19
609	G. Wiebe.....	LS 1 & 2 of 27-9-20.....	4,830	10	338	10	.....	.....	706	59	327	90	231	38	160	77
747	P. N. Redkop.....	NE $\frac{1}{4}$ 15-9-20.....	5,537	50	387	60	.....	.....	135	94	300	01	161	66	396	43
722	H. J. Rogalsky.....	LS 9 & 10 of 21-9-20.....	5,444	40	381	10	.....	.....	.....	.....	239	22	272	80	300	53
723	H. A. Kroeker.....	LS 10 & 15 of 21-9-20.....	5,403	60	378	25	.....	.....	91	60	356	42	224	94	377	75
707	P. P. Martens.....	SE $\frac{1}{4}$ 21-9-20.....	9,743	75	682	05	.....	.....	.....	.....	660	71	381	31	346	91
743	P. P. Goossen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	P. O. Friesen.....	SW $\frac{1}{4}$ 35-9-19.....	7,899	60	552	95	.....	.....	216	72	483	70	472	22	360	95
	A. A. Thiessen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
808	Isaac Barg.....	SE $\frac{1}{4}$ 29-9-20.....	9,600	00	672	00	.....	.....	.....	.....	491	28	569	69	178	79
819	C. H. Franz.....	LS 4 & 5 of 2-10-20.....	5,445	00	381	15	.....	.....	.....	.....	362	75	218	58	306	11
809	H. Mantler.....	NW $\frac{1}{4}$ 2-10-20.....	10,365	00	725	55	.....	.....	.....	.....	620	38	560	80	472	29
856	P. D. Siebert.....	LS 11 & 12 of 25-9-20.....	4,464	95	312	54	.....	.....	.....	.....	.....	.....	278	06	289	34

I would like to add just a little to what I said before regarding live stock. Dairy cattle have increased in the sugar beet districts 200 per cent over the districts outside the beet growing areas. The quality of cows has risen until we have some of the best herds of Holstein and Ayrshires to be found anywhere in Canada. We have some very fine Jersey and Guernsey cows also.

We have the boys and girls clubs in both the dairy and beef cattle doing some of the finest work possible developing the appreciation for good stock. These boys and girls feed beet by-products to develop the calves they have to raise, which will some day be cows that they can point to with pride.

I have a statement here from Mr. E. W. Jones, Superintendent of Animal Industry for the Canadian Pacific Railway regarding the experience they are having with their beef cattle feeding.

During each of the past several years we have grown approximately seventy-five acres of sugar beets at our Coaldale Farm and the feeding value of the beet tops has really been a matter of astonishment to me. As the beets have been lifted the tops have been thrown into winrows and for the most part left to dry on the ground. During the fall these dry up and as soon as our herd of purebred Shorthorn cattle come off the grass we turn them into these beet fields where they winter without any other feed of any kind, with the exception of straw, which they may obtain from straw stacks in adjacent fields.

Last fall we gathered and piled beet tops from approximately thirty-five acres and used them to furnish succulent diet to approximately one hundred and fifty very high-class steers which we were feeding for spring exhibitions to be shown in carload classes. We consider that the beet tops had very remarkable feeding value but have no experimental evidence to back up our statement. Of the remaining forty acres I may say that we have wintered sixty-five head of cattle on this field and they are in wonderful condition. Several dry cows are fat and are ready for slaughter now. In the lot of sixty-five we have twenty-two purebred yearling heifers and these have come through the winter in remarkably good condition with no feed at all, with the exception of beet tops which they pick up from the fields, and straw. We winter our cattle on this farm at a much lower cost than at any other farm we operate.

For some years we have been using Betalasses from the sugar factory in connection with the fattening of our show and sale beef cattle. We feed this in open troughs and the cattle consume it as desired. At the price per ton charged by the sugar factory we feel that it is by far the cheapest feed we buy. The sugar content, as shown by chemical analysis would indicate that Betalasses has a very high feeding value, \$10 per ton.

We have only had a very limited experience in feeding wet beet pulp from the factory to live stock but have observed the gains made by cattle on farms closer to the factory where hauling is feasible. At the price charged by the sugar company, namely—60 cents a ton in the wet state, this pulp has undoubtedly a very high feeding value. I understand it contains 10 per cent dry matter, and 90 per cent water. Therefore on a dried beet pulp basis the price would be \$6 per ton. I may say that dairymen use dried beet pulp in Ontario at a price twice as high as this and I consider the price not too high.

Sugar beet by-products, tops, Betalasses and pulp surely encourage the production of live stock and wherever factories are established live stock production costs will be reduced, and the business of feeding and finishing cattle and sheep will greatly increase. I cannot speak too enthusiastically about the advantage of feeding cattle where sugar beet

by-products are available. We feed cattle at other farms which are too far distant to transport beet by-products and I am quite within the mark when I say that gains on these other farms are much more expensive and not nearly so rapid, and the finished product not as satisfactory.

I also have a statement from W. C. McKenzie, Manager of the Southern Alberta Co-operative concerning the outlook and possibilities for live stock feeding with the expansion of the sugar beet industry.

Further to our telephone conversation of this morning with reference to the number of head of livestock being fed in the best area in the Lethbridge district.

In reviewing feeding operations in the past three years it would appear that an average of 25,000 head of lambs are fed on grain and beet by-products, and approximately 3,000 head of beef cattle.

In addition to the beef cattle there are a great many farmers who feed by-products to milk cows as well as to hogs and even dry cattle. It is safe to say that most of the beet by-products, suitable for feed, has been consumed right here in our own district. With the low price of grain, and the development of the Red Label beef organization here there is every indication that an increase will be noticeable in the near future in the feeding of live stock. It is therefore essential that sufficient by-products of the beet industry be available.

In making further investigation it is evident to us that between 35,000 to 40,000 head of feeder lambs, are shipped annually from the ranges adjacent to the irrigated areas in Southern Alberta, to distant feed lots for finishing. It is possible that flock owners of sheep who haven't sufficient feed, will get together under a scheme similar to that of the Red Label Beef Association, and feed their sheep right here in our own district. Should this materialize, and there is every indication it will, sufficient live stock will be fed here to take care of the by-products of at least two or three more beet factories.

Speaking of feeding of cattle, the Red Label Beef Organization commenced feeding three years ago with some 800 head in the feed lots, as an experiment. To-day this organization has 2,400 head, all of which are high grade beef cattle taken direct from the ranges adjacent to the irrigated areas here. Many of these cattle were exported to Great Britain last year and left a very favourable impression with the British buyer. Several loads which were shipped to the Perth market and to Glasgow topped the market against the best finished Scotch cattle. Even though prices were low last year, especially in Canada, we have returned to the farmers a price of \$7.25 to \$7.80 per cwt. on our delivered weights here. This netted a premium to our feeders of 2 cents per pound over the Canadian market prices, and goes to show that the feeding of good cattle on good by-products, and grains, can be a profitable venture. We have letters here from two of the largest purchasers of live stock in Great Britain asking if they may look forward to purchasing more of our grain-fed western Canada beef this year.

With thousands of head of good cattle on our ranges, the future of the feeding industry in the Lethbridge district is exceedingly bright. And we must not overlook the fact that while calves in the fall months are only worth \$15 to \$20 per head, by finishing them through the winter months and selling them as Baby Beef in the spring they are worth \$50 to \$60 per head. The value of circulating this extra amount of money amongst our farmers should not be underestimated.

Then again feeders employ a certain amount of help for their feeding operations, thus assisting in relieving the unemployment situation during the winter months.

It gives the railway more tonnage, thereby indirectly again assisting unemployment. By increasing the weight of these cattle, we likewise increase the number of carloads going out.

The reputation of the beef trade in Canada should be of immense value to the live stock industry as a whole. We trust we have touched on a few of the important features which we must all keep in mind for the good of the live stock industry, and the country as well.

In the five years since the Raymond beet sugar factory was established it has manufactured 1,135,000,000 pounds of sugar, valued at \$6,810,000. This entire sum has been expended in Alberta or Canada.

Beet growers of the province will receive approximately \$700,000 for their products in 1931, according to company representatives who have just issued the annual report following the closing of the factory on December 27, for the winter months. The 1931 crop, grown by 700 farmers on 12,300 acres, rated the highest sugar content reported by any of the 65 factories operating on the North American continent, and earned for Alberta growers a special bonus of 50 cents per ton. Beets delivered to the factory totalled 105,000 tons, from which 31,000,000 pounds of sugar were manufactured.

Twenty-five receiving stations were established to facilitate handling of the roots and 320 men employed in the factory during the peak season.

Statistics relative to the manufacture of the sugar crop are of great interest to the man who subscribes to the belief that dollars spent in Canada mean prosperity for Canada. Among other items on the factory statement are: 15,000 tons of coal, \$50,000; 400 tons of coke, \$4,000; 4,500 tons lime rock, \$15,500; 100,000 pounds sulphur, \$3,000; 30,000 pounds of soda ash, \$1,000; 5,000 pounds tallow, \$500; oils, etc., \$5,000.

Cost for labour was placed at \$160,000; freight on beets at \$120,000, and other expenditures totalled \$20,000.

By-products included 120,000 tons of beet pulp and 30,000 tons of betalasses, sufficient to feed and fatten 50,000 head of cattle or 500,000 lambs.

Last year saw a record production in the beet sugar industry of the Dominion. The acreage shown to sugar beets in 1930 was 40,532, the highest previous figure being 34,903 in 1925. The yield last year was 397,576 tons, the previous record being 370,047 tons in 1925. Production of beet root sugar last year was 94,624,701 pounds, highest previously reached being 89,280,719 pounds in 1920. The Canadian sugar refining industry includes eight plants, of which three are situated in the beet growing areas of Chatham and Wallaceburg in Ontario and at Raymond in Alberta.

In view of the very large consumption of sugar in Canada, approximately one billion pounds, while we produce just under 100,000,000 pounds, it would seem that there should be a fine opportunity for Canadians to expand an established industry to a point where it will more nearly fill our domestic requirements. While we are worrying about the foreign market for our wheat, here we have a commodity of which we are producing only one-tenth of our requirements from home-grown products, importing the remainder. It should not require any convincing of the Government to bring about conditions under which we would produce a great deal larger percentage of our consumption.

Now, just a word concerning Beet Sugar vs. Cane Sugar. Mr. Rogers in his evidence mentioned the prejudices of the housewife against beet sugar for

canning purposes; I understand some evidence was introduced by other witnesses concerning experiments made in England. I have some very extensive records of tests made in U.S. and which I think could be used in an educational way through the Departments of Agriculture in the Provinces, co-operatively with the Dominion Department. I am quite sure this prejudice is only a small item to overcome if proper methods of education were introduced.

SUGAR IS SUGAR

Between sugar cane and sugar beets there is quite a considerable difference. But between cane sugar and beet sugar there is not the slightest difference in the world.

Sugar is sugar. Even chemists cannot detect any distinguishing difference between the two well-known kinds. That the lay person can either "taste" or "feel" the difference is quite beyond likelihood or possibility. Chemically and physically cane sugar and beet sugar are exactly identical.

What authorities say:—

Refined sugar, whether it is made from cane, beets, corn, maple sap or any other product, is the same, chemically and physically.

It is impossible to distinguish between refined beet and refined cane sugar. Chemists cannot do it.

Dr. Harvey W. Wiley.—While Chief of the Bureau of Chemistry, U.S. Department of Agriculture.

There is absolutely no reason why beet sugar, if properly made, should not be as satisfactory for all purposes as cane. The composition of both is exactly the same.

C. O. Townsend.—Pathologist in charge Sugar Beet Investigation, U.S.A. Department of Agriculture.

Sugar is chemically the same, whether derived from beets or sugar cane.

Albert E. Leach.—Late Chief of Denver Food and Drug Inspection; U.S. Department of Agriculture; and formerly Chief Analyst Massachusetts State Board of Health.

Practically all modern army rations now, particularly the emergency ration intended for the support of bodies of troops in the field, away from their supply trains, contain sugar, not merely by the ounces, but by the pound.

Dr. Woods Hutchinson.—Recognized authority on food values and health subjects.

Beet Sugar and Cane Sugar are identical in composition; one is as good for preserving as the other.

G. W. Shaw.—California Experimental Station.

We take pleasure in informing you that over 95 per cent of the sugar we use in manufacturing is Beet Sugar.

J. S. McDonald Chocolate Co.

USE BEET SUGAR

There is no finer product on the market than beet sugar. It is in every respect the equal of cane sugar and may be used for all purposes with equal success.

Fancy imported jellies, jams, preserves, marmalades, etc., imported from Europe—for which you pay fancy prices, are all made of beet sugar.

When you buy sugar specify Alberta beet sugar and support an industry that directly or indirectly is helping to support you.

BEET SUGAR IS CANE SUGAR—SUCROSE IS SUCROSE

The idea some people have gained—perhaps due to the newness of the beet sugar industry in this country—that cane sugar is different from beet sugar, is ridiculed by experts on the subject.

1. Beet sugar is identical with cane sugar.
2. It will make jelly, preserves, cakes, candy or do anything that any sugar will.
3. Refined sugar, whether made from cane, beets, corn, maple sap or any other product is the same chemically.
4. It is impossible to distinguish between refined beet and refined cane sugars. Chemists cannot do it.
5. Housewives throughout the land often attribute their failure in putting up preserves to the use of beet sugar. They have the same trouble when cane sugar is used.
6. In Europe nothing but beet sugar is used, still they have all kinds of preserves; in fact, England, where beet and cane sugars are used without preference, is noted for these products.
7. About one-half of the world's sugar production is beet sugar, and no human being nor science can distinguish a difference.

*Statement of C. O. Townsend, Pathologist in charge Sugar Beet Investigations,
U.S.A. Department of Agriculture*

“I will say, however, that beet sugar is always the same in composition, whether it is made in Utah or in any other state or, in fact, in any other country. Furthermore, beet sugar has exactly the same composition as sugar made from cane when properly refined. The analysis, or composition of beet or cane sugar is as follows:—

12 parts Carbon; 22 parts Hydrogen; 11 parts Oxygen.

When these three elements are combined in the proportions indicated, the resulting compound is sucrose, or cane sugar, cane sugar in this instance, being used as in trade to indicate all sugar of this composition.”

University of California has made extensive tests on this question which follows:—

The fruit used in the experiments comprised cherries, apricots, plums, peaches and pears. Each of these was preserved in different strengths of syrup in the ordinary methods of canning employed in the same commercial canneries, as well as after the methods followed in the household practice of canning and jellymaking.

In the case of apricots, both peeled and unpeeled fruit were put up after the ordinary cannery methods, and in the regular course of work with syrup showing 40 per cent sugar; with green-gage plums, 10 per cent syrup was used; with pears, 10, 15, 20, 30, 40 and 55 per cent syrup respectively was used with peaches 40 per cent syrup. In most instances all these strengths were used both in the case of sugar from cane and sugar from beets, but in the case of one cannery only beet sugar was used.

In the making of the syrup some difference was noted in the action of different grades of sugar. The beet sugar caused the more froth in the making of syrup, but further investigation led to the conclusion that this was due to the fact that the granulation of the beet sugar was much finer than that of the cane, therefore, causing more air to become entangled during the stirring than in the case of the sugar from cane. This was shown by the use of cane sugar of about the same granulation in another batch of syrup, in which case the same frothing occurred as with the beet product. This has been noted in other instances, and canners are wont to count this against the beet sugar, but it is only the result of not comparing sugars of the same granulation. This difference in the action due to difference of granulation was the only apparent difference between these sugars, however, as the character of the granulation is entirely dependent upon the wish of the manufacturer the methods of boiling and granulation being the same in both cases.

The several kinds of fruit were placed in cases in the ordinary manner, and stored in a rather unfavourable location for a period of two years, cans of each variety being opened from time to time to observe the change, if any. Of the 2,000 cans which were thus treated only 6 cans from the beet sugar lot and 7 from the cane sugar lot spoiled during the two years, and these were evidently due to imperfect sealing of the cans, thus showing the utter lack of foundation for the idea that fruits do not keep well when preserved with beet sugar, and that such sugar does not work well in the cannery.

In the household trials both apricots and peaches were canned in a 40 per cent syrup, 50 cans in each lot, the ordinary Mason jars being used as containers in each case. From these not a single can spoiled during the two year period.

In the jelly trials apples and currents were used as the basis, equal quantities of juice and sugar being used, and the mixture boiled until it is of the right consistency to jell. The product in each case was as clear as it is possible for jelly to be, and not the slightest difficulty was experienced in the making of it.

In connection with this work an attempt was made to trace numerous reports to the effect that fruit had been lost through the use of beet sugar but in not a single case was it found that the person so losing the fruit positively knew that the sugar from the beets has been used. The following is typical of all of the answers received to letters of inquiry on the subject:

I know nothing of the relative merits of beet sugar and the cane sugar, and merely stated that I had been told that the one was sweeter than the other, and a lady at a table stated that some years ago she had been given to understand that beet sugar was not good to put up preserves.

The general discussion was based on this subject, without any personal experience, and entirely upon hearsay evidence.

Now, Gentlemen of this Committee, I am fully convinced, as a beet grower, that we are entitled to 75 per cent of the market in the three prairie provinces for sugar that can be produced from sugar beets grown in these provinces.

That the expansion of the industry to that extent would add at least 50,000 people more to our present population.

That it will create direct employment for 20,000 men; indirectly it will make work for 20,000 more men in the coal mines, stone quarries, etc., where the supplies come from. The factory required to produce the bags and containers alone would be one of the largest kind of factory.

I therefore ask your Committee to bring in a report that will be adopted by this Government to bring expansion at once to this important industry.

I thank you.

The Committee adjourned to the call of the Chair.

SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND REPORTS

FRIDAY, APRIL 1, 1932

No. 6

Reference,—Beet Sugar Industry and Garnet Wheat

Submission by Dr. T. W. Grindley, Bureau of Statistics, and Freight Rates
on Car Load Lots of Sugar.

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1932

MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,

FRIDAY, April 1, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 10.30 o'clock in the forenoon.

Mr. Senn, the Chairman, presiding.

Members present: Messieurs Barber, Bertrand, Blair, Bouchard, Boulanger, Bowen, Brown, Campbell, Carmichael, Coote, Donnelly, Gobeil, Jones, Loucks, Lucas, McGillis, McMillan (Huron South), Moore (Chateauguay-Huntingdon), Motherwell, Mullins, Myers, Perley (Qu'Appelle), Pickel, Porteous, Senn, Shaver, Simpson (Simcoe North) Smith (Victoria-Carleton), Spotton, Sproule, Stewart (Lethbridge), Stirling, Thompson (Lanark), Totzke, Tummon, Vallance, Weese, Weir (Melfort)—38.

The Chairman informed the Committee that it would be necessary to consider the Order of Reference *re* grading of Garnet Wheat, referred to the Committee by the House on March 15, 1932.

A brief statement on the situation was made by the Minister of Trade and Commerce (Hon. H. H. Stevens) and also by the Minister of Agriculture (Hon. Robert Weir—Melfort).

On motion of Mr. Perley (Qu'Appelle) it was

Resolved: That a first report on this Order of Reference be presented to the House this day. (For Report, see next page.)

Mr. Stewart (Lethbridge), for the sub-committee appointed to prepare a draft report on the Beet Sugar industry, presented said report and, after discussion, it was, on motion of Mr. Stewart (Lethbridge) *Resolved:* That the Report of the sub-committee, as amended, be the Report of the Committee. (See Report on page 2.)

The Chairman, at the request of the Committee, named Messieurs Perley (Qu'Appelle), Coote, Loucks, Stewart (Lethbridge) and Totzke as a sub-committee to prepare a list of witnesses to be called and heard on the reference *re* grading of Garnet Wheat.

Ordered: That the Clerk do print the Reports above mentioned together with the further submission of Dr. T. W. Grindley and the statement of the Board of Railway Commissioners *re* freight rates.

The Committee adjourned until Tuesday, April 5, at 11 o'clock in the forenoon.

A. A. FRASER,
Clerk of the Committee.

FRIDAY, April 1, 1932.

The Select Standing Committee on Agriculture and Colonization begs leave to present the following as a fourth report:

Your Committee has had under consideration an Order of Reference dated Tuesday, March 15, 1932, namely:

Resolved: That the Report of the Committee on Grain Standards for the crop year 1931-32, insofar as it relates to Garnet Wheat, be referred to the Select Standing Committee on Agriculture with instructions that the whole subject be inquired into carefully and that the said Committee shall have power to call for witnesses, papers and documents and to report to the House its findings.

Attest

ARTHUR BEAUCHESNE,
Clerk of the House.

Your Committee, in view of the fact that seeding operations will become general throughout Western Canada before your Committee shall have sufficient opportunity to inquire into and report to the House on the above mentioned Order of Reference; and in view of the fact that the manner of grading Garnet Wheat may vitally affect the acreage sown, recommends that any change in the system of grading Garnet Wheat shall not become effective during the present crop year.

All of which is respectfully submitted.

M. C. SENN,
Chairman.

FRIDAY, April 1, 1932.

The Select Standing Committee on Agriculture and Colonization begs leave to present the following as a third report:

Your Committee has had under consideration an Order of Reference dated Wednesday, February 24, 1932, namely:

Resolved: That all questions affecting the Beet Sugar industry in Canada be referred to the Select Standing Committee on Agriculture with instructions to inquire into the action which may be taken by the Government, by way of Customs duties, subsidies, bonuses or otherwise, either in or without co-operation with the Provincial Governments, for promoting the prosperity of the said industry and developing the production of Canadian grown sugar, and report to this House.

Attest

ARTHUR BEAUCHESNE,
Clerk of the House.

Your Committee has called and examined the following witness:—

H. Marshall, Bureau of Statistics, Ottawa, Ontario; Dr. F. W. Grindley, Bureau of Statistics, Ottawa, Ontario; W. R. Reek, Director of Experimental Farm, Ridgetown, Ont.; Thos. Simpson, Farmer, Petrolia, Ontario; G. L. Rogers, President, B.C. Sugar Refining Co., Vancouver; B. R. McMullen, Beet Growers Association, Alberta; Chas. Houston, Pres., Canada & Dominion Sugar Co. Ltd., Chatham; Alex W. McIntyre, Canada & Dominion Sugar Co. Ltd., Chatham, Ont.; W. F. Russell, Alberta Beet Growers Association.

The evidence submitted established the following facts regarding the industry:

1. That the production of sugar beets has been carried on very profitably in certain districts of Ontario and Alberta; that the area under cultivation has increased from 25,000 acres in 1921 with a yield of 200,000 tons to 42,000 acres in 1931, with a yield of approximately 435,000 tons, and that the production of refined beet sugar has increased from 53,000,000 pounds in 1921 to approximately 100,000,000 pounds in 1931.

The amount paid to the farmers for beets in 1931 was about two and one-half millions of dollars; during the period of normal commodity prices for farm products, an average price of \$7.48 per ton was paid to the farmers for sugar beets, but owing to the present low price of raw cane and refined sugar, the factories claim that they are unable to guarantee more than \$5 per ton for the 1932 crop.

2. That large additional areas, suitable for the growth of sugar beets, are available in Canada.

3. That there are five firms engaged in the refining of sugar in Canada—The Canada & Dominion Sugar Company Limited, producing cane sugar at their Montreal factory, and beet sugar at Chatham and Wallaceburg, Ontario; the B. C. Sugar Refinery, producing cane sugar at Vancouver, B.C., and beet sugar at Raymond, Alberta. The Acadia Sugar Refinery Company, Limited, Dartmouth, N.S., The Atlantic Sugar Refinery, Limited, St. John, N.B., St. Lawrence Sugar Refinery, Limited, Montreal, P.Q. The last three have engaged exclusively in the manufacture of cane sugar.

4. That during the past ten years the annual average production of refined sugar in Canada was 963 millions of pounds; the percentage of beet sugar production has varied from 6.2 per cent in 1926 to approximately 10 per cent in 1930 and 1931.

5. That the sugar beet factories at Chatham, Wallaceburg and Raymond, are now operating at full capacity, and that no further development of the beet sugar industry in Canada is possible until manufacturing capacity is increased.

6. That world stocks of sugar on hand are very large and that an estimated surplus of some four millions of tons will be carried over to next year.

7. That there is sufficient capacity in the cane sugar refineries of Canada to refine two and one-half times the amount of sugar necessary to meet the demands of the Canadian consumers.

8. That the consumption of sugar in the area from Winnipeg to British Columbia is approximately 225,000,000 pounds supplied from Eastern Canada as far Westward as the Brandon district, and from Vancouver, Eastward to the Brandon District, except for the thirty million pounds of beet sugar manufactured at Raymond, Alberta.

9. That freight rates on sugar from Raymond, Alberta, to prairie points are from one-half to three quarters of a cent per pound less than rates to similar points from Vancouver or Montreal.

10. That the granting of bonuses or subsidies at present to encourage the production of sugar from beets, was not favoured by the representatives of the growers or of the refiners.

Your committee therefore recommends that in view of the existing Tariff on sugar and in consideration of the substantial payments being made to agriculture and labour by the beet sugar factories at present in operation, the cane sugar refineries should undertake to provide for a gradual increase in factory facilities for the refining of beet sugar in Canada, and that, with the additional advantages in freight rates to points in the middle West, heretofore described, factory facilities should now be steadily increased in Western areas where beets are grown, and thereby make it possible to produce from beets a more substantial percentage of the sugar consumption of Canada.

Your Committee further recommends, that if no successful attempt be made in the immediate future by the refineries to increase the facilities for the manufacturing of beet sugar, the government should take into consideration steps to accomplish that end.

All of which is respectfully submitted.

M. C. SENN,
Chairman.

REPORTS

SUBMISSION BY DR. T. W. GRINDLEY

OBSERVATIONS ON COSTS OF PRODUCTION AS AN INDEX OF PROFITABILITY OF CROPS, WITH PARTICULAR REFERENCE TO SUGAR BEETS

I stated in my evidence before the Agricultural Committee on March 7 that "no reliable and comprehensive studies on the cost of producing sugar beets have yet been made in Canada. Even, if available, however, I believe that the citation of money costs of producing sugar beets per ton would be a very misleading index to compare with selling prices as a basis for determining the economic possibilities of the sugar beet in Canada."

In the following statement, I intend to cover (1) some evidence on costs in the beet-producing regions of the United States, (2) some additional and rather scattered data on costs of production in Canada, and (3) the objections to the comparison of costs of production with prices as an index of the profitability of crops.

COST STUDIES IN THE UNITED STATES

In the late months of 1923, the United States Tariff Commission surveyed production costs in the nine important sugar beet-producing states and published separate releases for nine states and a summary for the whole nation. Excluding capital charges, the costs per ton were recorded from about \$2.50 to \$21, with the weighted average at \$5.96 per ton. Including capital charges, the costs ran from about \$3.20 to over \$21 per ton, with the weighted average cost at \$7.32. For 1922, the year covered by the survey, the price received by farmers for their beets was \$8.01. In the state of Montana, where conditions closely approximate those of Alberta, the weighted average costs were \$5.60 and \$6.60 per ton (excluding and including capital charges respectively), the average price received by farmers being \$9.02. In Michigan, where conditions are very similar to Ontario, the comparable figures were \$6.40 and \$7.52, with a return of \$7.22 per ton. These figures are for 1922.

This survey was conducted by personal visits to a fair sample of the farms growing sugar beets in each state. Similar investigations have been undertaken in other countries, such as Great Britain, but the difference in conditions makes their results inapplicable to Canada.

COSTS IN CANADA

No surveys similar to the United States analyses have been carried out in Canada, so one must depend on statements by individual farmers and some relevant material which may be drawn from records of the Dominion Experimental Station, Lethbridge.

At the Lethbridge Station, an irrigated rotation ("U") of ten years' duration includes sugar beets as one of its most profitable crops. Some idea of the labour used in beet production is gained from the fact that, as an average of the past five years, 135.3 hours of horse labour and 134.5 hours of man labour per acre are required on the beet crop, while on the following wheat crop, only 8.5 hours of man labour and 19.5 hours of horse labour are used. Thus beet-growing under these conditions requires nearly 16 times as much man labour and nearly 7 times as much horse labour as the wheat crop.

Insofar as an individual farm is concerned, further information is divulged by applying the "substitutional" method. This involves a budgeting of the out-of-pocket costs against the return values, and the selection of the most profitable crop from this analysis plus a more qualitative appraisal of those items which cannot be expressed or pro-rated in dollars and cents. As an example, the sugar beet and wheat crops in an irrigated rotation are used, with a view to determining their relative profitableness in 1932.

Using Rotation "U" of the Lethbridge Experimental Station as a type, a beet crop of 14.3 tons per acre is expected and valued at \$5.50 per ton; this gives a total return of \$78.65. On the same basis, wheat will yield 59 bushels per acre and valued at 50 cents per bushel, will return a total of \$29.50. Many farmers would also allow return values for beet tops and wheat straw.

Then the necessary out-of-pocket costs are accounted:

Seed:—17 pounds of beet seed at 20 cents per pound will be required. 90 pounds of wheat seed at 80 cents per bushel will be required.

Manual labour:—The beets will need 134.5 hours at 30 cents an hour. The wheat crop will require 8.5 hours at 30 cents an hour.

Threshing:—Wheat at 8 cents per bushel.

Binder Twine:—For wheat, 5 pounds at 14 cents per pound.

These items total \$43.75 for beets and \$9.15 for wheat. They assume average yields and that all labour is hired. The farmer actually doing this budgeting might vary this procedure according to his own situation.

For the out-of-pocket expenses in this accounting, the beet crop has an excess of \$34.90 (\$78.65-\$43.75) while the wheat crop has an excess of \$20.35 (\$29.50-\$9.15) over costs.

Then the other items of cost must be considered subjectively in the farmers' plans. It must be realized that the beet crop requires nearly 7 times as much horse labour as wheat and, as an offset, that the land ploughed for and cultivated during beet growth requires no ploughing for the following wheat. Again, the extent to which the farmer may reduce hired labour charges by his own or his family's efforts is known to him. Machinery, fertilizer, and such costs cannot be accurately determined or distributed between the crops, but the farmer will have them under consideration.

Considering the sugar beet and wheat crops, the non-accountable costs will be considerably higher for the former, particularly on account of the greater employment of horse labour and the use of special machinery.

Using such a system as the basis of his plans, the farmer may choose the acreage of his crops to yield the highest profit, substituting the most profitable crops for the less profitable to the full extent that his labour and other resources will allow. As an individual program, it cannot be subject to the errors of averaging, prevalent in composite cost of production studies; it involves no imputed costs; and it is adapted as closely as possible to the season concerned whereas complete costs are available only for previous seasons, which may not be comparable.

THE USE OF COST OF PRODUCTION FIGURES

Neither the cost of production study nor the substitution method commands respect for determining the relative profitableness of crops over the whole country. Where costs are compiled on a similar basis, they furnish an excellent exposition of the possibilities of lowering costs on individual farms and serve as an important "lead" to better farming methods. However, the comparison of an average cost with an average price is not a fair or reliable method of determin-

ing whether a crop is an economic failure or success. The trends in acreage of crops are much more reliable indexes as to whether or not they are profitable. In the case of sugar beets, however, the acreage has been restricted to the needs of the existing factories.

There are a number of serious objections to the use of composite cost data to represent the profit possibilities of a crop in comparison with prices. These enter around the validity and uniformity of the principles and methods of accounting employed. There are difficulties inherent in the systems of collection and analysis; there are controversies as to what is included in cost; and there are further arguments as to how this cost may be judiciously distributed over the farm and its crops.

To merely summarize the outstanding criticisms of the use of money costs as a measurement of crop profits, I would mention:

1. Farmers keep few records and data submitted are dependent largely on memory, with approximation necessary to fill in the gaps.

2. The costs apply to certain years which may or may not be representative of the present year.

3. A farm on which sugar beets are grown consists of a combination of farm enterprises and it is liberally impossible to allocate costs among them. These enterprises are complementary and not separate entities, they combine business and family affairs, and since only one-quarter of costs are paid out-of-pocket, many imputed costs are necessary.

4. The elements of cost to be included constitute a troublesome problem. For the purpose of your work, where comparison with price is the object, only those costs which affect price should be included. This entails the exclusion of rent and "interest" on permanent improvements which are not contributory to, but resulting from, price. No accounting system can differentiate properly for a diversified farm between "interest," profits, wages and rent.

Investigators commonly include many extraneous items in cost so as to arrive at a "fair" price to the producer or the consumer, as the case may be. Most costs are inflated, leading to unfair comparisons with price, while many other chores, such as repairs and fencing, are omitted because there is no basis for calculating or allocating these costs. (What proportion of the time spent repairing a plough or attending to horses, for instance, should be charged against the beet crop on which the plough and the horses are used first? Such questions can only be answered arbitrarily.)

5. Costs vary widely between farms and between years. A large part of the variation in costs per ton or per bushel is due to differences in Nature, rather than to differences in human ability, and to this extent, costs are beyond control.

6. It is a basic statement of accredited economic theory that price depends in the long run on marginal costs of production. When average costs are deducted from average returns, there is an obvious disregard of this principle. The differential expresses nothing more than the peculiarities of the particular season and the extent of inflations, wrong inclusions, unrepresentative averages (of price as well as cost) and other errors. Another aspect of the composite cost method that it appears significant to mention is that in individual cases the further above the margin the farm on which the crops are grown happens to be, the higher will be the rents and the higher the costs. According to this belief, it does not pay, relatively, to farm good, high rent land—and the emigration to the "free" lands of the Peace River region is explained!

In my opinion this is the most valid indictment of the use of money cost figures.

SUGAR REFINERIES, 1932

Name	Address
Acadia Sugar Refining Company, Limited, Dartmouth, N.S.	
Atlantic Sugar Refineries, Limited, Saint John, N.B.	
The Canada and Dominion Sugar Refining Company, Limited, 1410 Montmor- ency St., Montreal, P.Q.	
The St. Lawrence Sugar Refineries, Limited, Maisonneuve (Montreal), P.Q.	
The Canada and Dominion Sugar Company, Limited, Chatham, Ontario.	
The Canada and Dominion Sugar Company, Limited, Wallaceburg, Ontario.	
Canadian Sugar Factories, Limited,* Raymond, Alberta.	
The British Columbia Sugar Refining Company, Limited, Rogers St., Vancou- ver, B.C.	

* Recently purchased by the British Columbia Sugar Refining Company of Vancouver.

BOARD OF RAILWAY COMMISSIONERS FOR CANADA

March 23, 1932.

T.D.—14134.

M. C. SENN, Esq.,
 Chairman,
 Agriculture Committee,
 House of Commons,
 Ottawa, Ont.

Dear Mr. SENN,—In reply to your letter of date, I beg to advise that the carload rates on sugar in cents per 100 pounds from and to the points named by you, are as follows:

<i>Vancouver to</i>	<i>Rate</i>
Calgary, Alta.	98
Lethbridge, Alta.	112
Regina, Sask.	141
Edmonton, Alta.	98
Moose Jaw, Sask.	138
Saskatoon, Sask.	141
Brandon, Man.	158
Winnipeg, Man.	160

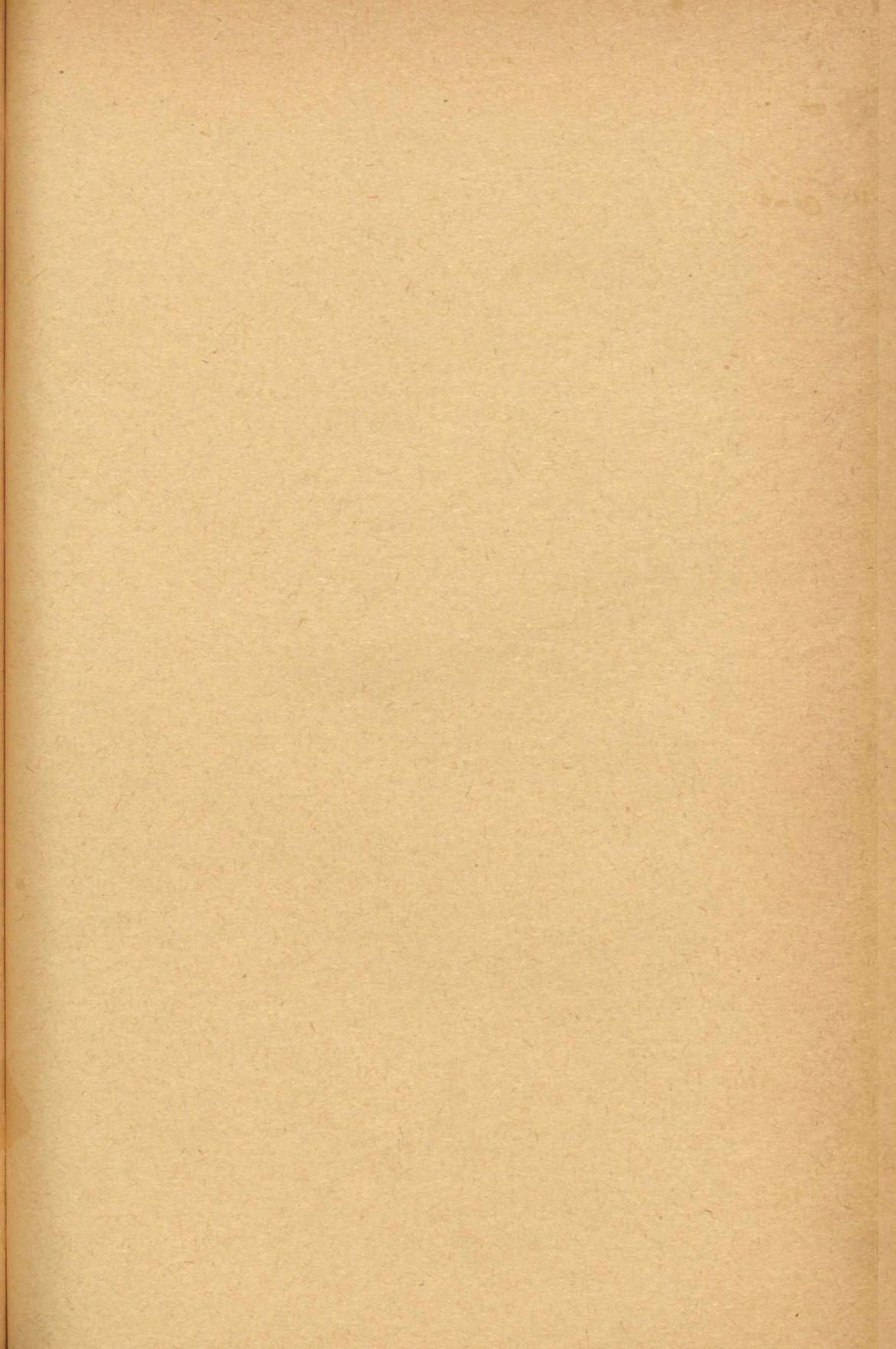
<i>Montreal to</i>	<i>Rate</i>
Fort William, Ont.	79
Winnipeg, Man.	114
Saskatoon, Sask.	168
Regina, Sask.	155
Brandon, Man.	132
Portage la Prairie, Man.	122
Broadview, Sask.	147

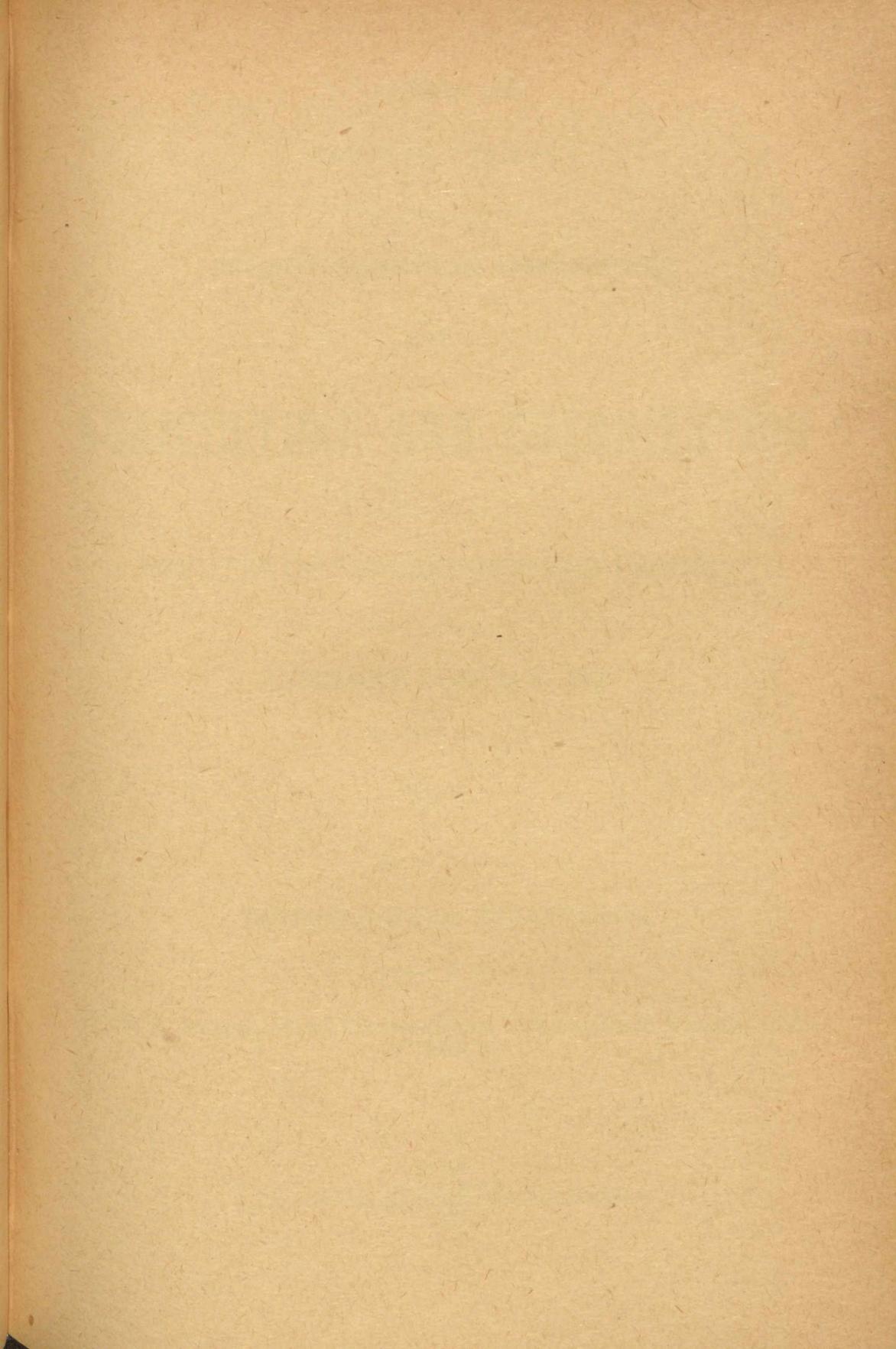
<i>Raymond, Alta. to</i>	<i>Rate</i>
Calgary, Alta.	35
Lethbridge, Alta.	14
Regina, Sask.	65
Edmonton, Alta.	56
Moose Jaw, Sask.	59
Saskatoon, Sask.	81

On the Canadian Pacific Railway main line, the carload rates on sugar from Vancouver and from Montreal meet at Oakshela, Sask., being \$1.47 per 100 pounds from both points, and this station is 1,686 miles from Montreal and 1,193 miles from Vancouver. On the Canadian National Railways line running through Saskatoon (formerly the Grand Trunk Pacific), the rate from Vancouver to Goodeve, Sask., is \$1.53 per 100 pounds and from Montreal \$1.52, this point being 1,257 miles from Vancouver and 1,653 miles from Montreal.

Yours very truly,

W. E. CAMPBELL,
 Chief Traffic Officer.





SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND REPORTS

TUESDAY, APRIL 5, 1932

No. 1

Reference,—Garnet Wheat Grading.

Mr. E. B. Ramsay, (Chief Commissioner), Board of Grain Commissioners,
of Canada.

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1932

MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,
TUESDAY, April 5, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock in the forenoon.

Mr. Senn, the Chairman, presiding.

Members Present: Messieurs Barber, Bertrand, Blair, Bowen, Boyes, Brown, Campbell, Carmichael, Cayley, Coote, Elliott, Gobeil, Jones, Loucks, Lucas, McGillis, McKenzie (*Assiniboia*), Moore (*Chateauguay-Huntingdon*), Motherwell, Mullins, Myers, Perley (*Qu'Appelle*), Porteous, Rowe, Senn, Shaver, Simpson, (*Simcoe North*), Smith (*Victoria-Carleton*), Sproule, Stirling, Taylor, Thompson (*Lanark*), Totzke, Tummon, Vallance, Weese, Weir (*Melfort*), Young—38.

In attendance: Hon. H. H. Stevens, Minister of Trade and Commerce.

The Chairman read the Order of Reference (*re* Garnet Wheat).

The Minister of Trade and Commerce requested the members of the Committee to treat as confidential the report of the Standards Board for the time being.

Mr. E. B. Ramsay (Chief Commissioner of the Board of Grain Commissioners) was called, heard and questioned on the subject matter of the Order of Reference.

Mr. Perley (*Qu'Appelle*), Chairman of the Sub-Committee, presented the following list of witnesses to be heard by the Committee in the order as set forth, Mr. Ramsay, Mr. L. H. Newman (Dominion Cerealists), Dr. H. M. Tory, President of the Research Council of Canada, Dr. F. J. Birchard, Chemist in charge, Grain Research Laboratory, Mr. J. D. Fraser, Chief Inspector, Board of Grain Commissioners.

Ordered: That the Clerk do print the Report as presented to the House on Friday, April 1st, 1932 (*re* Garnet Wheat) in this issue of the proceedings of the Committee.

The Committee then adjourned until Thursday, April 17, at 11 o'clock in the forenoon.

A. A. FRASER,
Clerk of the Committee.

FOURTH REPORT

FRIDAY, April 1, 1932.

The Select Standing Committee on Agriculture and Colonization begs leave to present the following as a fourth report:—

Your Committee has had under consideration an Order of Reference dated Tuesday, March 15, 1932, namely:—

Resolved. That the Report of the Committee on Grain Standards for the crop year 1931-32, insofar as it relates to Garnet Wheat, be referred to the Select Standing Committee on Agriculture with instructions that the whole subject be inquired into carefully and that the said Committee shall have power to call for witnesses, papers and documents and to report to the House its findings.

Attest

ARTHUR BEAUCHESNE,
Clerk of the House.

Your Committee, in view of the fact that seeding operations will become general throughout Western Canada before your Committee shall have sufficient opportunity to inquire into and report to the House on the abovementioned Order of Reference; and in view of the fact that the manner of grading Garnet Wheat may vitally affect the acreage sown, recommends that any change in the system of grading Garnet Wheat shall not become effective during the present crop year.

All of which is respectfully submitted.

M. C. SENN,
Chairman.

(For concurrence see Votes and Proceedings, April 1st, 1932.)

MINUTES OF EVIDENCE

HOUSE OF COMMONS,
APRIL 5, 1932.

The Select Standing Committee on Agriculture and Colonization met at 11 o'clock this day to consider the Order of Reference on the report of the committee on grain standards to the Department of Trade and Commerce. Mr. Senn, the Chairman presiding.

The CHAIRMAN: Gentlemen, if you will come to order we will commence. You are all familiar, I suppose, with the business which we have in hand this morning. However, I will read to you the reference which was given to the committee on this matter. It is dated March 15, 1932.

That the report of the Committee on grain standards for the crop year 1931-32, in so far as it relates to Garnet wheat, be referred to the select standing committee on agriculture and colonization with instructions that the whole subject to be inquired into carefully and that the said committee shall have power to call for witnesses, papers and documents and to report to the house its findings.

May I draw attention, in the first place, to the one clause "in so far as it relates to Garnet wheat." Now, the report of the committee on grain standards, of course, is quite a large document, and I would ask the witnesses and the members of the committee to confine their discussion as far as possible to Garnet wheat alone. It will be very easy to get into a general discussion and we do not want that because it is absolutely unnecessary, and is not within the scope of our reference.

We have with us this morning Mr. Stevens, the Minister of Trade and Commerce, and I understand that Mr. Weir, the Minister of Agriculture, will be here shortly. We have also with us Mr. Ramsay, the Chairman of the Board of Grain Commissioners.

Mr. STEVENS: Mr. Chairman and gentlemen, of course, my interest in this matter is as Minister of Trade and Commerce. The Board of Grain Commissioners and the administration of the Canada Grain Act comes under that department. But, insofar as this particular matter is concerned, my chief interest, as Minister of Trade and Commerce, is in insuring that whatever action is taken by parliament shall be based upon the fullest possible information, and, having that in mind—it is my one message to you this morning above all others—the preservation, as far as we possibly can, of the high standard of Canadian wheat on the foreign market. That is, to my mind, of outstanding importance and significance, and I would most urgently suggest that the committee keep that fact constantly before them in their deliberations in connection with this very important matter.

On the technical side of the question, of course, I have nothing to say; but we are prepared to lay before you very complete technical information, and I want the members of the committee to feel at perfect liberty to ask for anything that they think is not available, and if we can find it or secure it, it will be placed before you so that the most complete information conceivable can be secured.

One thing I would like to say to the committee is this: I would like to make this perfectly clear at the outset: The annual report of the Board of Grain Commissioners is here before us although it is not really officially free for dis-

tribution. It probably will be almost immediately, but I would ask the committee to consider the report for the moment for their own private use, if they will do me that courtesy, and not circulate it; because we are making a correction or adding something to it by way of stamping—which we consider the best way to do it—in view of the action of parliament the other day and the adoption of the report last Friday. I think it was, and page 7 might be misleading if this report went out in its present form to the farmers and grain dealers and others of the West and to foreign countries. This is the part that disturbs me a bit, because in this form it might justify anyone reading it in assuming that Garnet wheat would be separately graded this year so we are about to stamp right across that portion of it in every copy. Inasmuch as there are about twenty thousand copies, it is quite a little job, and it will indicate that parliament has decided to take no action this year so that no one will be misguided. That is the reason why I am asking that these reports shall not be given circulation until we have had time to stamp them. I will ask you to keep your report for your own information and for the purpose of this committee at the present moment.

Now, I do not think there is any necessity of me saying anything more. Mr. Ramsay, Chairman of the Board of Grain Commissioners, is here, and I asked him to come to-day when he might present to the committee the views of the Board of Grain Commissioners. Mr. Ramsay himself will indicate the line that he wishes to take, and I know that the committee will be very glad indeed to hear him. I think the committee know Mr. Ramsay well enough to realize that he will give them the very best co-operation in his power. I might also say that Dr. Tory will be here and later on, probably, it will be desirable to hear him and his staff. Unless there is something that I have overlooked, and which you think I ought to refer to, I have nothing further to say at the moment.

EDWARD B. RAMSAY, called.

The CHAIRMAN: Mr. Ramsay, just state your official position?

The WITNESS: Mr. Chairman, Mr. Minister and gentlemen, I am the Chief Commissioner of the Board of Grain Commissioners, and I reside in Winnipeg. If you will permit it I would like to give a brief review of the history of Garnet wheat. I might say that the Board of Grain Commissioners' interest in it is one that is, in the main, administrative. That is to say, we have the difficulty of dealing with the different grades of wheat and also of endeavouring to meet the views as far as we conceive them, of not only the producers in the country but also of the various interests which have to use this wheat.

Garnet wheat was a live issue before the present board took office. I have here before me a letter from Honourable Mr. Motherwell, who was then Minister of Agriculture in 1928, to the Chairman of the Board of Grain Commissioners at that time, Mr. Leslie Boyd. I do not know whether, Mr. Chairman, you would like this letter to be read. It is very lengthy, but it is a very good letter, if I may say so, and arose at the time when there was some attempt made to have Garnet wheat graded as one Northern.

So the matter is really historical. If it is the pleasure of the committee I will read the letter.

The CHAIRMAN: Is it vital to this matter?

The WITNESS: Yes. It is the background of the original grading of Garnet wheat.

The CHAIRMAN: I imagine, for the information of the committee, it would be wise to read it.

The WITNESS: It is a part of the National Research Council report dated the 3rd and 4th of December, 1928.

Mr. BOYES: Would it be necessary to read it all, or would a portion be sufficient?

The WITNESS: I could file it.

Mr. VALLANCE: If I might suggest, I have read this letter and I think it is almost necessary, because it will give a basis for the whole discussion, and I would crave the indulgence of the committee to allow Mr. Ramsay to read this letter.

Hon. Mr. WEIR: I think it could be read while we are discussing it.

Hon. Mr. MOTHERWELL: I do not know all that is in it, but I will take a chance.

The WITNESS: What I have in mind is the fact that there will be some discussion with reference to many of the points I wish to bring out.

The CHAIRMAN: I imagine it will be wise to read it, if it is the basis of our whole investigation.

The WITNESS:

OTTAWA, ONT., November 9, 1928.

L. H. BOYD, Esq., K.C.,
Chief Commissioner, Board of Grain Commissioners,
Fort William, Ontario.

DEAR Mr. BOYD,—During my recent trip to the west I had the privilege of discussing with you and your Board, and also with the Chief Grain Inspector, Mr. Fraser, the reasons, arguments and authorities on behalf of giving Garnet Wheat its proper place in the sun; that is no handicap as to what grade it should be eligible for so long as it qualified in the usual respects for any or all grades.

When this question first arose over a year ago, Mr. Fraser, I understood, based his decision, on the advice of your Board, *not* to permit Garnet to enter any grade higher than No. 2, until more was known of its milling qualities. This did not seem unreasonable for a trial year. Mr. Fraser now informs me, in the face of what appears to me abundant evidence, since secured to the contrary, that he is continuing his decision of last year re Garnet, on the advice of the Board's chief chemist, Dr. Birchard. A change also, I understand, has been made recently in Dr. Birchard's status by appointment to the Associate Research Committee, which, in turn, is responsible to the National Research Council, of which Dr. Tory is President.

This all seems understandable enough to me but when the grower of Garnet complains to me, as he is doing in increasing numbers and earnestness for redress from this, to him, unwarranted discrimination, I have difficulty in determining just where to apply and at what segment of such, sometimes called "vicious circle" I am to lay the case. To make sure that I am missing none of the proper avenues of advance, I am sending a copy of this letter to both the Chief Grain Inspector, Mr. Fraser (formerly the sole authority in such matters), and also to Dr. Tory.

In order to place before you in consecutive order just what the nature of the precautionary measures were before putting this wheat into circulation, might I, for the sake of accuracy, even though at some length, quote the following from Mr. L. H. Newman's Bulletin No. 83, entitled "Garnet Wheat", and published by this Department in 1927:

When the senior author (Mr. Newman) assumed his duties as Dominion Cerealist in the spring of 1923 one of the first tasks to which he directed his attention was that of "taking stock" of the excellent material left by his esteemed predecessor, Dr. Chas. Saunders. The performance records of all varieties then extant were carefully scrutinized with the hope that some of the newer and relatively known creations might reveal virtues worthy of special investigation. Among this material the variety which had only recently received the name Garnet, seemed to be specially promising; so this variety, along with two or three others, was singled out for special consideration. The co-operation of twenty-eight selected farmers, most of whom were known to the above official, was obtained in seeking information re the performance of the above variety in comparison with Marquis and five or six other sorts in districts remote from our Branch Farms. Those 'local test plots,' many of which were visited, provided information of very considerable value, confirming as they did, the apparent values of this new aspirant for recognition.

Decision to increase seed of Garnet

By the spring of 1925 it had become quite clear that Garnet was at least as early as Ruby and evidently capable of producing much larger yields. Its milling and baking qualities also seemed at least reasonably satisfactory. Under these circumstances there seemed ample justification for believing that the former variety might at least supersede Ruby, which variety had obtained a fairly wide distribution in districts where an early maturing wheat is desirable if not imperative. It was therefore decided to increase the seed of Garnet sufficiently not only to permit a large number of farmers to try out the variety on an acreage basis, should such be desired, but also to provide a sufficient quantity of grain to conduct milling and baking tests on a commercial scale.

In addition to the seed available on the several branch farms of the West, a well-known and reliable seed grower living in Northern Saskatchewan had multiplied a test sample obtained from one of our stations three years previously until he had available for sale a considerable quantity of excellent seed.

This the Department purchased in order to supplement its own supply and thus insure a larger quantity for distribution the following spring. By producing a substantial quantity at the outset it was also hoped to prevent any one man, or group of men, from obtaining control of the variety in its initial stages and charging the farmers an exorbitant price, as was the case when Marquis first came on the market. With the quantity thus available the Branch Farms were able to sow a total of 320 acres in 1925 from which area there was produced a total of about 9,700 bushels.

Milling and Baking Tests

When it was first decided that Garnet seemed worthy of special consideration and of extensive investigation plans were made at once to subject its milling and baking qualities to the severest sort of test. For this purpose five-pound samples of grain of Garnet as well as of Marquis and certain other varieties (for comparison) were obtained from the different experimental farms in the Prairie Provinces in 1924 and again in 1925. Samples were tested by the Western Canada Flour Mills Company, Winnipeg, Manitoba, the Ogilvie Flour Mills Co., Montreal, Que., and the Lake of the Woods Milling Co., Keewatin, Ont. The reports obtained from these companies are submitted later.

After the 1925 crop was harvested there was available for the first time a sufficient quantity of grain to permit a milling and baking test to be made on a commercial scale. Negotiations were then entered into with the State Testing Mill of Minneapolis, Minn., where special facilities exist for conducting such test, to have a hundred bushels each of Garnet and Marquis subjected to a thorough investigation. Dr. Sherwood, the Director of the Institution, gladly agreed to undertake this work, so arrangements were made at once to ship the grain from our Branch Farm at Scott, Sask. By special arrangement 20 bushels from each of the 100 bushel lots were handed over to the Pillsbury Mining Co., of Minneapolis, Minn., in order to enable that firm also to make a comparison of the two sorts.

In the early spring of 1926 reports, of the most thorough and comprehensive character on both the milling and baking qualities of the two wheats were received from Dr. Sherwood, while an excellent report covering some of the more important features only was received from Mr. M. A. Gray, Chemist, for the Pillsbury Co. To these gentlemen, whose reports in their entirety are printed later (pages 56 and 60), we are indeed deeply indebted.

That is mostly extract. Then we have a report from the Milling companies.

No one has ever claimed, so far as I know, that Garnet should substitute Marquis "through Western Canada," but only where the latter cannot be grown successfully because of its comparatively late maturing tendency.

Again, the following was submitted by Mr. L. H. Newman, while he was a witness before the Select Standing Committee on Agriculture and Colonization of the House of Commons last session:—

Garnet Wheat to Date

In a Bulletin entitled "Garnet Wheat" published by the Dominion Department of Agriculture, Ottawa, in the early part of 1927, fairly complete data were submitted regarding the field performance, as well as the baking value of this new variety, as judged by its behaviour up to and including the crop year of 1926. On the basis of this data it was concluded that Garnet is entitled to be classed as an early maturing, high yielding wheat of fair strength of straw, good weight per bushel and excellent colour of grain. In milling and baking qualities there did not appear to be any very significant difference between this variety and Marquis, except in colour of flour and crumb. In this respect Marquis gave a whiter colour than did Garnet.

As regards rust resistance, Garnet did not display any particular ability to resist those physiological forms of stem rust to which it was subjected at the Rust Laboratory at Winnipeg, nor did it demonstrate its ability to cope with rust successfully under field conditions. The fact that it matured from a week to ten days ahead of Marquis, however, created a hope on the part of the authors that the variety might be of value in rust areas by partially escaping this disease owing to its ability to mature early.

Then come some extracts from 1927.

In weight per measured bushel Garnet again has averaged slightly better than Marquis in spite of the fact that the kernel has been smaller in most cases. The difference, however, can hardly be regarded as significant.

In percentage of flour extracted from a given quantity of wheat, Garnet has slightly excelled Marquis, although here again the difference is not great enough to be significant.

In hardness of kernel Garnet undoubtedly is inclined to produce a more vitreous kernel than is Marquis and appears also to hold its colour better under adverse weather conditions. In districts where Marquis is inclined to produce starchy or "piebald" kernels Garnet appears capable of producing grain of better quality in most cases. This would suggest that in such districts a higher grade of grain in general may result from the use of Garnet.

Baking Qualities

Baking tests conducted by the Cereal Division at Ottawa and elsewhere, during the past season have given results which compare closely with those recorded in a general bulletin. These results indicate that the chief point in which there appears to be any significant difference between Marquis and Garnet is in colour of flour and crumb.

In spite of the fact that practically all of the large Canadian as well as Old Country mills employ various ageing or "maturing" processes, which also whiten the flour, our Canadian millers appear to have a rather strong prejudice against any variety which produces flour less white than Marquis. While the interest of millers in this country must receive every consideration, yet the fact that so large a proportion of our annual wheat crop (60 to 65 per cent), is exported, the attitude of our Old Country and foreign customers should occupy an important place in determining the question as to how far Garnet should be encouraged in this country.

In order to obtain this information two different shipments of flour have been made to England during the past fifteen months. One of these shipments went to Dr. A. E. Humphries, in care of Coxes, Lock Milling Company, Ltd., Addleston Station, England, while the other was consigned to Mr. J. M. Reid, a large flour importer of Liverpool.

Report from Dr. Humphries

Dr. Humphries, who, through his long association with the National Association of British and Irish Millers and Bakers is eminently able to pronounce upon matters of this kind, submitted a most exhaustive report covering all of the various points which have any bearing upon the question of quality in flour and bread. The flour consigned to Dr. Humphries consisted of 280 pounds of unbleached material from Garnet and a similar quantity from Marquis, both lots having come from flour grown on the Dominion Experimental Station at Rosthern, Sask., in 1926.

Dr. Humphries has summarized his report in the following words: Apart from the point of colour of flour and bread the differences I have found are small, sometimes in favour of one variety, sometimes in favour of the other, and seeing that the bleaching of flour is so generally practised in all important countries where the two varieties are likely to be used, I am of the opinion that Garnet inasmuch as it seems to favour the interests of the producer, can be recommended at any rate in those parts of the Dominion where its virtues would be appreciated by the producer.

Report from Mr. Reid

The shipment to Mr. Reid consisted of 600 pounds of flour obtained from Garnet and a similar quantity obtained from Marquis. Both wheats were produced in 1927 on the Experimental Station at Scott, Sask., and

both were entitled to receive the same commercial grade, namely, No. 2, Northern. Both wheats were ground by the same mill and under the immediate supervision of a representative of the Cereal Division, Experimental Farm, Ottawa.

Mr. Reid, co-operating with Mr. Harry Scott, Canadian Trade Commissioner, at the Port of Liverpool, had these two flours tested and baked by three different bakers in Liverpool. These people subjected the flours to a critical test and submitted a detailed report as to the relative behaviour of the two varieties. According to these reports both varieties displayed the "high strength and stability of gluten" for which Canadian wheats generally are especially valued. Only one of the three bakers made any discrimination between the two varieties from the standpoint of colour of flour or bread. In the opinion of this particular firm the flour of Garnet was considered to be worth one shilling per two hundred and eighty pounds of flour more than the flour of Marquis on account of colour of "bloom". (See pages 183 and 184, Report of Select Standing Committee on Agriculture and Colonization.)

As the foregoing evidence, somewhat overwhelming I think you will admit, is in favour of recognizing Garnet wheat on an equality with other varieties for milling purposes, I assume your Associate Research Committee of the National Research Council of Canada was fully aware of its existence when such Committee decided to relegate Garnet to no higher grade than No. 2, no matter how highly it is qualified for No. 1. And this cumulative evidence is all the more convincing, I think, when I cannot recall any other new wheat having been put through such a long and exacting period of testing and trying before even letting it see the public gaze.

Having regard to the facts that one of the three prominent United Kingdom bakers above quoted is worth more money than that from Marquis, and that a mixture of Garnet flour with that milled from Marquis is an improvement on flour made from straight Marquis alone. (As per Mr. Banks, Chief Chemist of the Ogilvie Milling Co.), it would appear as if Garnet on its own merits were worthy of a *Premium* rather than a *Discount* when it came to a matter of official grading; and when all these facts, views and expert opinions regarding Garnet from both at home and abroad are supported by the Report of the Agricultural Committee of the House of Commons and passed on to the Board of Grain Commissioners and National Research Council in the following recommendation and conclusions: "Re Garnet Wheat—in so far as evidence would show we are of the opinion this wheat which has hitherto been excluded from No. 1 Northern should be eligible for that grade." It makes one wonder where the kick against Garnet comes from and why thus far it has been so effective.

There are some other matters here which are not important. That letter deals with the grading in the initial stages. I wanted to have that placed before the committee.

The CHAIRMAN: If you will give a copy of that to the clerk of the committee it will be printed in the minutes of evidence.

Hon. Mr. MOTHERWELL: What year was that in?

The WITNESS: In 1928. That is the first authentic record of governmental action in connection with Garnet wheat. The point I gather from reading that section was the fact that it was recognized that there was a difference between Garnet wheat and Marquis, not that one was inferior or particularly much better than the other, but there was a distinct difference between the two varieties

of wheat for milling purposes. Now, that resulted in a reference to the National Research Council of the whole question of the grading of Garnet wheat. We were consulted on September 16th. We received a wire from the National Research Council to which I replied myself:

Dr. Birchard has just referred to me your telegram. Stop. Quite apart from academic theory would impress upon you the very strong reasons commercially for not segregating Garnet wheat in separate grades. That was the situation on September 16th.

Hon. Mr. WEIR: From whom is that wire?

The WITNESS: From myself as Chairman of the Board. To follow up the development in connection with that—

Hon. Mr. WEIR: That was in connection with a wire?

The WITNESS: From the National Research Council.

Hon. Mr. WEIR: Sent from where?

The WITNESS: Dr. Newton wired us. Curiously enough his wire is not in the report, but he wired that the Minister of Trade and Commerce had referred a letter to them in connection with the grading of Garnet wheat. I think, perhaps, that was the first time you came into it, Mr. Stevens. Now, to follow up the history of Garnet wheat.

Mr. COOTE: Would you read the telegram again that you sent?

The WITNESS: "Dr. Birchard has just referred to me your telegram. Stop. Quite apart from academic theory would impress upon you the very strong reasons commercially for not segregating Garnet wheat in separate grades."

Mr. VALLANCE: I see Dr. Birchard in the committee. I wonder if Dr. Birchard would have any idea just what the contents of the wire were, because I think it should be, if possible, in the records, in view of the fact that the telegram is also on the record. I think, in justice to the Minister, it should be read.

The WITNESS: No doubt Dr. Tory will have the correspondence.

Hon. Mr. MOTHERWELL: Who is that telegram addressed to?

The WITNESS: It is addressed to Dr. Birchard who referred it to the Board.

Hon. Mr. MOTHERWELL: By whom?

The WITNESS: By Dr. Newton, of Alberta, who was on the National Research Council.

Hon. Mr. MOTHERWELL: What date was it?

The WITNESS: September 1930, Mr. Motherwell. Now, that was a later development. In January, 1930, I was asked to give a memorandum in connection with Garnet wheat which I would like to read because it illustrates to the committee the attitude of the Board of Grain Commissioners on the question. That was shortly after your letter, Mr. Motherwell. This is my report to the Deputy Minister of Trade and Commerce in connection with Garnet wheat:—

A consideration of the Report on Garnet wheat would appear to bring out the following main points:

Garnet wheat has certain advantages of which there is no doubt, both from a productive standpoint and from a milling standpoint. The main points established in connection with production are as follows:—

- (a) it is a high yielding wheat;
- (b) it is an early maturing wheat;
- (c) it also has the ability so far that in growing it in areas in which other wheats produce a piebald wheat, or rather yellow berry, to have a much better colour. Offsetting this, it is not, however, rust resistant.

From a milling standpoint it seems to be fairly well established that it has characteristics of its own, the benefits of which can only be obtained by segregating it from other varieties; in other words, from a miller's standpoint it is a new type of wheat and would affect the blends of the European miller. For this reason it would be desirable to grade this wheat separately from Marquis as in admixture with Marquis you would not only lose the benefits of Garnet but to some extent neutralize the benefits of Marquis. However, from a practical marketing standpoint the following facts have to be taken into consideration:—

- (a) Is there sufficient volume of this variety to assure a regular supply for any market which might be developed?
- (b) Through what agency could you rely on the serious attempt being undertaken to establish a market in Europe for this variety?
- (c) Would the discount under which this wheat would labour while a market was being established be greater or less than the present discount to the grower by grading it as 2 Northern?

My own opinion is that first of all we have to establish the volume of this wheat coming down, secondly, that in view of the admitted virtues of the wheat in certain areas in the prairie provinces, from a productive standpoint, that it is necessary to protect it as far as possible from placing it under such a heavy discount, if it stands on its own feet pending the establishment of a market for it, as to prejudice its value to the grower and restrict its use as a main crop.

Consideration must also be given to the fact that in view of the strong stand taken by the Canadian millers against the wheat it would be necessary to look exclusively, in the initial stages, for an export market. Inversely to this reason, consideration has to be given to the fact that in the event of it seriously prejudicing the value of grades containing Marquis Wheat, it might be necessary to segregate it for this reason. However, this could only be determined by the course of events and a knowledge of the volume of the wheat creating an admixture in 2 Northern. Market spreads for the current year do not indicate that it is affecting the value of 2 Northern this year.

In view of Dr. Newman's statement that he could not place the value of the wheat on a parity with No. 1 Northern, there would not apparently be any injustice in grading it as 2 Northern. Under those circumstances I am inclined to think that the main object in grading Garnet Wheat separately would be from the standpoint of watching that the volume of this wheat was not prejudicing the established market for Marquis Wheat in our 2 Northern grade. Under those circumstances, rather than provide grades at the present time for Garnet, some knowledge of the volume of this wheat being inspected during the following year, be obtained and that instructions be given our Inspection Department to keep records of this fact. Meanwhile it would be necessary to follow the probable effect of the admixture in 2 Northern through marketing channels.

I am inclined to think that the variation in quality between Garnet and Marquis is to some extent academic and would not be represented in value by any material price difference except that in establishing a market for a new product it might probably suffer from such a discount in the early stages as to discourage its growth in areas to which it is peculiarly adapted.

My own opinion is that the grower of Garnet by accepting a two Northern grade for his best Garnet is being placed in the best possible position for the marketing of his product until further data is available.

It is possible that growers' agencies can be induced to segregate, experimentally, shipments of this wheat provided there is an adequate volume of it for this purpose, and gradually develop a market. This would be desirable if it is possible to accomplish.

It is signed by myself in advice to the department on the situation on that date in respect to Garnet wheat.

Now, the last long letter I have which I would like the committee to consider is one which I wrote to Mr. Newman.

The CHAIRMAN: Have you copies of those letters?

The WITNESS: Yes. They are all on file. I will place them in the report. That was the situation, as I say, in regard to Garnet wheat in January, 1930. In the meantime, the National Research Council was dealing with it. In March, 1931, Mr. Newman wrote to me in connection with Garnet wheat and I replied to him as follows—substantially there had been some minor changes in the situation up to then, but the developments had been more departmental than public. I wrote to Mr. Newman on the 27th of March, 1931, regarding Garnet wheat as follows:—

MARCH 27, 1931.

L. H. NEWMAN, Esq.,
Dominion Cerealist,
Central Experimental Farm,
Ottawa, Ont.

Re: Garnet Wheat

DEAR MR. NEWMAN,—I appreciate very much your frankness in writing me the way you did in your letters of the 19th and 29th instant, also for enclosing copy of the proposed talk and of your memo to the Minister of Agriculture.

I rather fear that a difficult situation promises to develop over the grading of this wheat and for this reason I propose to set out at some length the extent of the Board of Grain Commissioner's interest in the matter and also my own views which I already have discussed with you and with the honourable Dr. Motherwell.

As you are no doubt aware the question of grading any wheat lies not with the Board but with the Grain Standards Committee and that that Committee is composed of 13 representatives of the producers and 8 statutory officers and others including the Board of Grain Commissioners, so that insofar as controlling the committee we do not. It has been a matter of some concern to myself in realizing this fact that under certain conditions the Committee in question could set up standards over-ruling the advice or opinion of the technical and advisory members. Under these circumstances it has been necessary to anticipate as much as possible the questions which are likely to be "exciting" with a view to having sufficient data available for the Standards Meeting so that precipitous action might be forestalled.

The controversy over Garnet wheat comes under this category and for this reason I have gone to some lengths to obtain as comprehensive a view of the whole problem as is possible so that as Chairman of the Standards Committee I might be able to guide them authoritatively. The controversy has gone through various stages although my own views remain substantially what they were and have the concurrence of my colleagues on the Board, i.e. that all things being equal, this wheat should have its own grades but that at present it is not expedient to handle it in this manner.

At the time we discussed the matter in December or January a year ago, the agitation in connection with Garnet grading was confined to the efforts of the Alberta members to have this wheat allowed in No. 1 Northern and we were successful in being able to obtain a continuation of the current practice of grading the same as No. 2 Northern, and I set down in a memorandum for the benefit of the Deputy Minister of Trade and Commerce the chief facts which had gone to make up my attitude towards this question. For your information I enclose a copy of this report, and after persuing the same I see no reason for changing it.

Since that time, however, two salient factors have developed, on which we can form a definite opinion. These are: That the volume of Garnet wheat is adequate to establish its own market, i.e. 30,000,000 bushels; and that inclusion in No. 2 Northern is interfering with the sale of this grade. In support of this latter contention we have on file a typical complaint from an Irish importer, and more important still the price on 2 and 3 Northern and Vancouver shipments during this season has been approximately 3 cents below the comparable grades for shipment from Port Arthur. This is explained by the fact that those grades from Vancouver carry a high percentage of Garnet wheat owing to the growing area for the bulk of this variety being contiguous to it.

These factors will no doubt force us to alter our attitude in time towards this question and it was with this knowledge in mind that I attended a meeting of the Associated Committee on Grain Research in an advisory capacity at their request. My information is that they had been asked by the Minister of Trade and Commerce on the feasibility of grading Garnet wheat into separate grades.

The Committee, which is largely composed of Western men, discussed very fully the whole question including suitability for various districts, yields etc. etc., and from my recollection came to the conclusion that the difficulty in grading the wheat did not arise so much from inferior quality as in the different characteristics and that it should be given its own grade. Furthermore, they quite generally accepted the view that until it had established its intrinsic value on the market that *under present marketing conditions* in all probability it would go to a discount under the comparative Northern grades, and if this were so it was advisable to have a substitute wheat available for recommending to those who might decide to change their seed.

Our Board's attitude to the decision was again one of urging that no precipitous action be taken and that full publicity be given to the grower of the facts so that he might be in a position to weigh yields versus probable price trends and the other considerations which enter into the producer's success in operating his farm at a profit.

Let us look briefly at the market situation as it is today. The Canadian Millers have taken what in my opinion is an entirely unreasoning attitude to this wheat in view of the laboratory results achieved in baking its flour, but you have a situation there that has to be faced. The net results are such that the domestic market is entirely closed to it. The export market is in such a state at the present moment that it is extremely doubtful if it would absorb in a year one-third of this wheat which we have established as being offered (I have met no one with any knowledge of these facts who does not agree with this view). This means that Garnet grades would be in all probability quoted on the basis of a full carrying charge for a year, or approximately 8 to 12 cents below the comparable Northern grades, and the wrath of the farmer would be directed at the department introducing the wheat.

In regard to the Radio Broadcast, which you sent me for perusal and which I return as requested, I do not consider that it deals at all sympathetically to some of the angles of the problem I have set down. In the first place if I were consulted in the matter I would not deal with it by radio at all. One never knows who will pick a radio talk up and it might easily be misunderstood. In the second place it is a mistake to bring the Canadian mills into the picture at all for many reasons which I need not enumerate. As I said before, in my opinion the statement is much too bald and does not treat the need for and success of the wheat at all sympathetically.

My own opinion is that the matter should be dealt with by bulletin, care being taken in the distribution to see that it goes into districts where a substitution of wheat can be effected and leaving Garnet growing to districts where it is an outstanding success. By this means it might be possible to cut down the production until market conditions were such that we could grade it separately without undue risk to those most interested in this undoubtedly valuable variety.

There is one other factor which cannot be ignored, that is the possibility of conflict of opinion and information supplied to the farmer by your department and the Provincial departments of Agriculture in the three prairie provinces. The provincial men struck me at the meeting as being very definite in their views and while I do not know what means you have for collaborating with them it seems to me very desirable that some unanimity of opinion should be arrived at.

Now, gentlemen, that is substantially the attitude of the Board of Grain Commissioners toward the question. We have tried to keep away from controversy in connection with it, and we have tried to take a commonsense view of the situation, having in mind not the local situation in one particular district or area but having in mind the situation particularly with regard to export standards which are so vital to Canada.

Hon. Mr. WEIR: Do you remember what the attitude of the provincial ministers was?

The WITNESS: It was not so much the provincial ministers as the members of the Research Council who are technical men from the various schools. That is the background as far as I am able to give it to you in regard to Garnet wheat. I have with me certain figures in connection with the present situation on Garnet wheat and production, and I have here a report from Dr. Birchard, showing the relative protein content of Garnet wheat and Marquis wheat. This information was prepared at the request of the Chief Inspector. The date, section (3) and section (b) were secured from Mr. Newman of the Dominion Experimental farm, Ottawa, while that under (c) and (d) was prepared from our own records.

Hon. Mr. MOTHERWELL: When was this?

The WITNESS: 1931.

Mr. VALLANCE: You made a statement that there were about 30,000,000 bushels of this wheat produced now in the West. Could you segregate it into provinces, showing how much is grown in each province?

The WITNESS: No.

Mr. VALLANCE: It is along the northern fringe pretty much?

The WITNESS: Yes. This report is interesting. There is, however, a slightly lower tendency in Garnet wheat, but I would say this was small and it is not worth notice. I am placing before the committee the facts for and against, quite impartially. Now, the situation in regard to prices. I have here the average prices on Atlantic shipments and Pacific shipments, and also the Liverpool price

basis, but, unfortunately, I have them in the form of monthly averages and they do not show the contention which I would like shown clearly. What we really needed was the weighted average. However, there is a definite discrimination developing against Vancouver twos and threes which does not show on the ones. Now, if it was a freight differential it would show in the ones, too. Therefore, there is a slight discrimination sometimes as high as 3 cents between Pacific twos and threes against Atlantics.

Mr. COOTE: You say there is a difference as high as 3 cents. Could you give us an idea of the average?

Hon. Mr. MOTHERWELL: And also the differential.

The WITNESS: In September the average for two Northern in Vancouver was higher than Atlantics. That is one of the inconsistencies of it. What I assume from that is that the Marquis wheat was running first.

Mr. COOTE: Coming from the earlier districts?

The WITNESS: Yes. Coming from the earlier districts in the South. Later on, when the Northern wheat comes in, which is very largely Garnet wheat, Vancouver shipment is quoted in Liverpool on the average of seventy-five and five-eighths a bushel, Atlantic seventy-eight and one-quarter.

Hon. Mr. MOTHERWELL: What about 1 Northern?

The WITNESS: One Northern is not quoted from the Atlantic. It was scarce in the East this year.

The CHAIRMAN: Would it not be wise to have that table printed?

The WITNESS: I was going to file it in the report.

Hon. Mr. MOTHERWELL: How is it that 1 Northern is not quoted?

The WITNESS: That is Liverpool. There is no shipment of it.

Mr. COOTE: Was that in 1930?

The WITNESS: This year's prices—August, 1931, and running for eight months up to 1932.

Hon. Mr. MOTHERWELL: It seems as if the demand was all for 2 Northern?

The WITNESS: It is the only thing they have to ship. I will give you the figures of stocks in store in a minute. It has a bearing.

Mr. YOUNG: What percentage of this wheat came out of Vancouver?

WITNESS: I have here the percentages for the crop year, August 1, 1930, to July, 1931. We have the Western deliveries, Vancouver, Edmonton and Calgary. They show an average percentage of 28·11 Garnet wheat.

Mr. COOTE: They are taken together?

The WITNESS: Yes. The Eastern deliveries show a percentage of 11·26 Garnet wheat. Out of 276,000,000 bushels inspected that year 44,000,000 were noted by the Inspection department as being all Garnet wheat.

Mr. YOUNG: Is that pure Garnet or containing Garnet?

The WITNESS: Largely Garnet wheat. Now, with regard to the figures up to date in the crop year, August 1, 1931, to March 31, 1932, the Western deliveries show an average percentage of 42·29 Garnet wheat; the Eastern deliveries show a total percentage of 19·32. There has been an increase, very largely through the failure of the Southern crop where Marquis wheat crop is grown. That is just the proportion. Out of 168,000,000 bushels inspected 45,000,000 bushels were Garnet wheat.

Hon. Mr. MOTHERWELL: That is for the Pacific?

The WITNESS: Both ends. There were 32,000 cars containing Garnet wheat.

The CHAIRMAN: Is there a great deal of mixture?

The WITNESS: No. If there is too high a percentage of Garnet wheat, it is graded 2 Northern. I think the inspection allows 4 or 5 per cent in 1 Northern. They do not discriminate against that mixture. Those are the production figures. Now, I have heard rumours that those who have been interesting themselves in it—

Mr. YOUNG: Before you leave that point. That wheat does not come into the terminals mixed. In going into the boats would it be mixed?

The WITNESS: Yes.

Mr. YOUNG: It might be?

The WITNESS: Not mixed; it would still be 2 Northern.

Mr. YOUNG: No. 2 Northern Marquis or 2 Northern Garnet go into the same hold in the boat?

The WITNESS: The point in connection with that of which most people have spoken to me has been the fact that when they buy 2 Northern they could not say what they would get; they might get a shipment with a 10 per cent mixture of Garnet wheat or 80 per cent. That is the real objection to the situation at the present time. As far as I can gather, the fact is that they can absorb a certain amount of Garnet wheat without noticing it, and they want to know what the proportions are.

Hon. Mr. MOTHERWELL: Was there any price differential against the Pacific shipments before Garnet was on the market commercially?

The WITNESS: There is always a certain variation, Mr. Motherwell, but it has never been so pronounced as this year. Now, I am dealing with this from our standpoint. That is to say, the standards of inspection and terminal handling. There has been some propaganda or agitation in regard to the multiplication of grades, and I think for the benefit of the committee it would be a good thing if I could put before you what is really done with the grades of wheat. Approximately, the number of different grades used in Red Spring wheat during the present year has been 108. Now, you will remember in previous meetings of this committee before the Act was adopted there were some 2,600 different grades of wheat. Now, we have reduced them to 108, so that the multiplication of grades is really not a factor in the situation.

Mr. COOTE: You are speaking of the terminals.

The WITNESS: Yes. That is the inspection.

Hon. Mr. MOTHERWELL: Out of those 108 grades I wonder how many of them are really recognized; are they all strict varieties?

The WITNESS: Out of the 108 grades? No. Those are smutties—

Hon. Mr. MOTHERWELL: Oh, you are speaking of grades.

The WITNESS: Of course, the 108 grades never appear as an export factor. If graded as Garnet wheat separately, of course, there would be a multiplication of grades, but it is not important. Now, I have with me—I do not know whether the committee wishes to consider it, but I think it has an important bearing—the Chief Inspector's proposal for the new grades of Garnet. I think that is important, so I will file that on the committee's proceedings.

Hon. Mr. STEVENS: Tell us briefly what it is.

The WITNESS: Substantially the proposal is that there will be three grades of Garnet wheat, 1, 2, and 3 C.W. Garnet. The standard for No. 1 Garnet is practically the same as for 1 Northern. That is to say, it shall weigh 60 lbs. to the bushel and contain 65 per cent of hard red vitreous kernels and shall be well matured and shall be free from damaged kernels, shall be free from matter other than cereal grain and practically free from cereal grain, practically free from Durum wheat and will include wheats of other classes not exceeding 5 per

cent. No. 2 Garnet shall weigh 58 pounds to the bushel, shall contain 55 per cent of hard red vitreous kernel, 1 per cent of Durum and 12 per cent of other wheats. No. 3 Garnet shall weigh 57 pounds to the bushel, shall contain 25 per cent of hard red vitreous kernel, 3 per cent of Durum will be allowed in it and 49 per cent of other spring wheat. Now, that will take care of, I am satisfied, about 97 per cent of Garnet wheat, and it will not discriminate because of the admixture to any serious extent.

Hon. Mr. MOTHERWELL: What will be the probable difference in trading conditions?

The WITNESS: I could not tell you that, Mr. Motherwell.

Hon. Mr. MOTHERWELL: The Exchange has some understanding with regard to delivering one on the contract of the other.

The WITNESS: It would be very unfortunate if Garnet wheat were graded separately if it should not be hedgeable. That is to say, at the present time it is deliverable on 2 Northern contracts. If you give Garnet a separate grade and make no provision for the hedging or that grade, at least in the early stages, I am afraid that the producer delivering street loads would be crucified. To obviate that situation we took up with the Grain Exchange the question of allowing delivery on future contracts, and I rather hoped that they would possibly allow it deliverable on its present basis; that is, three under 1 Northern. However, the best arrangement we could make was that they would accept it on their future contract at a discount of 8 cents. That was rather encouraging because, after all, 8 cents would be the possible limit they would set as a discount so there was no possibility of delivery of that particular variety of wheat. I think this arrangement can possibly still be made if it is the committee's decision to grade it separately. I have gone through a great deal of reading matter, owing to the great public interest in connection with this. I read Mr. Newman's report very attentively and the experiment which he conducted in Europe for the government in connection with this Garnet wheat. I could not find any definite conclusions or recommendations and again I got from the report a feeling that there was a difference in the two wheats which should be dealt with if there is a blend it should be a scientific blend and not a haphazard terminal operation.

There is always the difficulty of whether you are going to allow mixing in Garnet grades. I think, possibly, a certain amount of trade sentiment was favourable to the adjustment from the fact that no proposal had been made to continue Garnet wheat in the non-mixing grade. That also is a matter of paramount importance as I view it from the standpoint of export standards which I cannot stress too strongly in regard to export wheats.

Hon. Mr. WEIR: You mean without looking kindly on the opportunity of using it to mix?

The WITNESS: The situation is this: At present they cannot mix Garnet wheat in the terminals; it is 2 Northern. If you set up separate grades there is no provision preventing mixing it.

Hon. Mr. WEIR: Did Mr. Ramsay gather from the trade that they would be in favour of having Garnet wheat used as a mixing wheat?

Hon. Mr. MOTHERWELL: I think it is used that way now to some extent.

The WITNESS: In the country elevators. I can guarantee the terminals.

Hon. Mr. MOTHERWELL: You have no control over the others?

The WITNESS: No.

Hon. Mr. MOTHERWELL: And sometimes it even gets through.

The WITNESS: Possibly. The point I wish to stress particularly, the one which I think is of paramount importance, is the export standard; and the

situation in regard to export wheat which I would like to bring to your attention is this, that the Canadian Inspection Certificate is the only one that is acceptable in England to-day. Even in the case of the United States Department of Agriculture, I understand they will not accept its certificate without a view of the wheat from the United States. Now, it is not necessary for me to impress upon you the importance of that fact from the standpoint of the western producer. I took occasion to go and hold meetings in the country. I had eleven meetings in the Peace River country, and we had a series of meetings in northern Saskatchewan. We discussed this question quite frankly and there was nothing but a discussion on the relative merits of it. I was very pleased with these meetings. There seemed to be no particular alarm amongst the growers, although there was a general feeling amongst the growers that if Garnet wheat got separate grades they would have to take a discount on it.

HON. MR. MOTHERWELL: Might I ask a question? What has been your experience with regard to segregating other varieties of wheat in the past. For instance, White Fife and Kota; what has been the result of segregating?

THE WITNESS: Kota was justly killed by being segregated. White wheats are selling at comparable prices with your 1 Northern. Durum wheats are selling at a 22 cent premium.

HON. MR. MOTHERWELL: That is not a spring wheat. That is not a wheat for flour.

THE WITNESS: It is a flour wheat.

HON. MR. MOTHERWELL: It is a Durum wheat.

THE WITNESS: It is a wheat, Mr. Motherwell. You must not pick out the high spots and leave the low.

HON. MR. MOTHERWELL: No, no. That is right.

THE WITNESS: I have inevitably come to the conclusion that if Garnet wheat is worth the money it will sell for the same price; if it is not worth the money it will sell at a discount. The very arguments that are used for keeping it graded as 2 Northern are a confession of the weaknesses of the wheat. I do not agree that the wheat has the weaknesses that many people seem to think. I think in time it will probably come into its own. There is also this point I would like the committee to consider. At present 50 per cent of the part of the West from which all the Marquis comes is out of business. As soon as those districts come into production you are going to have very definite views coming from those quarters in view of the discussion on Garnet wheat. I think that is all the data I have prepared, Mr. Chairman, to lay before you. If there are any questions that I can answer I shall be glad to do so.

HON. MR. MOTHERWELL: What are the complaints from importers against these specific shipments? Have you got any of them here?

THE WITNESS: No. There have really been no serious complaints. There have been some minor complaints. One I remember some years ago was from a man in Dublin who had been disappointed evidently in the shipment he had received and he said that he would never buy another Vancouver shipment as long as he lived. We analyzed that shipment and it was practically all Garnet. Of course, there is good Garnet and poor Garnet, and he, apparently, got a very starchy shipment of Garnet. That might be his objection. I have found that the European will not go on record telling you what your standards are. That is not his business. He reflects his opinion in the prices he offers which, after all, is the proof of the pudding.

MR. LUCAS: What are the principal complaints with regard to this wheat from our Canadian millers?

THE WITNESS: They do not complain; they just won't buy our 2 Northern.

Hon. Mr. WEIR: They do not buy 2 Northern?

The WITNESS: They have to take some this year. As far as I can find out, the Lake of the Woods Milling Company has been buying it. They, apparently, have not such a strenuous objection. The western mills can select their wheat from cars passing and so they do not raise any particular fuss; but the Eastern mills have to take the run of the terminals, and you will find very serious objections raised by the mills located in eastern Canada to buying this wheat.

Mr. LUCAS: What are those complaints by the eastern millers?

The WITNESS: I would prefer if you would ask them yourself; but I know that there is a general feeling of dissatisfaction.

Hon. Mr. MOTHERWELL: You mean for export?

WITNESS: No, for grinding at home. This is the domestic market Mr. Lucas is talking about.

Mr. BROWN: You said Kota wheat was justly killed?

WITNESS: Yes.

Mr. BROWN: Is it not a fact that the millers did not take it and would not take it because they did not want to be bothered with it?

WITNESS: That is their privilege.

Mr. BROWN: Yes. I know. Is it not just the same with exports?

WITNESS: No. I do not think so. They could not ignore a wheat in which the production is somewhere around forty or fifty million.

Mr. VALLANCE: You would be more concerned about the export market but in view of the statement that you just made that the only complaint was from an Irish buyer you then arrive at the conclusion that simply because we in this House make a certain recommendation and that the exporter based his price on the standards that we set up, so if we decide in our wisdom to segregate Garnet wheat you believe by doing so we would have a better export market for Manitobas?

WITNESS: Yes.

Mr. VALLANCE: In view of the fact that there has been no complaint about it?

The WITNESS: Yes. I think you would find that your Northern grades, purified of Garnet wheat, would go at a premium over the Garnets.

Mr. VALLANCE: Would you assume now that the present status in the export market is equal to what Garnet wheat would be if they were a special grade?

WITNESS: I would say so. It must be so, because they are buying mostly 2 Northern. I would say that the 5 cents fully represents what the buyer gives on the other side for the difference in the wheat.

Mr. BEAUBIEN: If I might ask a question, Mr. Chairman, although I am not a member of this committee, I would like to ask where does the propaganda come from of those advocating a change in the grading of Garnet wheat to-day, because in the Red River valley that is about the only hard wheat we grow; it is the only one we can grow on account of the rust because it matures ten or fifteen days earlier than Marquis.

WITNESS: Garnet wheat?

Mr. BEAUBIEN: Garnet wheat.

WITNESS: South of Winnipeg?

Mr. BEAUBIEN: South of Winnipeg on my own farm. We cannot grow anything else. I have not heard a complaint from the growers of Garnet wheat, which is grown very extensively in my district, with regard to the growing of

Garnet wheat as it is to-day. I would like to ask the question, where does the propaganda come from to change the grading of Garnet wheat?

WITNESS: It was first referred to by the millers. They wanted the markets purified of the mixture of Garnet.

Mr. BEAUBIEN: They do not use a great deal of it here, do they—the millers of Canada?

The WITNESS: No. They use a lot of Marquis.

Mr. BEAUBIEN: They can get all the Marquis they want.

WITNESS: No. They cannot. There is not 100,000,000 of 1 Northern; they have to buy some two.

Mr. VALLANCE: Following up your argument we must arrive at the conclusion that the miller is demanding this in spite of the fact that because of that condition he must buy his Marquis wheat cheaper than he otherwise would if you segregate Garnet wheat.

WITNESS: No.

Mr. VALLANCE: If you say that that objection is coming from the miller to-day, that it should be segregated, and if your previous statement that by segregating Garnet wheat it will raise 5 cents a bushel or 2 cents, then the Canadian miller is penalizing himself.

WITNESS: No. You have it wrong. Owing to the scarcity of pure Marquis he is probably out of the world market for flour because he has to pay a premium for the small quantity. Before he has been accustomed to buying the general run of the market and has been able to export flour.

Mr. COOTE: Is there any way to find out just what grades the mills buy.

WITNESS: It depends on the current standard. I wish you would ask them those questions.

Mr. COOTE: I thought, perhaps, you would tell us whether there was some way we could keep track of the actual grades they buy.

WITNESS: No.

Mr. COOTE: Is there any machinery whereby you can keep track?

WITNESS: You could make them tell you. I think you can.

Mr. COOTE: With respect to the complaint which you say you got from Dublin, knowing as you do, that the Irish are proverbial kickers, do you not think it is remarkable that some more did not kick?

The WITNESS: I do not know. Ireland is a fairly valuable market.

Mr. COOTE: Has there been any attempt to ascertain from the buyers in the old land whether they are quoting less for Vancouver shipments than they are for shipments from eastern Canada to find out the reason for it—as to whether it is due to the fact that there is a lot of Garnet in the No. 2? Might there not be some other reason for it?

The WITNESS: I do not think so; except that No. 2 Northern is always pressing on the market all the time now. It is a large grade; a big grade. I did have the stock figures. I wonder if the committee would like the actual situation in regard to grain stocks? The total visible supply of wheat in Canada today is 186,000,000 bushels. In the terminal stocks at Fort William there are 27,800,000 bushels of No. 2 Northern, 7,700,000 of No. 3 Northern out of a total of spring wheats, one, two and three, of 46,000,000 bushels. You see, therefore, that there are only about 8,000,000 of 1 Northern available at Fort William. On the Pacific coast there are about 6,000,000 bushels of 2 Northern and 2,300,000 bushels of 3 Northern, out of total stocks of 13,000,000 bushels. In the eastern Inspection division there is in store 3,000,000 bushels of 2 Northern, 3,200,000 of 3 Northern, or 13,000,000 bushels total stock. All this grain includes Garnet

wheat to some degree, the heavier percentage being on the Pacific coast than in the Atlantic division. In the western country elevators there are 85,000,000 bushels of wheat. I point out the difficulty. I did not know at the time you were going to make your minds up not to change the grades, and I had come to the conclusion that it was too late this year even to technically deal with the change in grade, quite apart from the farmers' situation. We have got all that 2 Northern in the Terminal elevators. It has got to go out as 2 Northern as it is inspected in. We have a real problem in warehousing, and if you make Garnet wheat this year a separate grade you are going to be flooded with this 85,000,000 bushels in the country elevators to get it graded before the change, and it has been bought from the farmers on the basis of 2 Northern.

Hon. Mr. ELLIOTT: Can you tell us what the percentage in the last three years production, or five years, over and above 2 Northern has been?

The WITNESS: No. I cannot without going over the various reports. I can for last year. It is in this report.

Hon. Mr. ELLIOTT: It will be lower last year?

The WITNESS: No. It was a good crop last year; 31 per cent 1 Northern, 8 per cent, one Hard, and 21 per cent 2 Northern. 60 per cent of the crop was in those three grades.

Hon. Mr. STEVENS: What crop year is that?

The WITNESS: This report.

Hon. Mr. ELLIOTT: If the growers of Garnet wheat were not to get a grade above 2 Northern, they would not share in the prices of practically 30 per cent of the growth.

The WITNESS: They would not get any better than 2 Northern now. If they were to grade it separately there is a possibility that the wheat, through its own intrinsic value, would rise comparable to 2 Northern.

Hon. Mr. ELLIOTT: Do you think it would be to their advantage?

The WITNESS: I do not look at it so much from the advantage of the wheat grower as from the advantage of the great mass of the crop to have this wheat segregated. You purify your grades in the types of wheat—in the Marquis type by segregating Garnet in its own grades, and in doing that you have to let it take its chances on the market. Now, if it has the value that all these people have said it has, it will very rapidly establish its own level of prices.

Hon. Mr. ELLIOTT: And do you think it would benefit the grower of Marquis wheat?

The WITNESS: Oh, I think, perhaps, you will remedy one cause of irritation.

Mr. BEAUBIEN: As I said before. I am not a member of this committee, but I am interested because I am a grower of wheat.

Mr. VALLANCE: Might I suggest that those members who are interested in this question be given the courtesy by the committee to ask questions.

The CHAIRMAN: If it is the pleasure of the committee.

Mr. BEAUBIEN: I do not want to impose on the committee, but from Mr. Ramsay's remarks I have gathered that there is a propaganda to create for this Garnet wheat separate grades, coming from the millers.

The WITNESS: If you will excuse me for saying so, I do not think it is propaganda; I think it is a business proposition.

Mr. BEAUBIEN: All right. There is no doubt from what you have said that the millers have been antagonistic to this Garnet wheat.

The WITNESS: The Canadian mills.

Mr. BEAUBIEN: Now, they have been able until recently to get their Marquis wheat but southern Saskatchewan has been a crop failure for the last three years as far as the growers of Marquis wheat are concerned. Now, why should this committee of experts penalize the growers of Garnet wheat to take care of just a temporary situation which has arisen over which nobody has any control, by wishing to put this Garnet wheat in a separate grade and penalize it?

The WITNESS: It is not a temporary condition, if you will allow me to correct you; it is a development which has taken place owing to the introduction of a new type of wheat in the west.

Mr. BEAUBIEN: There is a penalty.

The WITNESS: There is no penalty. What we are trying to do is to give unto Caesar those things that are Caesar's.

Mr. BEAUBIEN: What would be established is that the Canadian millers who consume over 100,000,000 bushels of wheat and are not able to find the Marquis wheat which they desire more than they do the Garnet wheat, on account of a condition which exists to-day and on account of crop failures for the last two or three years in those areas where the great bulk of Marquis wheat was grown, and which situation will be overcome by the grace of God in a very short time I am sure.

The WITNESS: Your millers would be at a disadvantage if you confine them to one grade of wheat. If they can get grades 1, 2, 3, 4, 5 and 6 as they used to do it is a better market. It is largely the miller's operations that keep your spreads between the grades in proper alignment.

Mr. VALLANCE: Have you in your department, under the Board of Grain Commissioners, a statistical branch?

The WITNESS: Yes.

Mr. VALLANCE: Now, it would be possible, through your statistical branch, just to show the relative position of, we will say, the Northern wheat grower today and the position he found himself in prior to the establishment of Garnet wheat. Now, I know of my own experience that there was a wide stretch of country through northern Saskatchewan where we are compelled to grow Marquis wheat, growing big soft piebald wheat. Now, today they are not growing to the same extent Marquis wheat, and they can grow today a much better Garnet wheat than they could grow Marquis wheat, and they are gaining financially because of the introduction of it. If we do decide to segregate Garnet wheat by itself it may redound to the credit of the grower. He cannot be penalized; he may get some benefit. What I would like to know if possible, offhand, is just the relative position of the northern grower of wheat today. Is he in a better position than he was prior to the introduction of Garnet wheat?

The WITNESS: I would say with regard to the Northern wheat grower that Garnet wheat has solved his problem. It is yellower, it is two grades better than he would have grown with Marquis, and I think it is a very valuable wheat, and for that reason I do not want to see anything done that will injure it. At the same time, we have the other 75 per cent of the country to which we must readjust it.

Mr. CARMICHAEL: Have you any data to show the value of the flour milled from a mixture of say 90 per cent Marquis wheat and 10 per cent Garnet wheat?

The WITNESS: I am quite sure, Mr. Carmichael, that Dr. Tory or some succeeding witness can give you that. I am not a technical man.

Mr. CARMICHAEL: I have been informed that in France and other countries in Europe the flour mills use a percentage of Garnet mixed with Marquis, and I thought if that is the case that your figure of 30,000,000 bushels of Garnet wheat is less than 10 per cent of the total of our crop in the west; therefore, looking at the general situation—

The WITNESS: Thirty million was a suppositious figure; the actual figure is 45,000,000.

Mr. CARMICHAEL: It would still be about 10 per cent of the total of our production.

The WITNESS: No. Last year it was about 25 per cent.

Mr. CARMICHAEL: Sometimes we have as high as 500,000,000 bushels produced in the west, so that possibly on the average it would run eight or ten per cent. The idea I had was that if that eight or ten per cent of Garnet wheat were mixed up with Marquis wheat for milling purposes it might improve it.

The WITNESS: You can mix it if you get the two separately. The situation is, if you understand terminal operation, that you buy 2 Northern and order it out of the elevators. You do not get pure Marquis or Marquis with 80 per cent of Garnet. You do not know what it is.

Mr. COOTE: Would you at some time, if you have not the figures now, furnish for the committee the number of bushels of each grade that have been inspected into Canada this year and the number of bushels exported?

The WITNESS: You mean the last crop year?

Mr. COOTE: 1931.

The WITNESS: For the year 1931?

Hon. Mr. STEVENS: That cannot be done very easily.

The WITNESS: It would mean cutting off the whole department to figure it out.

Mr. COOTE: I supposed you had those figures all the time. I will not ask for them.

The WITNESS: I could get them approximately, if that would be good enough for your purpose. Do you mean the whole 108 grades?

Mr. COOTE: I mean the straight grades from 1 to 6.

The WITNESS: Yes.

Hon. Mr. MOTHERWELL: I wonder if Mr. Ramsay has anything to indicate the relative amount of wheat going out from Vancouver in the last record he has with regard to the various grades; how much 1 Northern, 2 and 3?

The WITNESS: We do not keep it by grades, just by bushels.

Hon. Mr. MOTHERWELL: Is there anything to indicate how much is going forward of any kind of wheat to, say, Great Britain from the Pacific? What are the complaints with regard to importers?

The WITNESS: They have done a good business out of Vancouver this year. They have shipped, I think, 50,000,000 bushels.

Hon. Mr. MOTHERWELL: You have no idea how much of that is No. 2?

The WITNESS: The bulk of this, I should say.

Hon. Mr. MOTHERWELL: Does it seem to be backed up for the want of bidders?

The WITNESS: No. It seems to sell fairly freely at the spreads.

Hon. Mr. MOTHERWELL: And they are getting a one wheat?

The WITNESS: Yes; a one wheat and 5 cents below one.

Hon. Mr. MOTHERWELL: And the farmers are suffering that amount. There is no wonder they are bidding for it, in my estimation.

The WITNESS: They are not bidding enough.

Hon. Mr. MOTHERWELL: My experience has been—I think Mr. Coote will not object to the fact—it is long since there was a differential against Pacific wheat. Some years like 1923 there was a premium on it. It varies due to a number of reasons. One point is the long time it takes to go. That is rather

against it. This is one reason and there are other factors. I think they would require to be investigated pretty closely before we can conclude that it is the Garnet wheat that makes the differential. Is it not rather this, that the demand for 1 Northern in European countries is due to the high tariff on wheat going in there, that they want to get the most protein in a given content. Therefore, it is the 1 Northern that has gone up rather than the 2 Northern that has gone down?

The WITNESS: The protein in No. 2 Northern this year is pretty much the same as it is in No. 1 Northern. I would point out too that while the north produces a better coloured wheat in Garnet wheat it is a starchy Garnet. There is a good Garnet and a poor Garnet just as there is a good Marquis and a poor Marquis.

Hon. Mr. MOTHERWELL: Referring to Mr. Carmichael's question. Having regard to the large bulk that comes down from the Peace River, Athabaska and through that country, it throws it out of balance a year like this when Marquis is shy. The south is essentially a Marquis country except in the foothills which is a Garnet country. This disparity between the north and the south might not occur for a long time. Nevertheless, we have our droughts in the south that have in the last fifty years been recurring at too frequent intervals, affecting the volume of Marquis in the south in proportion to the amount of Garnet in the north. That has made the large percentage of Garnet wheat going out from the Pacific. Notwithstanding that, the demand is pretty active, I think, in Great Britain for Pacific No. 2. The demand is exceedingly active for Pacific number twos at the differential you speak about.

The WITNESS: Yes.

Hon. Mr. MOTHERWELL: I can understand that. We cannot disregard altogether, and we do not want to disregard the local miller. For Mr. Carmichael's information I would like to read the report of Mr. A. J. Banks, Chemist, for the Ogilvie people at a time when there was no controversy. Here is what Mr. Banks says: "Garnet wheat would blend well with Marquis. Here yield an excellent flour, probably one giving better general satisfaction than that from straight Marquis." Any wheat that will do that with Marquis should not be thrown away.

Mr. CARMICHAEL: He does not give the percentage?

Hon. Mr. MOTHERWELL: Yes. Fifty-fifty, and the Trade Institute at Guelph has pretty nearly confirmed that. Oh, no, I am wrong; he does not give the percentage. It is not fifty-fifty. But I think it will be found this year that probably some of it will be 70 or 80 per cent Garnet, and yet they are taking it.

The WITNESS: If you consult Mr. Banks to-day I think you will find that he has formed a very different opinion which does not quite gibe with that.

Hon. Mr. MOTHERWELL: Then he derides it up hill and down dale and says that we have enough of these wheats, because he would probably have to have more machinery. They would have to adjust their mills to this exceedingly hard wheat.

The WITNESS: No doubt. That is probably the underlying reason.

Mr. LUCAS: Is there any difficulty for the country elevator buyer to grade this wheat separately?

The WITNESS: It would probably add to his difficulties a little. I never considered the country elevator buyer to be a grader of wheat.

Mr. YOUNG: The farmer has to take his grade very often.

The WITNESS: There is very good protection for the farmers under the present Grain Act which is effectual, I am sure. Not only that, but he can get a sample of a load graded by itself.

Mr. CARMICHAEL: Is it not a fact that sometimes you can scarcely distinguish between Garnet and Marquis wheat?

The WITNESS: Yes. That has also been argued. I might say that the Inspection department informs me that they cannot pretend to get every kernel of Garnet, but within reasonable limits of 4 or 5 per cent they are able to segregate Garnet.

Mr. COOTE: How many bins has the ordinary country elevator?

The WITNESS: About sixteen I think, Mr. Coote.

Mr. COOTE: If you establish separate grades for Garnet wheat it will not be practicable, will it, to carry out the provisions of the Canada Grain Act for segregating a wagon-load of grain until the grade can be received from the Inspection department?

The WITNESS: He does not need to do that; he takes a sample and that is segregated.

Mr. COOTE: And what is the country elevator operator going to do with the wheat—put it where he thinks it ought to be?

The WITNESS: Yes.

Mr. COOTE: Take a chance on it.

Hon. Mr. MOTHERWELL: Do you think the inspectors and the elevator operators can really tell Garnet wheat?

The WITNESS: I am satisfied. I am rather inclined to resent efforts to prove that our Inspection department is not good, because I think we give a good service.

Hon. Mr. MOTHERWELL: I remember the time when they claimed they could not. I know a lot of the buyers think that they cannot—certain types—Garnet wheat in the south is a comparatively thin wheat and in the northern regions it seems to have plumped out.

The WITNESS: That is probably a seasonal change. It should not change its characteristics in three years.

Hon. Mr. MOTHERWELL: No, but there are peculiarities and characteristics.

The WITNESS: Sometimes you get a plumper wheat than others.

Hon. Mr. WEIR: On the whole, is not the feeling that Garnet wheat in the north has become a plumper type year after year?

The WITNESS: Yes. Possibly. I had not heard that mentioned until recently. I do not think Garnet wheat has been grown long enough to change its characteristics. If it has changed its characteristics—that is a poor type of wheat that will change so quickly.

Hon. Mr. MOTHERWELL: It might change its form but not necessarily its content, and it may possibly be prejudiced with the Marquis wheat.

The WITNESS: The soil has a bearing.

Hon. Mr. STEVENS: Mr. Ramsay, there is one point I would like you to make clear, because it has to do with the question of marketing. At Vancouver, the western outport, you mentioned a moment ago that there was an unusually large spread on No. 2. Now, No. 2 shipped out of Vancouver this year—a large portion of it consisted of 75 per cent Garnet.

The WITNESS: Yes, some of the shipments would be as high as that.

Hon. Mr. STEVENS: Now, a certificate going to the importer in Liverpool or some place in Europe of No. 2 Northern would not indicate whether there was any particular portion in that shipment of Garnet wheat or what the proportions were.

The WITNESS: No.

Hon. Mr. STEVENS: It would be a No. 2 certificate.

The WITNESS: Yes. The difference is in the standard sample we send them. We cannot give a fixed proportion of Garnet, although we allow for it in the standard sample. We can give that a fixed proportion, and if that proportion in the shipment is more than that they have a ground for complaint.

Hon. Mr. STEVENS: If an importer in Europe, buying a shipment on a No. 2 certificate, we will say, and expecting a wheat such as he will get under a No. 2 certificate from his experience over a number of years, were to receive a shipment which consisted of a very substantial proportion of Garnet wheat, would he be inclined to consider that it was different from the regular standard of the No. 2 Northern grade

The WITNESS: Yes. That would be his claim. The situation would be aggravated by the market if it went against them.

Hon. Mr. STEVENS: Now, I am going to ask a hypothetical question, because I think before you get through with this you will have to face these facts regarding certain characteristics. I will not say they may be better or poorer than Marquis; but it is claimed as far as I have been able to find out that the flour made from Garnet is of a yellower colour than that from Marquis of an equal grade.

The WITNESS: Yes.

Hon. Mr. STEVENS: Now, this is the hypothetical side of it: If a miller, say, in Europe is buying Canadian wheat for the purpose of blending it with wheat from other countries or from his own country and if in securing that characteristic he produces a light bread, might he not be disappointed if his shipment consisted of a large percentage of Garnet in securing that desired end?

The WITNESS: Yes. He is more liable in his next shipment to look to some country where he gets the particular wheat he is after.

Hon. Mr. STEVENS: Where it will run true to form.

The WITNESS: Yes. Where it will run true to form.

Hon. Mr. STEVENS: Now, the next hypothetical question is this: Assuming we had that case, would there not be a tendency as time went on to shun that grade which contained such a difference in the type of wheat within the one grade?

The WITNESS: Yes. I would say so.

Hon. Mr. STEVENS: And prejudice the price of that grade on the market?

The WITNESS: By restricting the market.

Mr. VALLANCE: But could you not just reverse your hypothetical question and put it the other way? The man who buys No. 2 wheat on a certificate knows because the Canada Grain Act has defined No. 2 Northern—he knows what he is going to get, at least he knows what to expect.

Hon. Mr. STEVENS: No.

Mr. VALLANCE: Yes, he does. You say what may go into No. 2 so he naturally expects, knowing that 45,000,000 bushels of Garnet wheat are grown in western Canada, that he is going to get that percentage at least in his conglomerate mixture.

Hon. Mr. WEIR: There is another point there. A buyer buys No. 2 and buys all Marquis or he buys No. 2 and it is 2 Marquis and 2 Garnet. I think we will agree that a good Garnet wheat is better than a poor 2 Marquis. There might be an advantage there by having Garnet in the Marquis rather than a straight Marquis.

The WITNESS: Of course, I would rather as a grower sell 1 Garnet than 2 Northern. I think he has a better selling grain in Garnet with a definite standard than he has with 2 Northern with an indefinite standard.

Hon. Mr. WEIR: I would like to say with regard to Mr. Vallance's remark that I am simply trying to bring out the facts.

Mr. VALLANCE: I hope we all are.

Hon. Mr. STEVENS: I was going to add the further hypothetical question—I am not arguing this thing one way or the other—assuming that Garnet has qualities which are desirable for the market; assuming that it has not the quality that Marquis has for a specific purpose—that is for white bread—I think that is scientifically determined—but supposing it has qualities that are quite equal to Marquis in other lines and for other uses, if it were graded separately it would likely receive a higher price on the market than if it is mixed with other wheat in a lower grade such as No. 2, as against No. 1 Garnet.

The WITNESS: Its only hope of getting that better price is to sell itself without a mixture.

Hon. Mr. STEVENS: Let us again assume hypothetically that it has the quality. I have heard several hold the opinion very strongly that it has qualities equal to or better than Marquis. Let us assume that. If it has those qualities, then a No. 1 Garnet would be better graded separately than as at present being graded in as No. 2 Northern.

The WITNESS: Yes. It would have a better chance as No. 1 Garnet, under certain market conditions, to get a premium over the other grade. It is in a better position as No. 1 Garnet than it would be as No. 2 Northern.

Hon. Mr. STEVENS: Of course, I would call the attention of the committee to the fact that that is really the question we are trying to determine here—whether the separation of Garnet into its different grades will benefit Garnet on the one hand if it has the qualities that are claimed for it, or on the other hand, again assuming that it has not the qualities equal to Marquis, if it is graded with Marquis it must necessarily deteriorate that grade. Taking it from the growers' standpoint, it strikes me that the separation of the grade is desirable.

Mr. BROWN: After all, is not the question very simple. Suppose we as growers put ourselves for the moment in the place of the millers, we would be willing to pay more for an article if we were sure we were going to get exactly the characteristics in wheat which we want. It seems to me, after all, that the question is not a difficult one from that point of view, and I am quite prepared for the moment to believe that if Mr. Ramsay pointed out that the miller, being assured of exactly the qualities that he is going to get will be willing to pay for it, naturally the miller when he wants a blend he wants to make his own blend.

Hon. Mr. MOTHERWELL: I think that is correct. The question is, is it practical? The Minister gave us a hypothetical case. In actual practice, they do not put such volume in Europe or France; they do not put such quantities in there that any percentage of Garnet is still going to affect the colour, because they get the colour from the white wheat. Practically all of the Australian shipments contain the most beautiful winter White wheat I ever saw. He gets ample colour from this side of the mixture, the blend. So that in actual practice this colour question—that is the reason why the exporter of our wheat does not object to the same extent as the home miller does. The home miller is not getting the White wheat to choose from for his colour; the importing miller on the other side has fine White wheats to choose from to give him all the colours he desires.

Hon. Mr. STEVENS: It does not follow that the White wheat will make a white flour.

Hon. Mr. MOTHERWELL: It does not follow; but it usually does.

Hon. Mr. STEVENS: You make the flour out of the inside not the outside.

Hon. Mr. MOTHERWELL: I am aware of that. At the same time there is not much to that. As a general rule, the White wheats have the white flour.

Hon. Mr. STEVENS: I was referring to Canadian White—the Marquis type which does produce a very fine grade of white flour.

Hon. Mr. MOTHERWELL: There is no question—not so much when you get it bleached. If anything should stop the bleaching it would go against the car lot, but as long as bleaching is recognized and permitted by the British Health authorities you have that pretty well taken care of. I still raise the question as to the practicability of segregating it. After you have segregated it what is the possibility of it surviving an 8 cent spread between it and the straight No. 1 Northern; and with the consciousness on the part of the farmer we feel pretty sure it is going to find itself all over creation with all sorts of blending bootlegging and whatnot either at the initial elevator or elsewhere. They will grade it with some other kind, because it is, par excellence, the outstanding wheat in that northern country. It seems to me too bad then not to find some solution. Although this looks plausible I think the grower of wheat would take his chance on a segregated grade if he thought it would survive the first few years with all these differentials against it. Can he hang out for three or four years in his present impoverished condition? Our people are flocking from the south to the north because of this question. It is a big question.

Hon. Mr. STEVENS: It is not a question of betterment; what we want to do is the wisest and best thing.

Hon. Mr. MOTHERWELL: As Mr. Humphries points out there is always a producer's end to the milling question. The millers cannot be so picky that they are going to put the growers out of business.

The CHAIRMAN: I would like to have Mr. Ramsay answer that question about segregation.

The WITNESS: If I understand the point it is the question of segregating wheat and whether it will get an 8 cent discount.

The CHAIRMAN: Yes.

The WITNESS: I do not think you have any ground to base such an opinion on, Mr. Motherwell. Nobody knows what the discount will be. Your present situation reflects the value of Garnet wheat, and it might improve.

Hon. Mr. MOTHERWELL: What I referred to was delivering.

The WITNESS: That does not interest the farmer. The important factor about that is that the grain companies are able to hedge their purchases of Garnet wheat and finance themselves on that hedge.

Hon. Mr. MOTHERWELL: You think that will not affect the price?

The WITNESS: No. They would get the same prices as for the Marquis wheat. If it is a hedgeable grade I do not know what they can afford to buy it for.

Mr. BROWN: You spoke of it being possible to segregate it up to 4 per cent?

The WITNESS: Yes. I said that the Inspection department could grade Garnet wheat separately within possibly the limits of 5 per cent. That is to say, if you had a car of Marquis wheat with 4 or 5 per cent of those kernels in it you cannot tell it.

Mr. BROWN: You do not mean to separate the wheat?

The WITNESS: No. For inspection purposes they cannot tell a thin admixture.

Hon. Mr. WEIR: What percentage would you say they could tell?

The WITNESS: I think they can detect the presence of 10 per cent Garnet wheat. I think they would see the suspicious berries in the sample and they would make an analysis. I have been to the Inspection department definitely on this because I think it is important, and I would not make that statement if I were not confident of what I am saying.

Mr. VALLANCE: In view of all that has been said to-day, I think this has been a rather logical discussion. Some of us have not our minds made up as to what we ought to do with this thing. I think the only thing to decide now is that technical point as to the possibility. Your Inspection department may be able to distinguish it as you say, but what about the fellow on the street in a rush who cannot possibly do it? A large volume of his purchases to-day is street wheat. What are you going to do with him? Suppose he buys a quantity of Marquis No. 1 and your Inspection department says, "No; this is Garnet wheat." Now, it has been proved that there is no definite way of knowing these wheats coming from some portions of Saskatchewan to-day except by growing it. I ask you, as the head of the administration of the old Grain Act to settle this point. Probably when your technical men come on they will be able to tell us how it is going to be done. That is the point that is sticking me to-day.

The WITNESS: The question of grading wheat at country elevators is a difficulty, although it has nothing to do with us.

Mr. VALLANCE: It has something to do with the grower, and we are considering the grower.

The WITNESS: I might say that the practical answer to the situation which Mr. Vallance has suggested is this, that if I am buying grain at a country elevator I know what every one of my customers is growing. If he has two kinds of wheat, that is the practical answer.

Mr. VALLANCE: I do not think that is right. Take my own instance. I can deliver wheat to eight different shipping points within eleven miles. Do you mean to tell me that these operators know that? I grow Reward, for instance, with Marquis. I ship the whole thing mixed. Do you tell me that they could distinguish Reward from Marquis?

The WITNESS: No.

Mr. VALLANCE: In many instances in the province of Saskatchewan to-day even Mr. Fraser, with all his knowledge, cannot take one Marquis and two Garnet, if you like, and distinguish the two without growing them. It has been tried on him and he could not do it.

Hon. Mr. STEVENS: With regard to Mr. Fraser being tried, I have heard of one trial which I think was very unfair, and I do not think it is fair to Mr. Fraser who is the head of a very responsible group of officials—I do not think it is fair to make that statement.

Mr. VALLANCE: It is to try to save Mr. Fraser that I make that statement. He is going to be put in a position where he has got to decide on it.

The WITNESS: The fact of the matter is that the export shipments of 1 Northern this year only show about 4 or 5 per cent mixture of Garnet wheat. The Garnet wheat has been segregated for 1 Northern purposes.

Mr. VALLANCE: It would probably apply there also; probably there was a lot of No. 1 wheat that went as Garnet because of the lack of knowledge—No. 1 Marquis wheat being set aside by the Inspection department as Garnet wheat. It is just as possible that it happened that way as the other way. That is one thing that is bothering me about this whole question.

The WITNESS: Yes. I know your point. That is a good point too. I have not considered it from that angle, I admit.

Hon. Mr. MOTHERWELL: It is a very knotty problem.

The WITNESS: Oh, yes.

HON. MR. MOTHERWELL: Do not the growing tests of Mr. Newman show more than 4 per cent? I have not the official records, have you?

The WITNESS: That is east.

HON. MR. MOTHERWELL: Have you the growing tests by Mr. Newman?

The WITNESS: No. I have not. I have heard Mr. Newman talking about it. I understand it was some years ago before there was a serious attempt to segregate Garnet wheat from 2 Northern.

I have been able to locate the wire to Dr. Newton from Dr. Tory. I will put it in the record together with the wire in reply which I have already read:—

OTTAWA, ONT., Sept. 15, 1930.

DR. ROBERT NEWTON,
University of Alberta,
Edmonton.

Minister Trade and Commerce has referred me letter addressed to him by Mr. Short President Canadian National Millers' Association which requests that in view Newman's report Garnet wheat should be excluded from Northern grades and that additional special grades should be established. Stop. Short requests matter be submitted to me to settle in collaboration Grain Research Committee. Stop Please consult by wire or telephone Western members of Committee and wire me your judgment.

H. M. TORY.

WINNIPEG, Sept. 16, 1930.

DR. R. NEWTON,
University of Alberta,
Edmonton.

Dr. Birchard has just referred to me your telegram. Stop. Quite apart from academic theory would impress upon you the very strong reasons commercially for not segregating Garnet wheat in separate grades. E. B. Ramsay, Chief Commissioner, Board of Grain Commissioners.

The Committee adjourned to meet Thursday, April 7, at 11 o'clock a.m.

SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND REPORTS

THURSDAY, APRIL 7, 1932

No. 2

Reference,—Garnet Wheat Grading.

Mr. E. B. Ramsay, (Chief Commissioner), Board of Grain Commissioners,
of Canada; Mr. L. H. Newman, (Dominion Cerealist).

Appendix "A" Charts.

MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,

THURSDAY, April 7, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock in the forenoon.

Mr. Senn, the Chairman, presiding.

Members Present: Messieurs Blair, Bowen, Boys, Brown, Cayley, Coote, Gobeil, Loucks, Lucas, McGillis, McKenzie (*Assiniboia*), Motherwell, Mullins, Myers, Perley (*Qu'Appelle*), Pickel, Porteous, Senn, Simpson (*Simcoe North*), Smith (*Victoria-Carleton*), Sproule, Stewart (*Lethbridge*), Stirling, Taylor, Thompson (*Lanark*), Totzke, Tummon, Weese, Weir (*Melfort*), Young (28).

In attendance: Hon. H. H. Stevens (*Minister of Trade and Commerce*).

Mr. E. B. Ramsay, recalled and questioned on the inspection of Wheat.

Witness retired.

Mr. L. H. Newman (*Dominion Cerealists*), called, heard and examined.

Witness retired.

Mr. Perley (*Qu'Appelle*), read a telegram from Mr. A. E. Dardy, Secretary of the Winnipeg Grain Exchange, suggesting that Mr. R. T. Evans and Mr. Henry Gauer be heard on the subject of marketing in general.

The Committee then adjourned until Tuesday, April 12, 1932, at 11 o'clock in the forenoon.

A. A. FRASER,

Clerk of the Committee.

MINUTES OF EVIDENCE

HOUSE OF COMMONS, ROOM 368,

APRIL 7, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock to consider the Order of Reference of the Committee on Grain Standards to the Department of Trade and Commerce.

Mr. Senn, the Chairman, presiding.

The CHAIRMAN: Gentlemen, I am sorry we have had our room changed to-day, which has caused a good deal of confusion, but I am assured that from this time on we will have our own room, Room 497. Now, gentlemen, we left off the other day in our examination of Mr. Ramsay. He had got to the stage where he was replying to questions from members of the Committee. Has anybody any further questions to ask of Mr. Ramsay? Perhaps Mr. Ramsay has some further statements he would like to make.

Mr. RAMSAY: Yes.

EDWARD B. RAMSAY, recalled.

The WITNESS: Mr. Chairman, it has become possible for me to now deal with the question of the grading—of the feasibility of grading Garnet wheat. If the Committee wish to hear that I will be glad to put it before them. Some time ago some samples were submitted for analysis to our Inspection department. The matter was taken up direct with the Chief Inspector, the person doing so apparently not understanding that the proper way to approach that proposal was through the board. I have strong objections to matters involving the policy of the board or of the government going through minor officials. So, as the proposal was not in such form as was proper in my opinion we carried out the work and then we did nothing about it for reasons which I will explain to you. These samples were manufactured samples designed, I presume, with the express purpose of finding out whether the statement that was made with regard to the grading of Garnet wheat was accurate. That is to say, they were composed in such a manner as to make the separation as difficult as possible. The key to these samples was not placed in the board's hands. I find myself in this position that if I allow the Inspection department to do this and it should be wrong, then I come down to the Agriculture Committee and lay before that Committee the facts which I have laid before you and then I am confronted with this situation, I would find myself in a very awkward position. I doubt whether these people realize the position they are putting the Board of Grain Commissioners in. I have very strong objections to enquiries being conducted in the manner this inquiry was. I am glad to say, however, that yesterday the key to these samples came into my hands and I propose to lay before you the analysis by our Chief Inspector which was made in February and has been in Ottawa since then, and also the key to the samples as they were composed. I may say that I do not feel it my duty to come before this Committee and try to sell them an idea. I have tried to lay all the facts pro and con regarding Garnet wheat before you impartially, and if this key had even been against the contentions that have been made I would still have placed it before you. The fact that it bears out our contention is

fortunate because if it had been proved that we had been working from a wrong basis we would have found ourselves in a very awkward position. People in dealing with the grading of Garnet wheat, perhaps, fail to get the significance. We have refused a grade of 1 Northern to millions of bushels of wheat, and then it is suddenly proved that you cannot grade Garnet wheat separately. I am just mentioning this to show you my reaction to the matter as I see it and why I do not permit officials of other departments to deal with matters which are really government policy. This is the key to the sample: Sample No. 1 was composed of Parker's and Reward wheats. I presume that is Parker's Marquis. The analysis of the Chief Inspector deals with the matter on a percentage of Garnet. He says there is no Garnet in this sample. He has never seen this key. This analysis came before I even knew what the key was. Sample No. 2 is composed of one-third Garnet and one-third Marquis and one-third Bobs. Sample No. 2, according to the Chief Inspector, contains 33 per cent of Garnet. Sample No. 3, according to the key, contains 43 per cent of Garnet, 44.9 per cent of Marquis and 12.1 per cent of other varieties. The sample shows 43 per cent of Garnet. The Chief Inspector's analysis shows 50 per cent of Garnet. Sample No. 4 contains 100 per cent of Ruby. The Chief Inspector shows that there is no Garnet present. Sample No. 5 shows 44 per cent of Garnet, 35 per cent of Marquis, 21 per cent of other varieties. The Chief Inspector's analysis shows 41 per cent of Garnet against 44 in the key. Sample No. 6 is composed of 100 per cent of Garnet. The Chief Inspector's analysis shows that it has 100 per cent Garnet. Sample No. 7 shows 20 per cent of Garnet and 80 per cent of Ruby. The Chief Inspector finds 16 per cent of Garnet. Sample No. 8 shows two-thirds Reward and one-third Kitchener. The Chief Inspector shows that there is no Garnet present. Sample No. 9 has 43.8 per cent of Garnet, 37.5 per cent of Marquis and 18.7 per cent of other varieties. The Chief Inspector finds 39 per cent of Garnet. From these figures, Mr. Chairman, I think it bears out the statement that for practical purposes, and within reasonable limits, Garnet wheat can be distinguished by the Inspection department. That is the only additional statement I have to make.

Mr. BROWN: That is wonderfully close.

The WITNESS: I think it is remarkable. It is a great relief to me.

Mr. MCKENZIE: If it is a fact that Garnet wheat is not as distinct a variety as Marquis wheat, we will say, your Chief Inspector would come closer to Marquis than he has come even in this case with the Garnet, would he not?

The WITNESS: I would not say so.

Hon. Mr. MOTHERWELL: Where 1 Northern has a considerable amount of Garnet in it and is found in cargoes would that be put in at the initial elevator?

The WITNESS: It might arise at the country elevator.

Hon. Mr. MOTHERWELL: That is where it might get in?

The WITNESS: Yes.

Hon. Mr. MOTHERWELL: How much Garnet would there need to be to prevent it from going into 1 Northern; how much would be permitted?

The WITNESS: The Act defines it; three per cent of other wheats.

Hon. Mr. MOTHERWELL: Three per cent would debar it?

The WITNESS: As a matter of fact, analysis of cargo samples show about 4 or 5 per cent Garnet.

Hon. Mr. MOTHERWELL: You have no information about how much gets into it in any other way?

The WITNESS: No.

Hon. Mr. MOTHERWELL: Do you think the Inspection Staff generally could make as close an inspection as that?

The WITNESS: Yes. I think so. We have done a great deal of modernizing of our inspection methods; it is no longer a question of grabbing a handful of wheat and saying, "this is 2 Northern." We use all sorts of apparatus to determine the grade. I would be very glad if any of the members of the committee would come and see our inspectors at work now and compare the methods with previous methods to assure themselves. It has really got down to a scientific basis.

Mr. LOUCKS: As far as protein is concerned, it is still looked at in the hands?

The WITNESS: It is not a factor in our grading.

Mr. LOUCKS: We have no other way?

The WITNESS: Yes. You can determine the protein content of wheat in the laboratory.

Mr. LOUCKS: As far as the inspection of the wheat is concerned, I know it is not our system.

The WITNESS: All we rely on is the vitreous appearance of the kernel.

Hon. Mr. MOTHERWELL: Since Mr. Fraser came so near, according to the key, it would not look as though an unfair sample was put up.

The WITNESS: I would say it was made as difficult as possible when they inject all the wheats that are not Garnet wheat into this sample. You would never meet these wheats in a grade of grain.

Mr. BROWN: Was this a trick sample?

The WITNESS: I suspect something. Kitchener is a wheat that is practically out of existence; it is very similar to Garnet in appearance.

Mr. COOTE: There is a lot of Kitchener grown in parts of Alberta.

The WITNESS: Is there? It does not come east. It may appear in the west. It does not come east. Practically, the rust has driven it out of Saskatchewan.

Hon. Mr. MOTHERWELL: The Inspection department is always on guard, because the farmers are constantly sending in samples.

The WITNESS: Yes. I think, generally speaking, the Inspection department is enjoying quite a high reputation in the country.

Hon. Mr. MOTHERWELL: Oh, yes; everybody knows that.

The WITNESS: I make this statement in justice to a very fine arm of the public service. I think we have a very fine organization.

Hon. Mr. MOTHERWELL: There is no question about that. There is no doubt that there has been a greater study of conditions during the last few years.

The WITNESS: Yes. We have had lots of encouragement.

Mr. PERLEY: Don't you think it is essential to consider this question from the standpoint of how it is going to affect our export business? As far as the local millers are concerned and the millers milling grain in western Canada, they have a system under which they pick their wheat, and it does not matter what we do with respect to the grading of Garnet wheat, because they have their elevators so located that they can pick their wheat from districts that suit them. I know they have been discriminating against Garnet wheat. I have had experience in dealing with the millers, and I think the local millers could be cut out of the picture.

The WITNESS: Mr. Perley, you really have three conditions to consider: You have your western mills—that is the mills located west of the Great Lakes. As you say they have an opportunity to select their wheats. Then you have your eastern mills to consider. The have to take what comes out of the terminals.

That is a large part of the domestic market for wheat. They complain about the admixture of Garnet wheat in 2 Northern out of the Fort William terminals. This is their only avenue for getting western wheat. Then you have the export market which, as everybody knows, is the big end of the wheat industry and, in my opinion, is of paramount importance to the growers. With the western mills, however, they really pay more premiums for the selections.

Mr. COOTE: Will you give as your opinion the price that the farmer receives for wheat is really determined by the price of what we export?

The WITNESS: I would say without doubt in the final analysis that the maintenance of your standards on a proper plane will be reflected back on the primary price paid to a producer for wheat.

Mr. COOTE: In deciding what that proper plane is, the export market, if I may use that term, is the prime consideration, is that it?

The WITNESS: No. The Canada Grain Act describes the standards.

Mr. COOTE: I mean that in setting our standards so as to grade this wheat in a way it will bring us the most, the export market is really a greater consideration to us, if I may put it that way, than the home market?

The WITNESS: No. I would not grant that. I think under present conditions your domestic market is the only assured market you have for wheat. I think that is of importance. I would not differentiate between one and the other.

Mr. COOTE: If there is a conflict—if there seems to be a conflict, are we to consider the wishes of the home miller rather than consider the desires of the exporters?

The WITNESS: That is a question I cannot decide. That is why it is before parliament now.

Mr. COOTE: The question I am asking you is not the question that is before parliament, but I think it is a question that we have to consider in arriving at a decision here, and I was asking you your opinion.

The WITNESS: I would not like to give an opinion.

Hon. Mr. MOTHERWELL: Referring again to the key and the samples that have just been graded by Mr. Fraser so exceedingly close that you cannot help drawing attention to it, there is another side to the matter and that is the length of time that he took in making that analysis, and whether the same time would be available in grading in the regular way in a big rush of wheat. We must also consider the initial elevators. Would the average buyer have the time he had to decide what grade that is, and do you think he could come approximately near what Mr. Fraser did?

The WITNESS: Mr. Motherwell, this is a question of being on the alert. When you get a difficult sample you have to spend more time on it. The general run of wheat would not be difficult.

Hon. Mr. MOTHERWELL: No, just with those exceptions.

The WITNESS: We have to consider the practical work as well as the theoretical possibility.

Hon. Mr. WEIR: There would be a great deal of mixing of grades in the country elevators, would there not?

The WITNESS: There always is.

Hon. Mr. MOTHERWELL: Has Mr. Ramsay any idea how long it took to analyse these samples?

The WITNESS: I do not know exactly. I would say they looked over each kernel very carefully.

Hon. Mr. MOTHERWELL: Do you think that could be done in practice?

The WITNESS: They have recourse to appeal courts and all sorts of things if they are not satisfied. A man should know what he is growing. You cannot do it all for him.

Hon. Mr. MOTHERWELL: Some of them do not know, I am afraid.

The WITNESS: I am afraid not.

Mr. PERLEY: If you segregate it, would it not place the eastern miller in the same position as the western miller?

The WITNESS: Yes. He would get a run of pure wheat.

Hon. Mr. WEIR: Supposing there is a separate grade for Garnet wheat, how will that affect the price, in your judgment, ultimately and this year; will there be hedging allowed?

The WITNESS: That can be arranged. My own opinion is—and it is not worth any more than yours—that the 5 cent discount on 2 Northern fully represents it.

Hon. Mr. WEIR: Will they be allowed to hedge on the Garnet grades?

The WITNESS: Not unless arrangements are made. Arrangements can be made, though. After all, the Winnipeg Grain exchange is just as much interested in satisfactory financing as anybody else. I have found no disposition for them not to face that issue.

Mr. LUCAS: I understood you to say that hedging will be based on a spread of 8 cents?

The WITNESS: Yes. That is the maximum discount.

Mr. LUCAS: Would it be fair to say that that would represent the spread between the two grades?

The WITNESS: No. I would say that is an outside possibility. They would not want to drag the rest of the market down for the Garnet and they would set it so wide you would think it would never go there. That would be the reasoning.

The CHAIRMAN: The sub-committee charged with the calling of witnesses have presented a list of witnesses to be heard by the committee in this order: Mr. Ramsay, Mr. Newman, Dr. Tory, Dr. Birchard and Mr. Fraser. Mr. Newman is the next witness on our list.

LEONARD HOWARD NEWMAN, called.

The CHAIRMAN: Mr. Newman, what is your position?

The WITNESS: I am Dominion Cerealist. Mr. Chairman, Mr. Stevens, Mr. Weir, and gentlemen, Mr. Ramsay, very clearly and correctly at the last session, outlined the history of Garnet wheat, so I need not repeat that. I think he is to be commended on his very clear and accurate statement covering most of the important points up to the present time.

The publication of the resolution passed by the Grain Standards Board, following its meeting last November, to the effect that Garnet wheat would be graded in three separate grades, caused, as a good many of you know, considerable resentment on the part of a great many farmers who were growing Garnet, across the northern part of Saskatchewan and Alberta and also brought to the fore in a rather unusually clear way certain problems, certain information and certain complications which it would seem desirable, I think, to review fairly carefully before taking any further action. The case for the separate grading of Garnet is, undoubtedly, quite a strong one; but there is another side to this matter, and I take it that it is the wish of the committee to view all sides of the problem. So, this morning I propose to champion the opposite side; that is, that the time is not quite ripe for this particular action; and I hope to be able to submit evidence which will make that opinion look fairly

reasonable. Perhaps the whole matter might be dealt with most satisfactorily if we were to review, or to enumerate, at least, the main points which have been advanced from time to time in support of the separate grading of Garnet wheat, and also to mention those points which would appear to justify going very very carefully.

The chief arguments advanced for the separate grading of Garnet are as follows: First, comparisons made between Garnet and Marquis from a milling and baking standpoint up to date for Canadian conditions, at any rate, have shown that the former variety is not fully the equal of Marquis when Marquis is grown at its best. All who have investigated these wheats and many have been doing a good deal of work in connection with them—I think are fairly well agreed on that point; it is not fully up to Marquis for Canadian conditions at any rate. I do not propose to go into the technical side—I do not think any useful purpose would be served. I think the question is rather beyond the academic stage; it has developed into a large national question which has to be viewed very carefully. Secondly, the Canadian miller says he does not want our 2 Northern wheat in which most of the Garnet is now to be found. Three, old country millers have stated that they would prefer to have Garnet graded separately. Four, Garnet is increasing rapidly and it is assumed, but only assumed, that this means a lowering in the quality of our wheat which goes overseas. Five, it is stated that Reward, a new variety introduced in 1928 by the Dominion government, matures almost as soon as Garnet and is a wheat which could very well take the place of Garnet where early wheats are needed.

Now, let us consider briefly the reasons for considering the matter further. Garnet wheat has increased in acreage enormously in sections where Marquis and similar wheats, by reason of maturing later, are seldom able to reach the highest grades. A very large number of farmers therefore, are involved in the present question. If Garnet be graded separately, these people stand to lose heavily as the initial price for their wheat must inevitably be appreciably lower than that realized at present. This being the case, those responsible for any change must be prepared to submit evidence sufficient to warrant the action taken. They must be prepared to show very definitely that our export wheat, and especially, our 2 and 3 Northern grades, is actually suffering in reputation by reason of the heavy saturation of Garnet. It is not enough to assume that our wheat is suffering. We must produce evidence that it is suffering before undertaking any action which is going to impose heavy penalties on a large number of our farmers. If it be true that quality in wheat is quickly reflected in the prices quoted, we would naturally expect to find greater spreads between the prices quoted for 1 Northern and 2 Northern during the past two years than prevailed previously. While it has been stated that such spreads do exist, my studies of the figures submitted to me by the Bureau of Statistics at my request leave me unconvinced. Let us examine these figures if you wish. We will take the years 1924, 1925, 1926 and 1927. Garnet wheat did not start to appear very much until 1929, and not heavily until the crop years of 1930 and 1931. Now, the average spreads between 1 and 2 Northern—we have the spreads every month and we have the average spread for twelve months in each year—the spread in 1924 between 1 and 2 Northern at Fort William was 3.9; 1925, 3.6; 1926, 4.9; 1927, 5; 1928, 5; 1929, 3.2; 1930, 2.5; 1931, 3.5.

As regards Vancouver prices, starting with 1926, the average spread between 1 and 2 Northern was 4.7 in 1926; 1927, 4.4; 1928, 7.0. That was the highest year that I have observed. 1929, 2.7; 1930, 2.6; 1931, 4.7. Taking the average spread at Fort William for 1927 and 1928, omitting 1929 because of the fact that it was a sort of "between year," there was some Garnet, but we do not know how much, but we do know there was a great deal in 1930 and

1931—the average spread in Fort William was 4·9, and in Vancouver, 5·7. Taking the two last years, 1930 and 1931 the average spread, Fort William was 3·0, Vancouver, 3·7. Those figures show that the spread between the price of 1 Northern and 2 Northern at both ports mentioned is actually less during the two past years when Garnet figured largely than during the two years when Garnet could not have been a factor.

Hon. Mr. MOTHERWELL: Where did you get those figures?

The WITNESS: From the Department of Trade and Commerce.

Mr. LOUCKS: Have you any figures for 1931?

The WITNESS: The spread in the crop of 1931? I have every month up to and including December. The spread at Port Arthur was 3·5; the spread at Vancouver was 4·7. There was a greater spread there. We only have to go back to the year 1928 to find a spread of 7 cents at Vancouver as between 1 and 2 Northern and a spread of 5 cents at the Atlantic.

Hon. Mr. STEVENS: Was that spread in 1928 due to a premium paid on No. 1?

The WITNESS: I have no idea. I have not been able to satisfy myself as to exactly what they mean.

Hon. Mr. MOTHERWELL: Have you a chart?

The WITNESS: No, I have not. I brought this statement along, but have hesitated to use it on account of the fact that Mr. Ramsay has taken this matter up and is much more capable of handling it than I am, but it seems to me to be a vital point and I venture to present these figures here.

Hon. Mr. MOTHERWELL: It is what some of us have known all along.

The WITNESS: I am not altogether satisfied. I am more or less scared of statistics. So I wrote a prominent gentleman in England, Sir Albert Humphries, President of the Coxes' Lock Milling Company, whom many of you know. He has done a lot of work for us. He was the first man to do any milling and baking work overseas in 1927 before we sent over the big shipment. He is ex-president of the British and Irish Milling association, and he was on the commission of wheat supplies during the war. He was also chairman of the Research committee, having to administer the Research Institute at St. Albans, which is the technical institution for the Millers' association, and I think he is one of the most highly regarded men overseas in the milling trade. I wrote and asked him if he could give me some figures on this matter because the thing was likely to be brought up and was a matter of great importance to Canadian farmers. We had put out this wheat—the Federal Department of Agriculture—and we wanted to see that the most was made of it. So I wrote and asked him to give me some sort of statement.

Hon. Mr. MOTHERWELL: When was that?

The WITNESS: Last autumn, in November. His reply is dated March 22, 1932. I have the letter here, and I had better read a portion of it:—

I have, however, in view of what you say ascertained the average values of the Nos. 1, 2 and 3 Northern, Manitoba in the last three and one-quarter years. In doing so I have used the following method.

As you know, I keep a record of the prices of wheat and costing of flour as on the Friday night of each week.

He goes on to describe his method which he incidentally described in a paper given before the British association last autumn entitled "The Wheat Position and Outlook." He has been very much interested for years in the

question of prices and has given this matter a great deal of thought. He goes on to say:—

The result is as follows: Six months to June 30, 1929, 4·7 spread between 1 and 2 Northern; six months to December 31, 1929, 3·3; six months to June 30, 1930, $2\frac{7}{8}$; six months to December 31, 1930, 2 cents; six months to June 30, 1931, $1\frac{7}{8}$; six months to December 31, 1931, 5·5 cents; three months to March, 1932, 7·2 cents.

The above spreads are based on the old value of sterling, as it obtained in 1929, the first year for which quotations are given.

The actual figures, as quoted by Dr. Humphries, are submitted as follows:

	No. 1 Northern	No. 2 Northern
Six months to June 30, 1929.	48/3½	46/8
Six months to December 31, 1929.	54/6	53/4½
Six months to June 30, 1930.	44/11	44/—
Six months to December 31, 1930.	31/11	31/3
Six months to June 30, 1931.	25/4	24/8½
Six months to December 31, 1931.	27/—	25/2
Three months to March, 1932.	32/6	30/1

Undoubtedly, a big spread during the latter two months between 1 and 2 Northern, according to Dr. Humphries:—

I have thought it worth while to give you these figures, which shows that in spite of a full proportion available of No. 1, there is in the last nine months a far greater difference in value between No. 1 Northern and No. 2 Northern on our markets than there has previously been, but I am not quite clear in my own mind as to the moral we ought to draw, because there seems to be, at any rate on Mark Lane, almost no demand for the No. 1 grade. What this means precisely I do not know. It may be that Canadian sellers are able to maintain this difference because in the European countries affected by Quota regulations, the smallest quantity of the really best wheat may be required, and that may be the cause of the relatively high price of No. 1 Northern and the relatively small demand for that grade on the London market. Further, it happens that here the by-products of milling are selling at high prices, so that from the point of view of outturn the differences in the values of the three grades on our markets may be minimized, resulting in the English case in a relatively diminished demand for the higher grades. I will consider these points further and shall be interested in hearing how these figures strike you.

Then he says:—

You may perhaps know that we are getting practically no wheat into London shipped from the North Atlantic ports; trade has been done largely, almost exclusively, on Vancouver shipments.

Hon. Mr. MOTHERWELL: Is he referring to Vancouver shipments of 2 Northern?

The WITNESS: Two Northern. There was practically no demand for 1 Northern. The demand is almost entirely for 2 Northern, and this 2 Northern is coming from Vancouver.

Hon. Mr. MOTHERWELL: They do not seem to be gagging at it very badly.

The WITNESS: That 2 Northern wheat of the 1930 crop actually contained a large percentage of Garnet has been shown in growing tests conducted by the Cereal division of the Experimental Farm, Ottawa, of samples taken from

cargoes arriving at overseas ports. I may say that our chief interest in these matters is that we are trying to follow up the extent to which these new wheats are being handled, and in doing that we have collected considerable data which I hope may be useful in enabling the committee to come to some sort of a satisfactory solution of their present problem. In one series of 16 cargoes of No. 2 Northern wheat there was found an average of 62·39 per cent of Garnet. The steamer *Stonepool* carried the smallest percentage of Garnet, but even in this case there was actually 42·25 per cent of this variety in the cargo. The steamer *Dramatist* carried a cargo containing the highest percentage of Garnet, namely, 83·31 per cent. (See Table I in Appendix.)

Hon. Mr. STEVENS: Is that Vancouver shipments?

The WITNESS: No. That was an Atlantic shipment. In another series consisting of 120 cargoes, all of 2 Northern wheat of the 1930 crop, there was found to be 48·85 per cent of Garnet. (See Table II in Appendix.) Sixty of these cargoes were shipped via Fort William and sixty via Vancouver. The sixty ex-Fort William samples averaged 37·36 per cent of Garnet, while the sixty cargoes ex-Vancouver averaged 61·23 per cent Garnet. It is rather interesting to note, as has been correctly stated, that Garnet going out by Vancouver is undoubtedly more plentiful to-day than that going by the Atlantic. These are not estimations but actual calculations where thousands and thousands of plants were actually counted; samples were collected from cargoes going into Liverpool, and sent back here and grown on plots, and the plants, counted and the variety determined.

Mr. YOUNG: Were those cargoes taken at random?

The WITNESS: Yes.

Mr. YOUNG: Is that a fair average?

The WITNESS: I have no idea of that. We have simply given you figures of the cargoes that were investigated, and if the above tests are indicative of the wheat that is going over, I think it is fair to conclude that the wheat that has been going away for the last two years, 1930 and 1931, must have consisted of a very very high percentage of Garnet wheat.

Hon. Mr. STEVENS: How were those samples obtained? What method was adopted to get a composite sample from a cargo?

The WITNESS: We wrote Mr. Wilson, Canadian Agricultural representative, London, who was to interview importers and endeavour to collect a representative sample from each cargo. Incidentally, they are doing the same thing now and we hope to have a lot of plots growing this year showing what has gone forward in 1931.

Hon. Mr. MOTHERWELL: Then the cargoes were not picked out?

The WITNESS: Not at all.

Hon. Mr. MOTHERWELL: What was the basis upon which the selection was made—as they came along consecutively?

The WITNESS: I don't know. I simply asked them to get as many cargoes as they could. We had about 150 samples from 150 cargoes, and as far as I know they were collected at random. We wanted to find out what varieties were grown. We discovered a lot of other varieties.

In another series consisting of 23 cargoes of No. 1 Northern wheat there was found quite a sprinkling of Garnet, although this variety is not supposed to be in this grade. (See Table III in Appendix). Here are the names of the boats carrying this 1 Northern from Atlantic ports. You will see there is some sprinkling of Garnet through it. There was 13 per cent on this boat the *San Lucas*.

It might be interesting to examine a couple of charts showing the distribution of the varieties in wheat pool district. We wrote the wheat pool people and asked them if they would kindly select samples representing the average of their different grades, especially 1, 2 and 3, in their different districts. In that study we obtained information which I think may be interesting and perhaps important. Here is shown an analysis of representative grade samples of the 1930 crop from pool districts in Alberta. (See Table IV in Appendix). Here is district No. 15 from the sample that was sent to us as representing the average of grade 1 Northern shipped out of this district which takes in the Edmonton area. On this map—perhaps you can see it—we have marked out these districts, and here we find district 15 taking in the Edmonton area. This sample of 1 Northern on actual growing tests, was found to contain 42.048 per cent Garnet.

Mr. YOUNG: How could that be 1 Northern?

The WITNESS: I cannot explain that. This is what we found in this particular sample. One might possibly infer that those who have to do with inspection out in the country may not be quite as efficient as those in Winnipeg.

Mr. TOTZKE: How do you gather those samples?

The WITNESS: The pool people send them in. They represent the average samples of each grade in the elevators in each district. Two Northern—we find, contains a very heavy percentage Garnet in most of the districts, especially as we go north. In district No. 15 we get 45 per cent Garnet and 26 per cent of Marquis.

Mr. TOTZKE: Where is that district No. 14?

The WITNESS: In Alberta, just east of district 15. It takes in the Athabaska area. It is almost wholly Garnet wheat now. They tell me there that before Garnet wheat came in mostly Stanley and Ladoga were grown. Garnet has cleaned out those wheats which are certainly inferior, and since then it has occupied a strong and prominent place.

Mr. TOTZKE: Were those percentages determined by the Inspection department, or were they the guess made by the local buyer?

The WITNESS: No. The Inspection department at Winnipeg had nothing to do with these.

Mr. COOTE: In the case of the local man, it might be in a 1 Northern bin and it would be 2 Northern.

The WITNESS: This has an important bearing on the whole situation.

Hon. Mr. STEVENS: I think the committee ought to get this bit of evidence clearly. Might I draw attention to it by asking Mr. Newman a question? Perhaps it is rather a lengthy question. It will be noticed from this particular analysis that grades taken from overseas shipments out of—how many ships are there there?

The WITNESS: Sixteen.

Hon. Mr. STEVENS: Out of sixteen ships and cargoes that are named there, the percentage of Garnet appearing in No. 1 grade is, with the exception of two ships, between 500 or $\frac{1}{2}$ to 1 per cent, up to 5 per cent, or slightly over 5, which is well within No. 1 grade mark. There is no criticism of the two ships, one of which shows 9.976 and another which shows 13.002 which is above what is usually admitted as 1 Northern. But I think Mr. Newman ought to have made it clear that the two ships referred to are not really typical of the whole of the ships.

The WITNESS: No. The average of all of the 23 ships is only 3.38.

Hon. Mr. STEVENS: I think it would be most unfortunate if the impression went abroad that the Inspection department was falling down. Furthermore,

those samples are not officially chosen samples by experts who understand the sampling of wheat.

The WITNESS: No, possibly not.

Hon. Mr. STEVENS: Let us take the next chart where you have 15 districts analyzed for representative grain of the 1930 crop from pool districts in Alberta. Under the percentage of 1 Northern there are 11 districts represented. These samples, you say, were chosen by pool representatives?

The WITNESS: Yes.

Hon. Mr. STEVENS: Pool elevator operators. They were not chosen by official samplers. Out of the 15 districts in the northern grades, 14 show less than—practically less than the amount that is generally allowed, and some of them none at all of Garnet in No. 1 grade. One district, No. 15, shows an unusual amount of Garnet in numbers 1 and 2. That sample was not an officially chosen sample and should not be accepted as a condemnation of the Inspection department.

Hon. Mr. MOTHERWELL: No, no.

Mr. YOUNG: This was never graded by the Inspection department.

Hon. Mr. STEVENS: I want to make that clear. If it indicated an unusual condition, it might be inferred that in the inspection of our No. 1 grades the Inspection department was falling down.

The WITNESS: That is why I put that chart No. III in.

Hon. Mr. STEVENS: Let us have it perfectly clear that they were not official samples.

The WITNESS: Yes.

Hon. Mr. STEVENS: And as far as the series of districts where No. 1 grade is taken there is only one that is out of line really with the usual grading of No. 1 wheat, and the percentage of Garnet wheat contained in it.

The WITNESS: This chart here indicates a very wide distribution of this variety throughout all the districts in Alberta and particularly in the north. There districts (1, 2, 3 and 4) are towards the south where Garnet is not figuring strongly. Now, we have another chart for Saskatchewan.

Mr. COOTE: I notice in that chart with regard to 3 Northern there is a much larger percentage of Marquis than Garnet in certain districts. Take, for instance, district 15. How would you account for that?

Hon. Mr. WEIR: A higher percentage of Garnet No. 2.

The WITNESS: The Garnet was grading higher.

Mr. COOTE: Because the Marquis would not be suitable for that district?

The WITNESS: No. Garnet is grading higher in those districts. That is where most of the Garnet is growing. There is another reason why I want to show these charts, and that is to show that most of the Garnet seems to be going into the 2 Northern grade and so our chief consideration should be of that grade. Now, here is a table of Saskatchewan—showing the wheat pool districts. (See Table V in appendix). Here again, as in Alberta, we find a heavy percentage of Garnet throughout most of the districts, but naturally, much more heavy as you go north.

Mr. TOTZKE: Where is that No. 9 district?

The WITNESS: No. 9 district is north of Battleford. No. 8 takes in Mel-ford; No. 7 is down further south. You are getting down into the Marquis area again. No. 6 shows still more Marquis.

Hon. Mr. WEIR: Where is No. 2?

The WITNESS: No. 2 takes in the Weyburn district in the south.

Hon. Mr. WEIR: Is there Garnet down there?

The WITNESS: Not so much.

Hon. Mr. WEIR: Of 1 Northern you have 34 per cent?

The WITNESS: In district No. 2—there is really not very much Garnet grown. There was quite a percentage of Garnet in No. 2, but, personally, I do not think it is fair to emphasize that too much. I think, probably, we should keep in mind the fact that these are grade samples; they are not shipments.

Hon. Mr. STEVENS: Where did you get the samples?

The WITNESS: They would come in from the representative of the pool from that district No. 2. I think there was so little Garnet in that area that they did not bother with it very much. While it might appear a very heavy percentage in that grade sample itself, actually there might not be so very much shipped out.

Mr. BROWN: Would these pool men offer to get representative samples in the districts?

The WITNESS: We asked them to send us an average of grades 1 and 2 Northern.

Mr. YOUNG: In 1930?

The WITNESS: The crop of 1930.

Mr. YOUNG: There was a lot of grain blown out and they sowed a lot of grain a second time and they sowed Garnet because it matured quickly.

The WITNESS: Yes.

Mr. COOTE: What was the purpose of making up these charts? Was it to find out what kind of wheat is being marketed?

The WITNESS: That was our primary idea. They show, I think, that there is a very large percentage of Garnet going overseas in our 2 Northern wheat. If these cargoes then, were representative in 1930—and we must have shipped a good deal more in 1931—and if prices reflect quality, I think it is reasonable to assume that by this time we should have heard more about spreads in price on the other side. The fact remains that they are buying 2 Northern and not 1 Northern.

Hon. Mr. MOTHERWELL: Would not the conclusion you have arrived at be the natural one. Since the No. 2 Northern that goes out from the Pacific is really a composite of 1 hard Garnet, 1 Northern Garnet and 2 Northern Garnet, is not that essential? It would be an attractive buy to anybody who wanted to get 2 Northern.

The WITNESS: Yes. I think so.

Hon. Mr. MOTHERWELL: Does it not mean that?

The WITNESS: I think those fellows think they are getting excellent value.

Hon. Mr. MOTHERWELL: It is the logical thing, because they have a composite of three grades by reason of it not being permitted in a higher grade than No. 2, and the bulk of it goes in there.

The WITNESS: Yes.

The CHAIRMAN: Would it not be possible to get official grades from cars going to Winnipeg from each of these districts, from the Inspection department?

The WITNESS: We have a lot of data which we might have presented showing tests from samples collected by the Inspection department themselves. We have co-operated with them for a number of years. We have been helping them in every way we could, growing samples of which they were doubtful. They have been reciprocating in collecting samples; but for this particular meeting we could not show too many charts.

Mr. COOTE: Is not this the easiest way to get samples covering all Canada?

Mr. YOUNG: Who graded them?

Hon. Mr. STEVENS: Supposing Mr. Newman writes out to an official of the pool in some small elevator centre in the west and asks for a sample of No. 1. He may be asking in perfectly good faith, but you are not at all certain you are getting a No. 1 grade. He may have an elevator where the wheat is not officially graded and it has been graded according to the best wisdom and knowledge of the elevator official. It has not yet received the official grade. That is what rather alarms me about these charts. We have three instances here. The reason I am speaking of this is because I have heard this talked about for the last two or three months—that a ship went out and had 34 per cent, as in the case of district 2, 34 per cent Garnet. It has been talked about widely. That was not an official sample. It is not a fair criticism of the Inspection department, although it is used as evidence that the Inspection department are not doing their work properly. What I think this committee must consider very seriously in this matter: whether or not you are going to undermine, by accepting a finding of this kind, the confidence in the Inspection department and the Board of Grain Commissioners, if so you are going to do a tremendous injury to the selling value of Canadian wheat. If there is one thing above all others that we want to keep safe it is the soundness of our Inspection department. On the other hand, if there is a weakness in the Inspection department we want to know it.

Mr. COOTE: This has not been used to present any weaknesses?

Hon. Mr. STEVENS: I heard it quoted frequently in the last two months.

Mr. WEIR (*McDonald*): This is no indication of the average sample of what the elevator handled; it may be one little load that he has got in.

Hon. Mr. STEVENS: I think this is important. Let us take cargo samples. Mr. Ramsay will correct me if I am wrong. I am not an expert. As I understand it, when a ship is loading grain the sampler will draw off his sample as the wheat runs directly by him all the time until the bin is empty or until that portion of the cargo is loaded, and there he has secured a fair sample. Then he takes that sample and quarters it down to the necessary weight, after properly mixing it, and that goes in the Inspection department and is inspected. Take one of our Trade Commissioners in Liverpool, he is not a grain inspector. Mr. Newman writes and says, "get me a sample of grain out of a cargo." He walks on board a ship and takes 5 or 10 or 20 pounds of wheat, wherever he can get it, taking a handful here and a handful there. That is not a fair sample.

Hon. Mr. MOTHERWELL: Will you suggest how it should be done?

Hon. Mr. STEVENS: Certainly. I would suggest that the recognized practice of sampling adopted in this country for the last thirty years and as practised now with all the experience behind it should be followed.

Hon. Mr. MOTHERWELL: At the other end?

Hon. Mr. STEVENS: The same method. If we sample in accordance with our practice I have no objection at all, but I must say it would be most unfair to have this go on the record and be accepted. For instance, take that second item on this sheet where there are two instances out of 16 or 18 cargoes.

Mr. TOTZKE: They have nothing to do with the Inspection department.

Hon. Mr. STEVENS: As a matter of fact, these charts, taking them all the way through, show a remarkably fine result from our inspection, if you take them impartially, except in such cases as I have mentioned.

Mr. YOUNG: These charts have nothing to do with the Inspection department; they never saw that wheat.

Hon. Mr. STEVENS: I know, but this is all going on the record. This is what Mr. Newman is putting in as evidence, that he, a cerealist, has taken samples and grown them. He says the only way you can actually test whether it is Garnet wheat or otherwise is by growing it. All right, he has gathered samples from here and there at different places unofficially and he gives that result.

Mr. YOUNG: I did not understand it that way. Was this decided by that method?

The WITNESS: All of it.

Mr. YOUNG: The inspection and grading was never done?

The WITNESS: No.

Mr. TOTZKE: The grading was done on the shipment that went overseas, and you are objecting to the method of sampling?

Hon. Mr. STEVENS: Yes.

Mr. TOTZKE: Yes. I agree with you.

Hon. Mr. STEVENS: I say that if you take samples for a growing test they should be official samples taken by an inspector.

Hon. Mr. WEIR: I think we are losing sight of the important thing, one of the practical things, and that is the lack of ability to grade in the country elevators, and the question of its mixture there. The official grading will not make any difference in that wheat mixture.

Mr. TOTZKE: It will make this difference that when it goes to the sampler at Winnipeg it will not go into grade 1; it will go into grade 2.

Hon. Mr. MOTHERWELL: They are not going to lose many grades.

Mr. COOTE: You have shown here the percentage of other grades. Are there other varieties being grown that are detrimental to the quality of our different grades? I mean are there people trying to get earlier wheats than Marquis and which are not as good in quality as Garnet?

The WITNESS: I can lay before you, if you wish, a complete statement showing exactly every variety that was in these samples. (See Table VI in Appendix.)

The CHAIRMAN: I think I should suggest to the committee that Mr. Newman be allowed to complete his evidence and questions should be asked afterwards. It is only fair to the witness to allow him to do that.

The WITNESS: I hope I have made these tables clear. I have endeavoured to show that up to the present as far as the Inspection department is concerned No. 1 Northern has not entered into the picture to any worthwhile extent. I think it is rather remarkable, personally, that it has not. 2 Northern contains the great bulk of our Garnet. No. 2 Garnet is pretty widely distributed, especially towards the north, in both Alberta and Saskatchewan. The cargo analysis show that the wheat in 1930, and presumably that of 1931—the 2 Northern—must have contained and did contain, if our samples were fair, and if these cargoes were at all representative, a very heavy saturation of Garnet.

Hon. Mr. MOTHERWELL: Do you know any better way of getting your sample cargoes on the other side than the way you took?

The WITNESS: It is pretty hard to tell a man exactly how to do it and to depend on him doing it properly. I know that a good many of these samples were part of samples that were official samples or had been selected by importers for examination, and they had divided the sample. This is the sample that they were basing their decision on, part of which they were giving over to their chemist and baker. That was the sort of sample we wanted to get—a sample that they would make their own decision on. We do not know what percentage.

Mr. TOTZKE: A sample of that kind would be a fair sample.

The WITNESS: Yes.

Hon. Mr. MOTHERWELL: Have you a corresponding chart for the outgoing stuff from Vancouver as you have for the Atlantic—the outgoing No. 2 from Vancouver? What does that say? Is there any more?

The WITNESS: Yes, appreciably more; 61.23 per cent Garnet, Vancouver; 37.36 per cent Garnet at Fort William.

Hon. Mr. MOTHERWELL: Now, I would think that the next step would be the question of the relative price of these out of the Pacific and Atlantic ports. These are largely showing the spreads between them.

The WITNESS: I think I have given that.

Hon. Mr. MOTHERWELL: All right.

The WITNESS: Another matter which has possibly not received the consideration that it seems entitled to receive is this: At present our No. 1 Northern grade is not supposed to contain Garnet and investigations thus far conducted would seem to indicate that on the whole this grade is relatively free from this variety. This is a question which comes to our mind: If the inducement for mixing in country elevators is very great, as it would seem to be if the suggested spreads were to go into effect, I wonder how long we would have any 1 Northern to fall back on. Our Canadian millers claim they depend on 1 Northern. They say they look to 1 Northern for their wheat because it does not contain Garnet. The people in Scotland use a large percentage of 1 Northern. Now, if this extra inducement for mixing should exist, I wonder how long we would have any wheat in this country that would be reasonably free from Garnet.

Mr. TOTZKE: There would be certain sections where they do not grow Garnet at all.

The WITNESS: Yes. Garnet is gradually being pushed north.

Mr. YOUNG: Does any other country export Garnet except our own?

The WITNESS: No. I do not think so.

Mr. YOUNG: Do you find any disposition on the part of European buyers to buy other hard vitreous wheat from those countries that do not produce Garnet?

The WITNESS: No.

Mr. YOUNG: There is no shifting of the market?

The WITNESS: None that I can find as yet. While it is quite true that old country millers almost without exception, advocated the separate grading of Garnet as a result of investigations conducted by them in co-operation with the Canadian Department of Agriculture and the Department of Trade and Commerce in 1929, this attitude cannot be interpreted to mean that these people find this wheat substantially inferior to the wheat previously received by them in the Northern grades. It does indicate, however, that they found the wheat somewhat different, and being different it could be handled best, in their opinion, if it came to them in a relatively pure state. Furthermore the British and European millers always like to receive these different wheats separately as they wish to do the blending themselves. That was very clearly brought out, I think, in a bulletin that we published—bulletin 131—departmental bulletin, entitled "Overseas Tests of Garnet Wheat," following the conclusion of the tests we conducted with some 7,000 bushels at 21 different points in England, Scotland, France, Holland and Germany during 1929. It is perfectly natural, therefore, that millers following such practice would like to have Garnet, or any other variety which was at all different from the prevailing types of wheat now in use, graded by itself. Perusal of the report published in 1929 will show that Garnet, under

certain conditions, might occupy a larger percentage in the blend than under other conditions, which fact provided one of the chief reasons why they would like to see Garnet graded by itself. Certain of these people admitted that if it were graded separately it would have to be offered at an appreciably lower price than the corresponding Northern grades and that they would do everything in their power to maintain this spread as long as possible, although they admitted that ultimately, when this wheat came to be better known and appreciated, the difference in price would probably narrow up.

Hon. Mr. STEVENS: Why do you say that? That if it were graded separately it would have to be offered at a lower price?

The WITNESS: It was assumed by them, as by people over here, that as a trading proposal if it were put on the option at the outset it would have to be put at a price appreciably lower because it is a relatively unknown thing.

Mr. TOTZKE: Would it follow that Marquis would get a higher price?

The WITNESS: Not necessarily. It might. I cannot find any evidence to make me think that.

Mr. BROWN: How does that agree with the suggestion that the miller thought he was getting a very good buy when the high grade Garnet went into No. 2, or is that reflected in the spread of that grade?

The WITNESS: No. I do not think so.

Hon. Mr. STEVENS: Who fixes the price that a miller will pay for wheat?

The WITNESS: I will leave that question to Mr. Ramsay.

Hon. Mr. STEVENS: What puzzles me is this: If Garnet, graded separately, must bring a lower figure, how is it that Garnet graded with other wheat will not depreciate the value of that other wheat?

Mr. TOTZKE: That is the point.

Hon. Mr. STEVENS: I do not agree with Mr. Newman. I say this: If Garnet has the qualities ascribed to it, when graded separately the logical thing would be to bring a better price.

Hon. Mr. WEIR: It would be a newer commodity, for one thing, and it would necessitate a change in their mills.

Hon. Mr. STEVENS: It is not a new commodity; it is wheat, and wheat is one of the oldest commodities.

Hon. Mr. WEIR: It is a variety that is unknown.

Hon. Mr. STEVENS: That puzzles me.

Hon. Mr. MOTHERWELL: Have you any other records, any other experiments which would indicate the same idea that Mr. Banks had. Mr. Ramsay says that Mr. Banks has changed his attitude toward that, but in 1928 Mr. Banks, who is the chemist for Ogilvie's in Montreal, said that Garnet wheat would blend well with Marquis and yield an excellent flour, and probably one giving a better general satisfaction than that from straight Marquis. Have you anything further to support that; that a blend of Garnet is claimed to break down the stubbornness of the Marquis quotations?

The WITNESS: There is a good deal of evidence on record published on that point. In the overseas tests there was some indication.

Hon. Mr. MOTHERWELL: Would not that clear up that difficulty with Mr. Stevens.

The WITNESS: No. I do not think so.

Mr. BROWN: I think I appreciate the difficulty of Mr. Stevens. Is there any reason to suppose that No. 1 Garnet, under the proposed new grades, would bring a lower price than the present Garnet going largely into No. 2?

Hon. Mr. STEVENS: That is the point. Honestly, it strikes me that if Garnet has the qualities that are ascribed to it, surely a separate grade, giving you a pure wheat would enhance its value rather than deteriorate it, because, as Mr. Motherwell has pointed out, if a miller wants a wheat for blending purposes he wants that wheat and he will do the blending himself. The trouble with us in Canada is that we are doing the blending for the miller, and the miller has to sit down and consider how much Marquis or Garnet or Ruby or some other of the twenty varieties he is going to get. I am giving you my reasoning from the study I have given the subject. The purer we can keep it the higher price we are going to get on the merits of that variety.

Hon. Mr. MOTHERWELL: I asked Mr. Ramsay that same question—if he knew of any wheats, especially bread wheats, that had ever survived being segregated and he referred to Durum. Now, anybody can identify Durum. I do not think that is a bread wheat anyhow. Does Mr. Newman know of any bread wheat known as such that has ever survived being segregated?

Mr. COOTE: The point we are arguing now might very well be left to the committee to decide.

Hon. Mr. STEVENS: I asked Mr. Newman a question and he made statements based on that question that if you grade Garnet separately it will inevitably result in a lower price. Now, I would like him to state some reasons for that.

Mr. COOTE: As I understood the witness—I may have misunderstood him—he was quoting the opinions stated by millers.

Hon. Mr. STEVENS: No. He was giving his own opinion.

Mr. COOTE: I will ask the witness to repeat that last statement where he was interrupted.

The WITNESS: Certain of those people admitted frankly that if Garnet were graded separately it would have to be offered at a considerably lower price. I should, perhaps, not have said admitted; I should have said stated. They made the statement to me that in their opinion Garnet wheat would be quoted at a lower price at the outset, but they also stated that ultimately—while they would in the meantime do everything they could to maintain that spread—ultimately that wheat or any other wheat would attain the price level to which it was entitled. What a great many people in this country are afraid of is this, nobody knows how long a period of time will elapse before this wheat will attain its proper level—whether six months, a year or two years. On that wheat at its present price level there is a suggested spread, which I understand, is 8 cents between 1 Northern and 1 Garnet.

The CHAIRMAN: That was the limit.

The WITNESS: That was the limit. That was one of the prices suggested. If a spread of that sort were to start Garnet off, I cannot conceive it living very long. People would simply throw up their hands. That is one of the reasons why so many people got worked up over the whole matter and why they keep writing the letters they do.

Mr. YOUNG: Is this true, that the old country miller wants to produce a flour with a certain colour and flavour and strength? In order to do that he has a certain formula. He says, "I have put in a certain percentage of strong Canadian wheat, a certain percentage of Australian wheat and a certain percentage of home grown wheat, and so on." That percentage of Canadian wheat is put in with a view to give the flour the strength required. He can get that strength from 2 Northern containing Garnet, but when he has done that he finds that his flour is off-colour, and his whole formula is thrown out; is that correct?

The WITNESS: The practice among old country millers before they undertake any milling at all is to ascertain the composition. They are equipped with excellent laboratories, they have well-trained chemists and experimental bakeries, and they recognize at the outset that the wheat they are getting is largely an unknown quantity. They are bringing in wheat from all countries of the world—they do not know much about variety—there is often great variation. In wheats from the Argentine for instance, there is often considerable variation as between Barusso and Rosefé. This is ascertained from year to year. It was because of this variation in 1928 that Argentine wheat came up as close as it did to ours. And so these people are always prepared to accept an unknown quantity and ascertain what that parcel which they are hoping to process does contain and how it will rank.

Mr. YOUNG: Has not our wheat in the past always had a constant quality?

The WITNESS: More or less.

Mr. YOUNG: And they could depend on having a certain colour, and now they find that quality is missing.

The WITNESS: They are not worrying so much over colour; they look for colour in other wheats.

Mr. YOUNG: When they look for colour in other wheats they find that our wheat is of a different colour, then they have to put in a different proportion of the other wheat.

Mr. BROWN: When the British millers make the statements that it would sell at a lower price, do they mean that grade for grade it would have a lower price than our other wheats?

The WITNESS: Yes. That is my understanding.

Mr. BROWN: It does not necessarily mean that it would bring less money than it is bringing to-day.

The WITNESS: Possibly not; it would mean a little.

Mr. BROWN: Why a little?

The CHAIRMAN: Gentlemen, I think that in all fairness we should allow Mr. Newman to make his statements and then you can base your questions later on his statements.

The WITNESS: The overseas people who investigated Garnet in 1929, have recently been asked to advise us as to whether or not, since that date, they have had any opportunity to compare Garnet, or wheat known to consist largely of Garnet, with other wheat known to be relatively free. The replies received indicate that no direct comparison has been made since the above date, so that the attitude of those reporting previously has not been changed one way or another for the simple reason that no opportunity has been provided to justify a different opinion than that given originally. Some of these people, it is true, have stated that the wheat they have handled was very suggestive of some of the Garnet mixtures they investigated three years ago, but they had no absolute proof. This fact bears out the prediction of Dr. Kent-Jones of Dover, who in his report stated that any peculiarity in our wheat, especially as regards colour of flour, would be pinned at once upon Garnet whether this variety were deserving of it or not. This, in fact, was one of the arguments he advanced for the separate grading of this variety.

In a letter from this gentleman received in January last he says, "the very thing I was frightened of that any supposed falling-off in Manitoba wheat would be blamed to Garnet, has been hinted to me, probably without the slightest justification. It was not that I felt such remarks would be justified that I suggested a new category for Garnet wheat, but purely in the best interests of Canada."

An attempt has been made to get Old Country millers who investigated Garnet in 1929, to suggest a price differential as between the highest grade of Garnet and No. 1. One of the gentlemen suggested 8 cents. Another who is a chemist for one of the large milling concerns in Scotland, wrote as follows:—

I quite understand how useful it would be to your people if we could say that the Garnet which we tested out about two years ago was either superior to, equal to, or inferior to No. 1 grade Manitoba (Marquis), and that it would be still more useful if we could put the difference into so many cents per bushel. As far as I can see this is precisely what it is quite impossible for us to do. Not because we do not wish to do so, but because our experience of Garnet in the tests led us to the conclusion that it differed from ordinary Marquis in its behaviour in the bakery.

Here we have two prominent gentlemen, one in England suggesting a spread of 8 cents and another in Scotland saying that it is quite impossible to suggest a spread. I will say no more about that.

With regard to Reward; as already indicated one of the arguments upon which the recommendation to grade Garnet separately has been based is that we now have an early maturing wheat known as Reward, which matures almost as early as Garnet and at the same time is a type of wheat which can be milled readily with Marquis and similar types without affecting the behaviour of the resulting flour. While it is quite true that Reward can and actually is replacing Garnet in many districts, yet it is equally true that it cannot compete with Garnet from the standpoint of bushels per acre in a great many places. The figures at our experimental stations do not indicate a very big spread between Garnet and Reward in yield on the average, but realizing that the stations only represent a relatively small type of country in each case, we started out as far back as 1924 to have these varieties compared by selected farmers in outlying districts, and since that time many hundreds of farmers have been conducting tests on all types of land. We have been following them up, and a great number of these men have been inspected every year. We have our own notes on relative performance of these varieties and we have reports back from the men themselves. We have hundreds and hundreds of letters and reports from men who have been conducting these tests. We have five-pound samples for milling and baking tests, and from many of them we have all those data on record also. Now, the sum and substance is that while Reward is doing remarkably well in some places, in other places it is almost a failure. It has been advised by some of the responsible committees in the west that north of a certain line Reward should not be grown. I have taken the view that that is rather dangerous advice to give. I know to some men that advice would cause a great deal of feeling. I have had letters from people who have said that following the discussions which have taken place on Garnet wheat they have changed to Reward. One gentleman expected 6,000 bushels last year and he got 600. His neighbour, across the road, who stayed with Garnet got a full crop of something like 42 bushels per acre. To give advice of a general nature to men living north of a certain imaginary line—men who have suffered as that man suffered—would place the giver of the advice and his Department in a very unenviable position. One of these men wrote from North Battleford on March 16, 1931, as follows:—

In reading a newspaper report of the Cereal Variety committee of the Conference of Sask. Agronomists Reward wheat is recommended for district "A" in place of Garnet. Whilst this variety may be suitable for parts of the district the fact is overlooked that there are districts within districts where this is not correct. I happen to be in one myself.

I have grown Garnet wheat since 1926 and after farming here over 25 years must say it is the most satisfactory, in fact with the exception of Ruby, which I replaced with Garnet, is the only wheat that has given me satisfaction. To replace this variety with Reward is practically going back to Marquis which variety I quit growing 10 years ago. Garnet has yielded exceptionally well—31 bushels per acre, 5 years average and top grades except in 1927, when it yielded 22.6 per acre when most of the Marquis was left uncut. I agree that Reward is a better milling wheat, but it has had practically only 2 years trial here in field lots and these have been 2 exceptional years but it has not proved as heavy a yielder as Garnet.

Other people have been much more pronounced in their statements. I do not think it is necessary to read their letters. They indicate that insofar as Reward is concerned it will not replace Garnet everywhere. But I do think that Reward is going to expand very rapidly in places to which it is suited, and I may also say that the department is doing everything in its power to give Reward the very best chance possible. We have many selections of Reward, and a number of them are going out this year for a specially comprehensive test. We are sending them out to some of the university people, including Dr. Aamodt at Edmonton. We find quite a spread in yield. We hope that there may not be too much susceptibility to smut, because Reward has that feature. Then, also we have circularized between four and five hundred farmers on our list who intimated that they were rather afraid of Reward on account of smut. We have advised them not to change too quickly; that if they have trouble with Reward and are thinking of dropping it on account of smut we advise strongly that they use clean seed, and we have enclosed a list of two or three hundred farmers whose fields were inspected last year by representatives of the Dominion Seed Branch and which were found to be relatively free from smut. We believe that many of these men, if they will get some good Reward seed, will probably stay with the variety.

A survey of reports received from each electoral district in the three provinces indicates quite clearly that Reward is gaining ground and has revealed also the fact that the present difficulty may conceivably adjust itself in the near future without hurting anybody. I have summarized the opinions of men residing in electoral districts such as Prince Albert, Melford, and North and South Battleford, and in other northern areas and find that these varieties apparently are finding their place. Reward is going to take a bigger place. I would like in conclusion to repeat that in my judgment, at any rate, there does not seem to be sufficient evidence at the moment to show that the value of our No. 2 Northern in relation to 1 Northern and in relation to the 2 Northern of pre-Garnet days is not as a whole regarded overseas as it was before Garnet came to occupy so large a place. In view of this fact, together with the fact that if Garnet were graded separately a large number of farmers in western Canada I feel sure, would stand to lose heavily at a period when they can ill afford to lose, it is extremely doubtful whether it would be advisable to take any definite action as yet.

It is hardly necessary to state that the Cereal Division which I represent is keenly alive to the importance of maintaining quality at all costs. At the same time it realizes its obligation to western farmers who have taken this wheat. We are trying to develop wheats which men can grow in this country. We are following them up in order to see how they are developing, and we naturally are loath to see any action taken which is going to result in an injury of any sort to these people unless it be absolutely imperative.

Mr. YOUNG: You spoke about spreads between 1 and 2 Northern in different years—in 1928 as high as 7 cents in Vancouver. Can you tell us what are the factors that determine that spread?

The WITNESS: I cannot say.

Mr. YOUNG: In 1928 the bulk of the wheat was frosted in the west.

The WITNESS: Yes. A lot of it.

Mr. YOUNG: Might that have any influence on it?

The WITNESS: One of the big spreads was in the month of February, 1928. The frosted wheat would not figure there. It was 10·2 cents.

Mr. YOUNG: That would be in the 1927 crop.

The WITNESS: Yes.

Mr. COOTE: Are you giving the calendar years.

The WITNESS: The calendar years.

Mr. PERLEY: Does the quality of the crop influence the spread every year?

The WITNESS: I think as a general principle, that, is true.

Mr. PERLEY: You might have a year where you have very little 1 Northern and a great quantity of 3, 4 and 5. There would be a premium on the 1 Northern. Next year the condition might be the opposite.

The WITNESS: The quality in other countries too has a great deal to do with it.

Mr. COOTE: With regard to the months you mentioned in 1928, that would be the 1927 crop of wheat?

The WITNESS: Yes.

Hon. Mr. MOTHERWELL: A lot of the 1927 crop was bleached and that was what made the spread.

The WITNESS: In 1927?

Hon. Mr. MOTHERWELL: Yes.

The WITNESS: Yes. In June 1928 the spread was 10·04 and by November it had fallen to 2·2, 2·7 in December.

Mr. YOUNG: I understand that at the present time the spread between 1 and 2 of our wheat in Liverpool which came from Vancouver is greater than the spread between 1 and 2 of our wheat at Liverpool which came from Fort William. Can you explain that?

The WITNESS: That is a situation which very frequently occurs, and you will find a larger spread in some of those years before Garnet appeared at all.

Mr. YOUNG: You think the presence of Garnet had nothing to do with it?

The WITNESS: Absolutely. I do not think one could conclude from this evidence that Garnet enters into the story at all.

Mr. YOUNG: In that letter you read from Dr. Humphries he stated there was practically no demand for our 1, Northern?

The WITNESS: Yes.

Mr. YOUNG: Now, is this true that the English miller is looking to our wheat for strength in his flour?

The WITNESS: Yes.

Mr. YOUNG: If he can get that strength in Garnet equally with Marquis and if Garnet be graded as No. 2 he can get all he wants out of our wheat by buying No. 2 and consequently he ignores our No. 1.

The WITNESS: Apparently he is finding No. 2 entirely satisfactory for his purposes and it is a better buy than No. 1.

Mr. YOUNG: It is going to shoot our No. 1 off the English market and compel us to sell all our No. 1 to our Canadian mills; is that right?

The WITNESS: No. I think it is a good deal a question of spreads. There is a degree of spread between 1 and 2. They say that 1 is out of line. No. 2

is a better buy and is good enough for their purposes. No. 1 is in demand on the continent for blending purposes. They have to bring in this No. 1 over a high tariff wall and naturally they want the best because they have to pay the same rate irrespective of the grade.

Hon. Mr. MOTHERWELL: Would the big demand for No. 2 have a tendency to put it up until it is on a parity?

The WITNESS: Yes certainly.

Hon. Mr. STEVENS: You have an anomalous position with the high demand for No. 2 and the wide spread.

Mr. YOUNG: Yes.

Hon. Mr. STEVENS: We have a big demand for No. 2. Mr. Newman says there is practically no demand for No. 1 in Britain but we have a wide spread. In Liverpool the spread is wider.

Hon. Mr. MOTHERWELL: Dr. Humphries explained that it was the demand for No. 1 that shoved the No. 1 up.

Mr. YOUNG: He said that the high price ruined the demand for No. 1. Why does the high price prevail?

The WITNESS: No. Strange as it seems, he says, "I have thought it worth while to give you these figures, which show that in spite of a full proportion available of No. 1 there is in the last nine months a far greater difference in value between No. 1 Northern and No. 2 Northern on our markets than there has been previously, but I am not quite clear in my mind as to the moral we ought to draw because there seems to be, at any rate on Mark Lane, almost no demand for No. 1 grade. What this means precisely I do not know."

Mr. LUCAS: Should not that narrow the spread between 1 and 2?

Hon. Mr. STEVENS: It ought to if normal factors were dominating.

The WITNESS: But the high price of No. 1 in relation to No. 2, together with the satisfactory results obtained from No. 2 would seem to explain the action of the British miller. If he can get what he wants for less money he will buy it.

Mr. COOTE: I hope Mr. Newman will be available to us again if we want to ask him further questions.

The Committee adjourned to meet Tuesday, April 12, at 11 o'clock a.m.

APPENDIX "A"

TABLE I.—ANALYSIS OF GRADE SAMPLES FROM OVERSEAS SHIPMENTS OF 1930 CROP

PER CENT NO. 2 NORTHERN

Variety	Steamship																Average
	Dramatist	Geo. Washington	Stone-pool	Londonier	Brad-fyne	Cape Horn	Colonial	Counsellor	Abraham Lincoln	Mabriton	Janeta	Nurtveton	Tacoma City	Fanan Head	Adalia	Kenbone Head	
Marquis.....	6.996	8.740	35.778	17.500	16.352	20.081	11.968	16.020	10.278	18.156	29.640	4.788	10.534	29.808	8.177	34.560	18.522
Garnet.....	83.316	77.740	43.254	55.500	63.656	68.182	78.144	58.206	71.375	56.604	48.360	66.848	81.524	48.576	66.045	45.120	63.396
Reward.....					5.256		1.408	4.272		0.534	1.560	0.684	3.664	0.552	2.516	0.320	1.248
Other good quality wheats.....	6.996	11.040	11.214	22.000	12.264	12.807	7.040	19.757	14.846	20.292	18.720	21.888	1.832	18.216	15.096	12.480	13.823
Medium quality wheats.....		0.460	0.534	2.500			0.704			1.602		2.736		0.552	0.629	0.640	0.624
Poor quality wheats.....	2.544	1.380	8.544	2.000	2.336	1.868	0.704	1.602	3.426	2.670	1.960	3.420	1.832	1.104	7.548	6.720	3.185
Miscellaneous.....		0.460	0.534	0.500									0.458	1.102			0.197

TABLE II.—SUMMARY OF VARIETAL COMPOSITION OF SAMPLES COLLECTED FROM 120 DIFFERENT (BOAT) CARGOES, 1930 CROP

Variety	2N. from Fort William	2N. from Vancouver	Average of both ports	3N. from Fort William	3N. from Vancouver	Average of both ports
Marquis.....	36.89	15.31	26.54	48.45	31.44	39.68
Garnet.....	37.36	61.23	48.85	21.35	26.77	24.15
Reward.....	1.36	0.61	1.00	1.04	0.55	0.79
Other good quality wheats.....	16.04	15.94	15.97	19.28	28.64	24.12
Medium to poor quality bread wheats.....	2.69	0.72	1.74	1.93	1.32	1.61
Poor bread wheats.....	5.32	6.05	5.67	7.65	10.99	9.38
Other kinds of grain.....	0.07	0.06	0.07	0.18	0.14	0.16

TABLE III.—ANALYSIS OF GRADE SAMPLES TAKEN FROM OVERSEAS SHIPMENTS OF 1930 CROP

PER CENT NO. 1 NORTHERN

Variety	Steamship											
	Selma City	Ben Franklin	Colonial	Abraham Lincoln	Pacific Shipper	Stonepool	Theodore Roosevelt	Bradfyne	Dansterdyk	Frumentum	Nurtu- veton	Lan- castria
Marquis.....	27.720	58.880	69.000	64.410	68.640	65.762	50.500	83.482	52.290	58.800	63.810	78.275
Garnet.....	2.970	4.608	0.500	2.260	5.280	0.502	2.525	4.690	.....	5.880	3.545	3.535
Reward.....	0.990	1.536	0.500	.....	1.440	.....	3.030	.....	.....	.....	1.418	0.505
Other good quality wheats.....	58.410	30.720	29.000	31.105	22.560	33.132	41.410	8.911	31.955	33.320	28.360	17.675
Medium quality wheats.....	.....	1.024	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Poor quality wheats.....	9.900	3.072	1.000	2.260	1.920	0.520	2.525	2.814	15.687	1.960	2.836	.....
Miscellaneous.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Variety	Steamship											
	Cape Horn	Delft- dyk	Pacific Exporter	Diecht- dyk	Holy- stone	San Lucas	London- ier	Kenbane Head	Fideli- tas	Fanan Head	Carlton	Average
Marquis.....	85.698	50.490	79.488	65.155	45.600	54.963	62.810	81.900	56.650	79.192	29.160	62.353
Garnet.....	.....	1.683	2.760	1.026	9.576	13.002	.....	2.250	2.575	2.605	4.860	3.380
Reward.....	.....	2.805	1.656	.....	1.368	0.591	0.571	.....	2.060	0.521	.....	0.822
Other good quality wheats.....	12.260	42.636	13.248	29.241	40.128	27.186	30.834	13.950	36.050	13.546	69.940	29.829
Medium quality wheats.....	.....	.....	.....	0.513	0.456	.....	1.713	.....	0.515	.....	.....	0.182
Poor quality wheats.....	1.863	2.244	2.760	3.078	2.736	4.137	3.426	1.350	2.060	4.168	4.860	3.286
Miscellaneous.....	.....	.....	.....	1.026	.....	.....	0.571	0.450	.....	.....	1.080	0.137

TABLE IV.—ANALYSIS OF REPRESENTATIVE GRADE SAMPLES OF THE 1930 CROP FROM WHEAT POOL DISTRICTS IN ALBERTA

PER CENT IN GRADE 1 NORTHERN

Variety	Districts									
	1	2	3	4	6	7	8	11	15	
Marquis.....	71.544	79.464	74.934	57.477	55.594	75.802	35.564	8.730	44.968	
Garnet.....				0.833	1.672	4.016	6.276	0.970	42.048	
Reward.....	3.252	1.204	0.543	0.833	2.926		27.719		0.584	
Other good quality wheats.....	16.547	10.234	19.005	39.984	39.710	14.558	27.196	72.750	8.176	
Medium quality wheats.....	0.813	4.816					1.046	8.730		
Poor quality wheats.....	8.943	4.214	5.430	0.833		5.020	1.569	7.760	3.988	
Miscellaneous.....							0.523	0.970		

PER CENT IN GRADE 2 NORTHERN

Variety	Districts										
	1	2	3	4	5	6	7	8	10	14	15
Marquis.....	80.850	39.096	33.117	37.524	62.006	41.208	63.832	16.983	41.616	1.008	26.480
Garnet.....	2.940	21.720	40.089	43.884	18.662	49.692	1.896	64.787	19.074	86.688	45.678
Reward.....			11.039			1.212		4.403		1.008	11.254
Other good quality wheats.....	9.535	31.856	12.782	15.264	18.060	7.274	29.704	12.580	38.726	6.048	15.888
Medium quality wheats.....	0.735		1.162								
Poor quality wheats.....	5.880	7.240	1.743	3.180	1.204	0.606	4.428	1.258	0.578	4.536	0.662
Miscellaneous.....										0.504	

PER CENT IN GRADE 3 NORTHERN

Variety	Districts										
	1	2	3	4	5	6	7	8	11	14	15
Marquis.....	62.110	63.440	74.520	64.584	83.122	47.040	77.056	45.333	31.620	19.600	31.494
Garnet.....		0.793		29.187	1.794	27.636	1.204	38.502	28.560	53.900	25.521
Reward.....							3.612			5.390	17.376
Other good quality wheats.....	32.915	31.720	21.735	3.726	12.558	22.932	15.652	14.904	31.620	19.600	22.263
Medium quality wheats.....							0.602			0.490	
Poor quality wheats.....	4.968	3.965	3.105	2.484	2.392	2.352	1.806	1.242	8.160	0.490	2.715
Miscellaneous.....			0.621							0.490	0.543

SELECT STANDING COMMITTEE

TABLE V.—ANALYSIS OF REPRESENTATIVE GRADE SAMPLES OF THE 1930 CROP,
FROM WHEAT POOL DISTRICTS IN SASKATCHEWAN

PER CENT IN GRADE 1 NORTHERN

Variety	Districts								
	1	2	3	4	5	6	7	8	9
Marquis.....	63.480	32.175	84.907	77.625	40.685	73.308	76.755	37.686	65.960
Garnet.....	0.529	34.749			6.695		1.190	1.142	
Reward.....	27.508	2.574			21.115	0.492	2.380	23.982	7.480
Other good quality wheats	5.290	29.172	14.654	7.425	29.870	19.188	18.445	35.402	24.480
Medium quality.....	0.529	0.429		6.075	1.545			1.713	
Poor quality.....	1.587		0.431	8.775		6.396	1.190		2.040
Miscellaneous.....	0.529	0.858				0.492			

PER CENT IN GRADE 2 NORTHERN

Variety	Districts								
	1	2	3	4	5	6	7	8	9
Marquis.....	56.720	70.028	73.444	70.875	48.190	50.320	70.329	35.700	5.256
Garnet.....	19.852	22.386	10.836	2.700	29.280	27.200	12.411	44.268	75.555
Reward.....	2.836				5.490		0.591	2.856	8.541
Other good quality wheats	14.180	5.740	10.836	24.300	12.200	14.280	14.364	11.424	9.198
Medium quality.....	1.418				0.610			0.714	1.314
Poor quality.....	4.963	1.722	4.816	2.025	4.270	8.160	2.364	4.998	
Miscellaneous.....									

PER CENT IN GRADE 3 NORTHERN

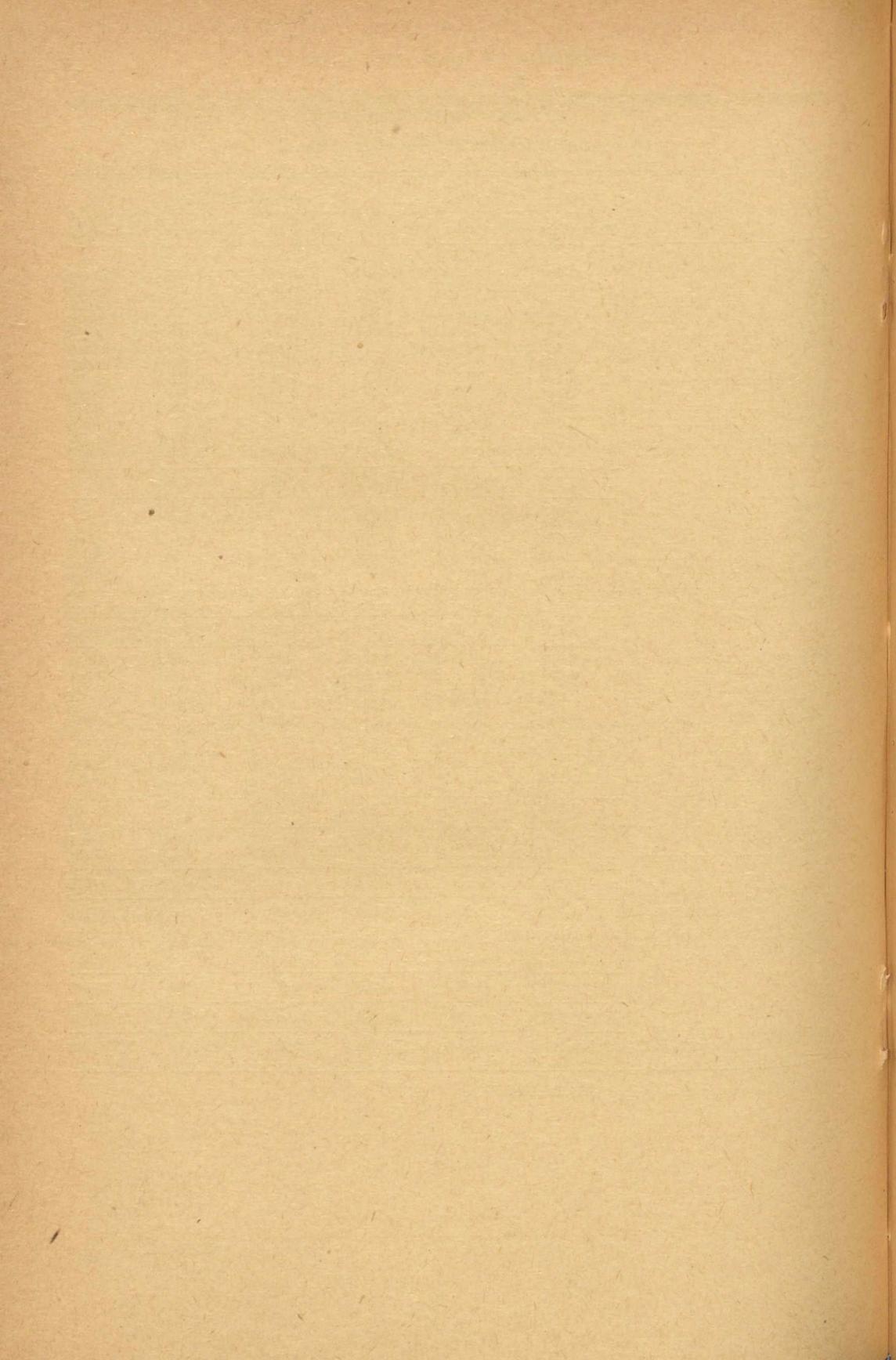
Variety	Districts								
	1	2	3	4	5	6	7	8	9
Marquis.....	87.360	82.265	88.605	79.055	68.040	65.314	68.887	58.734	40.140
Garnet.....	8.512	0.854	5.370		18.522	5.780	9.841	20.582	18.837
Reward.....								3.012	4.914
Other good quality wheats	2.688	12.383	4.833	14.065	8.316	23.120	16.654	5.020	22.133
Medium quality.....							1.514	0.502	
Poor quality.....	0.448	2.562	1.074	6.790	4.536	5.202	3.028	11.546	4.914
Miscellaneous.....	0.896	0.854			0.378	0.578		0.502	

TABLE VI.—SUMMARY OF VARIETAL PERCENTAGE COMPOSITION OF CHIEF GRAIN INSPECTOR'S SAMPLES 1931

Data Collected from 120 Different (Boat) Cargoes

Variety	2 Northern from F. William	2 Northern from Vancouver	Average of 2 Northern	3 Northern from F. William	3 Northern from Vancouver	Average of 3 Northern
Marquis.....	36.894	15.318	26.546	48.451	31.436	39.688
Red Fife.....	4.543	2.257	3.447	6.814	3.274	4.990
Ruby.....	0.585	0.189	0.395	0.296	0.727	0.518
Renfrew.....	0.858	0.612	0.740	1.276	0.663	0.960
Red Bobs Sel.....	2.145	7.406	4.674	2.688	14.530	8.798
Kitchener.....	0.565	0.253	0.415	0.159	0.449	0.309
Ceres.....	1.072	0.654	0.872	1.937	1.669	1.799
Pioneer.....	0.487	0.021	0.263	0.068	0.128	0.099
Early Red Fife.....	1.404	1.076	1.247	0.911	1.498	1.214
Type IC.....	3.802	3.291	3.559	4.216	5.243	4.747
Garnet.....	37.362	61.232	48.854	21.354	26.771	24.155
Kota.....	0.624	0.232	0.436	0.957	0.492	0.717
Reward.....	1.365	0.612	1.003	1.048	0.536	0.794
	91.706	93.153	92.451	90.175	87.436	38.788
Huron.....	0.097		0.050			
Preston.....	0.136		0.071			
Stanley.....	0.858	0.654	0.760	1.093	0.834	0.960
Quality.....	0.078		0.040	0.139		0.077
Parker's Sel.....	1.521	0.063	0.821	0.683	0.492	0.585
Fisher's Sel.....						
Axminster.....						
	2.690	0.717	1.742	1.935	1.326	1.612
Ladoga.....	1.072	1.477	1.267	1.458	5.435	3.510
Federation.....	0.195		0.101	0.022		0.011
Miscellaneous.....	3.705	3.460	3.569	5.378	4.922	5.144
White Russian.....	0.234	0.759	0.486	0.433	0.321	0.375
Early Russian.....				0.022		0.011
Java.....						
Percy.....						
Broatch's Sel.....					0.021	0.011
Vermilion.....	0.019		0.010	0.113	0.107	0.110
Norka.....						
Red Club.....	0.078	0.337	0.202	0.205	0.107	0.154
Marquillo.....						
Speltoid.....	0.019	0.021	0.020		0.035	0.044
Durum.....				0.022		0.011
	5.322	6.054	5.675	7.653	10.998	9.381
6 Row Barley.....	0.058	0.021	0.040	0.136	0.107	0.121
2 Row Barley.....						
Tame Oats.....	0.019	0.042	0.030	0.045	0.021	0.033
Wild Oats.....					0.021	0.011
	0.077	0.063	0.070	0.181	0.149	0.165
	99.795	99.987	99.938	99.944	99.909	99.956
Represents in bushels.....	2,682,163	1,994,828	4,676,991	965,533	1,420,249	2,394,782

Figures represent a total of 7,071,773 bushels.



SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND REPORTS

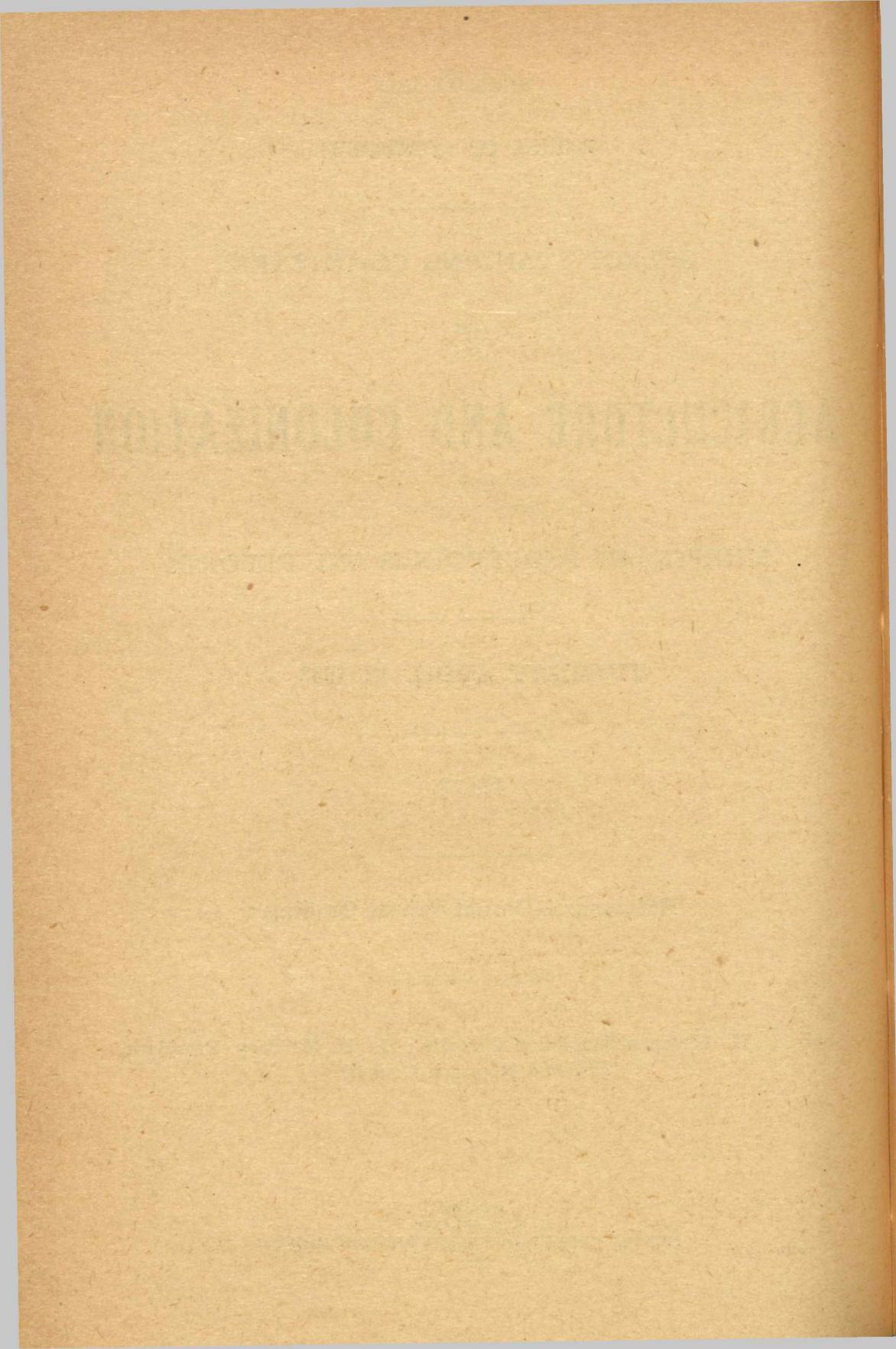
TUESDAY, APRIL 12, 1932

No. 3

Reference,—Garnet Wheat Grading.

Mr. L. H. Newman, Dominion Cerealist; Dr. H. M. Tory, President,
National Research Council.

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1932



MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,

TUESDAY, April 12, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock in the forenoon.

Mr. Senn, the Chairman, presiding.

Members present: Messieurs Barber, Bertrand, Blair, Bouchard, Bowen, Boyes, Brown, Carmichael, Cayley, Coote, Donnelly, Loucks, Lucas, McGillis, McKenzie (*Assiniboia*), McPhee, Motherwell, Mullins, Perley (*Qu'Appelle*), Pickel, Porteous, Senn, Shaver, Simpson (*Simcoe-North*), Smith (*Victoria-Carleton*), Spotton, Sproule, Stirling, Swanston, Taylor, Totzke, Vallance, Weir (*Macdonald*), Young—35.

Mr. L. H. Newman (Dominion Cerealist), recalled and questioned on evidence given at the previous meeting.

Witness retired.

Dr. H. M. Tory, President of the National Research Council of Canada, presented the report of the Associate Committee on Grain Research with respect to the grading of Garnet wheat.

The Committee then adjourned until Thursday, April 14, 1932, at 11 o'clock in the forenoon.

A. A. FRASER,

Clerk of the Committee.

MINUTES OF EVIDENCE

HOUSE OF COMMONS, ROOM 368,

April 12, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock to consider the order of reference of the committee on grain standards to the Department of Trade and Commerce. Mr. Senn, presiding.

The CHAIRMAN: Gentlemen, at the conclusion of our last meeting we were listening to Mr. Newman who had not completed his statement when we adjourned.

Mr. L. H. NEWMAN, recalled.

The WITNESS: Mr. Chairman and gentlemen, at the last meeting two or three questions were raised which were not answered quite satisfactorily on account of the absence of certain correspondence and records, and a statement was made which was not quite complete, and as frequently is the case statements so made may be misinterpreted or misunderstood. At the meeting last Thursday, Mr. Ramsay made this statement:—

Some time ago some samples were submitted for analysis to our Inspection Department. The matter was taken up direct with the Chief Inspector, the person doing so apparently not understanding that the proper way to approach that proposal was through the board. I have strong objections to matters involving the policy of the board or of the government going through minor officials. So, as the proposal was not in such form as was proper in my opinion we carried out the work and then we did nothing about it for reasons which I will explain to you. These samples were manufactured samples designed, I presume, with the express purpose of finding out whether the statement that was made with regard to the grading of Garnet wheat was accurate. That is to say, they were composed in such a manner as to make the separation as difficult as possible. The key to these samples was not placed in the board's hands. I find myself in this position that if I allow the Inspection Department to do this and it should be wrong, then I come down to the Agriculture Committee and lay before that committee the facts which I have laid before you and then I am confronted with this situation, I would find myself in a very awkward position. I doubt whether these people realize the position they are putting the Board of Grain Commissioners in. I have very strong objections to enquiries being conducted in the manner this inquiry was. I am glad to say however, that yesterday the key to these samples came into my hands and I propose to lay before you the analysis of our Chief Inspector which was made in February and has been in Ottawa since then, and also the key to the samples as they were composed.

I purposely refrained, Mr. Chairman, from referring to the possible difficulties which may attend any attempts to grade Garnet separately since Mr. Fraser, who will appear before you, would appear to be the proper person to deal with a question of this kind. However, since the sincerity of the Department of Agriculture which I represent has been questioned, and since it is important that all facts which have a bearing on the problem now before you should be presented I think it my duty

to tell the whole story. I need hardly say that the person referred to as having committed the grave offence of sending samples to Mr. Fraser for identification was myself.

Last January when I was in Winnipeg I had with me a roll of forms such as this, summaries of some of which I attempted to show you at the last meeting, and I went over these in detail with members of the Board of Grain Commissioners and particularly with Mr. Fraser, the chief inspector. I was of the opinion that these data should be helpful in the solution of this problem. Mr. Fraser was very much interested. On my return I received from him the following letter dated January 14. Here is the original letter.

The results that you obtain from these experiments, showing the different varieties are very interesting and valuable, and I wonder if I could have a copy of the results which you showed me while here this week of these samples, also of the ones originating at Liverpool, as this is the only way that facts as to the composition of Canadian crop can be ascertained with any degree of certainty.

In view of Mr. Fraser's own statement, surely there was some justification for concern on the part of those vitally interested in this whole matter.

In early February a meeting was held in Ottawa composed of representatives of the Department of Trade and Commerce and the Department of Agriculture for the purpose of considering this matter to some extent further. Those present included the Minister of Trade and Commerce and the Minister of Agriculture.

The CHAIRMAN: When was that?

The WITNESS: February, 1932. Mr. Ramsay, Mr. Fraser and myself were the other parties present. In the discussion which took place, and having in mind Mr. Fraser's statement, I dealt at some length with this question of whether or not it is practicable in the rush of the grading and inspection season to efficiently, effectively and satisfactorily determine the percentages of Garnet which may be in a given sample. I appreciate and recognize very fully indeed the ability of our splendid Inspection staff, but there is a limit, I think, beyond which one can go. I stated on that occasion that I have had a great deal to do with wheat and wheat varieties for the past twenty-five years. I have been considered good enough to judge at the Chicago International upon three different occasions, and yet I would not presume to say that I could tell within a very wide per cent how much Garnet would be in a given sample; and, therefore, I thought it was a matter very vital to this whole undertaking if, later on, an attempt should be made to grade Garnet and it should be discovered that some bad flukes had been made. It would be rather a serious matter. I had on that occasion a number of samples. I told those present I had them and said I would be very glad to have anyone show me that they could make these separations because I was still unconvinced. The Minister of Trade and Commerce asked Mr. Fraser to show what he could do. Mr. Fraser attempted to do so, but as it was not possible in the time as his disposal it was not a very fair test, as Mr. Stevens suggested the other day. However, after Mr. Fraser returned to Winnipeg I wrote him the following letter:—

FEBRUARY 9, 1932.

Mr. J. D. FRASER,
Chief Grain Inspector,
Grain Exchange Building,
Winnipeg, Man.

DEAR Mr. FRASER,—When in Ottawa last week you did not have an opportunity of demonstrating your ability to determine the percentage of Garnet which might compose a given sample of wheat. As I think a

great deal of the success of any attempt to handle Garnet in separate grades depends upon the ability of your Department to demonstrate that it can come within even reasonable distance of saying what percentage of Garnet may be present in a given sample, I am sending you a number of samples by concurrent mail and would be very glad if you or your staff would take the time to tell me just what percentage of Garnet is contained in each of the said samples. Farmers are saying that it simply can't be done, that is, it is impossible to say what percentage of Garnet may be contained in a sample of wheat, or even to come within reasonable reach of what is actually contained therein. This is a matter which can either be verified or refuted, and it seems to me that it is important to be able to tell these farmers just what you can do in the event of your being required to apply separate grades to the above varieties.

Personally, I am coming to think that it would be a very difficult matter to apply these separate grades except, possibly, in those districts where it is known that Garnet predominates almost to the exclusion of everything else. Trouble, however, would start once this relatively pure Garnet found its way into an elevator where other sorts were being handled.

The samples I am sending you have been grown in the West and are quite typical of what one would have to consider. Sample No. 1, for instance, was grown in the Swan River country and is fairly typical of the wheat grown in that area.

We know exactly what each of these samples consists of from a variety standpoint, so will look forward with much interest to your findings. The results should be useful to all concerned.

Yours very truly,

Dominion Cerealist.

Nothing more was heard of this matter until reference was made to it by Mr. Ramsay last week. Following Mr. Ramsay's evidence I addressed the following letter to him at his hotel here in Ottawa:—

APRIL 5, 1932.

Mr. E. B. RAMSAY,
Chairman, Board of Grain Commissioners,
Ottawa.

DEAR MR. RAMSAY,—Judging from the discussions which took place this morning in the Agricultural Committee *re* Garnet wheat, one must conclude, I think, that a doubt exists on the part of many as to the ability of anyone, no matter how skilled he may be, to distinguish between Garnet and other types of wheat when mixed together. No one, however, who is at all familiar with the splendid staff you have at Winnipeg in the Inspection Department would think for a moment of casting any reflection upon the said staff. On the other hand, I am convinced that the great rank and file of those who have to do with wheat will feel that there is a limit as to the ability of anyone, no matter how highly skilled he may be, to say what percentage of Garnet may be present in a given sample. Fortunately this is a matter which may be proven.

On February 9th last I wrote Mr. Fraser and sent him a number of samples of wheat for identification. I enclose herewith a copy of said letter. I also enclose Mr. Fraser's reply, dated February 23rd.

I may tell you, confidentially, that I hesitated in sending Mr. Fraser these samples, as it looked as though I was trying to put him in more or less of a box. However, I hoped that he, as well as others concerned, would conclude that my one and only desire was to have some sort of concrete evidence that this work of separating Garnet from the other varieties could be reasonably well done.

I enclose herewith the key to the material I sent Mr. Fraser so that you may compare the actual content of each sample with Mr. Fraser's statement as to what he considers each of the said samples contained. If you find that he came reasonably close to the actual situation I think it would be advisable to have this recorded in the proceedings of the committee now sitting. If it should happen on the other hand that he has not come as close to the mark as you think desirable, you can make such use of the information as you see fit. I am not asking to be advised of the above findings, but it should be useful to you to know what it is possible to do with respect of the identification of these mixtures.

Trusting you will conclude that my one desire is to assist you and your Board in every way I possibly can in connection with its various problems, and assuring you of our readiness to co-operate in future in any way you may suggest, I remain,

Yours very truly,

L. H. NEWMAN,

Dominion Cerealist.

Reference has been made to the fact that these samples were manufactured. There were nine samples, five of which were exactly as they were sent us. From these samples we drew samples for growing tests. They were not changed in any way. The sample I will first refer to was the sample sent in from Pool district, No. 15 in Alberta. You will recall that that particular sample contained 43 per cent of Garnet and 44.5 per cent of Marquis. Incidentally it was sent us as grade 1 Northern. It had nothing to do, however, with the Inspection department. That was the sample, however, which was supposed to represent the average of the 1 Northern shipped out of or graded in district No. 15, which takes in the Edmonton district.

Mr. VALLANCE: That is the sample sent out to the local buyer on which to base his grading?

The WITNESS: No. What we asked for from the pool officials in order that we might have an idea as to the distribution of Garnet throughout the area was that they send us average samples representing each grade—each of the grades 1, 2 and 3 Northern for each of the pool districts in each of the three provinces.

Mr. TOTZKE: This was graded by one of our local buyers?

The WITNESS: Yes. The Inspection department had nothing to do with that.

Mr. VALLANCE: Is it not always the practice with the grain trade including the pool, each year to send out to the buyers a sample of wheat on which they must base the grading of all grades?

The WITNESS: I understand so.

Mr. VALLANCE: Is that where these samples came from?

The WITNESS: No. This is the sample representing the average of what was actually graded.

Mr. YOUNG: Do you mean to say that wheat was graded? That is only that man's guess of what it would grade, is it not?

The CHAIRMAN: That is the basis on which the payment was made, was it not?

Mr. YOUNG: It had nothing to do with the Inspection department. The wheat had not been graded. You cannot say it has been graded until it has passed the Inspection department.

Mr. VALLANCE: We have a Standard Board that sets the standards and, based on the standards set by the Standards Board, all the grain companies send out samples to their various buyers.

Mr. BROWN: I think we all understand it.

Mr. VALLANCE: I do not think so.

By Mr. Donnelly:

Q. You said that the sample contained so much—something around 40 per cent of Garnet and 40 per cent of Marquis; who mixed them in that proportion?

—A. That was just as they came to us.

Q. How did you know that?—A. We made the growing tests. The plants were actually counted, and no guess was involved.

By Mr. Coote:

Q. I think it would clarify the statement if it was said that this was the grading done by local buyers, but it could not be called efficient grading?—A. That is it exactly. I want to make that clear in fairness to the Inspection department; the latter had nothing to do with the grading of this sample.

Q. It is quite a common thing for a farmer after he has sold his load of wheat to say that it was garded No. 1 or No. 2. It is graded as far as he is concerned?—A. Yes, as far as he is concerned; but technically it is not graded.

Mr. LOUCKS: Would it be possible to say that that agent would have sent the samples to the Inspection department to see what they graded the grain samples?

The WITNESS: Conceivably.

Mr. VALLANCE: He would do so when he bought his first load to see how he was buying?

The WITNESS: The point I wish to make is that these fine samples—were not tampered in any sense of the word except to pick samples from them and grow them in plots to determine the exact percentage of Garnet in each; if any. The other four samples we did make up—they were not considered manufactured—one contained 100 per cent Ruby and another 100 per cent Garnet. This was done simply with a view to giving Mr. Fraser an opportunity of working on them.

Hon. Mr. MOTHERWELL: How long a time elapsed between the time you sent the samples to Mr. Fraser and the return of what he considered was the composition thereof?

The WITNESS: I wrote Mr. Fraser on February 9, and I have his reply dated February 23rd in which he says:

Separations to determine the Garnet contents have been made, and the results have been turned over to the Board for whatever use they wish to make of them, as the matter of separate grades for Garnet is now in the hands of the Minister of Trade and Commerce, and the Board's.

Mr. TOTZKE: You got no report from Mr. Fraser?

The WITNESS: None at all. He did not commit the crime of which I apparently am guilty; he reported to the proper official, and we heard nothing more about it until the other day.

By Mr. Porteous:

Q. What was the statement made with regard to the samples being doctored?

—A. I used that word the other day. The proper word I wrote was “manufactured” not “doctored”—may I read the statement again? “these samples were manufactured samples, designed, I presume, with the express purpose of finding out whether the statement that was made with regard to the grading of Garnet wheat was accurate.”

Q. Does it mean designedly?—A. It means that they were fixed up, which they were—four of them were, five of them were not; five of them came in exactly that way.

Mr. DONNELLY: And with regard to those five that were referred to, the grades were set by the local buyer and the farmer was paid according to that grade fixed by the local buyer?

The WITNESS: Yes. The local buyer.

Sample 5, came from district 8 in Saskatchewan and was graded, 2 Northern. It contained 44 per cent Garnet, 35 per cent Marquis and 21 per cent other varieties; sample 9, came from wheatpool district No. 4 in Alberta, graded 2 Northern and contained, 43·8 per cent Garnet, and 37·5 per cent Marquis. These data are all referred to in my evidence of last week.

Mr. PORTEOUS: There were four of those samples which were fixed?

The WITNESS: Yes. No. 1 sample consisted of Parker's and Reward. We made up that sample because in a certain district in Manitoba there is a wheat known as Parker's which, under certain conditions, especially as grown in that area, resembles Garnet rather closely. Reward is also grown in that area. These two varieties are quite commonly found together. Not having a very satisfactory sample we made up a sample such as we thought would represent the condition an inspector would run into. The next sample contained one-third Marquis, one-third Garnet and one-third Bobs; three varieties which, especially in Alberta, are found together. No. 3 we have discussed. No. 4 consisted of 100 per cent Ruby. No. 5 we have dealt with. No. 6 was 100 per cent Garnet. No. 7 contained 20 per cent Garnet and 80 per cent Ruby. In certain areas these two varieties, being both early, are found frequently together. Frequently, also, Ruby will assume something of the appearance of Garnet. The fourth sample contained two-thirds Reward and one-third Kitchener. Kitchener does not appear so very often now, but sometimes in certain districts it is fairly common and resembles Garnet rather closely some years. If you have no further questions on that point, there are two or three questions that were not answered very fully last week, and I would like to deal with them.

When giving evidence before this committee at its last sitting, on April 7th, I presented the results obtained from growing tests of samples of wheat obtained from three different sources, namely: First, from cargoes arriving in Great Britain, secondly, from boats leaving Fort William and Vancouver and thirdly, from or through officials of the Wheat Pool. These figures seemed to indicate quite clearly that the 2 Northern wheat which was shipped from Canada to Great Britain during the autumn months of 1930 and during the early part of 1931 contained a very high percentage of Garnet. In the discussion which took place the question was asked as to how these samples were actually obtained and whether or not they could be regarded as official. Since we have been collecting samples for a number of years and have been in correspondence with a number of people during that period, I was not quite sure in the case of the overseas cargoes as to whether or not all of those under discussion had been obtained in an approved manner. I knew that some of them had, but was not in a position to state definitely at that time whether they had all been collected in a manner which could be considered as entirely beyond question. The

Minister of Trade and Commerce, and rightly so, emphasized the importance of having samples properly taken and asked that it be recorded in the proceedings that these samples were unofficial samples and therefore inferentially the figures submitted should not be taken too seriously. I regret Mr. Chairman that I was unable at the time to answer this question definitely, otherwise much valuable time of your committee might have been saved.

Since the above meeting I have looked up our records and I find that all of the overseas samples discussed on Thursday last, without exception, were collected through Mr. W. A. Wilson, Agricultural Representative for Canada, in London, who in turn placed the whole matter in the hands of one of the most reliable organizations in Great Britain, namely, the Liverpool Corn Trade Association. The Secretary of this association, namely, Mr. Urquhart, gladly took it upon himself to secure reliable samples from incoming cargoes. All data, therefore, which I submitted last Thursday which had to do with these overseas shipments, were obtained from material collected directly by or through Mr. Urquhart and therefore the samples must be regarded as official. Those who are familiar with the methods of sampling and the general methods of procedure of the Liverpool Corn Trade Association will hardly venture to question this statement.

With regard to the samples of 2 and 3 Northern wheat obtained from boats leaving Fort William and Vancouver between November 6, 1930, and March 20, 1931, I am also pleased to be able to assure the Minister that these samples must be regarded as official. As a matter of fact, this series of cargoes, totalling in all 120, were sampled by his own staff and therefore, presumably, are beyond question. Since a good deal of importance was attached to this matter on the occasion of the last sitting it would seem desirable that the records of the proceedings be corrected. To this end I beg permission, Mr. Chairman, to submit the correspondence covering the collection of these particular lots. On March 30, 1931, I telegraphed Mr. E. B. Ramsay, Chief of the Board of Grain Commissioners, as follows:—

Mr. MOTHERWELL: This year?

The WITNESS: March 30, 1931:

“Can you have half pound samples grades 2 and 3 Northern wheat collected at Vancouver and at Atlantic Ports sent us for growing tests to determine varietal composition. We can handle up to total of 200 if here April 15. Information gained probably useful for Standards Board meeting this summer.

That was the Standards Board meeting held in November last at which meeting it was decided to recommend that Garnet be graded separately. I may say that although I am a member of that Board I was not present at the meeting, not having had any intimation that the Garnet question would come up. I simply received this wire:—

Meeting western committee on grain standards called for 15th October at Winnipeg.

That is signed by J. Rayner, Secretary, Board of Grain Commissioners.

I had a great deal of data obtained from the growing tests of samples submitted by the Board of Grain Commissioners which I hoped to submit on the occasion of the first meeting at which Garnet would be taken up, and which I hoped would be useful to the Board in coming to a decision, but I did not have the opportunity of presenting them—at least, I did not know that Garnet would be brought up, and on account of certain reasons which I need not go into, I was not present at the meeting. I thought it was one of the ordinary meetings where standards only would be discussed.

The CHAIRMAN: I suppose you did not have any reason to think they would not be discussed.

Mr. LOUCKS: I notice that you give the dates for the meeting of the Standards Board as the middle of October and November 1. That seems to be awfully late for the Standards Board to meet, doesn't it?

The WITNESS: That may be. That is a matter for the Board of Grain Commissioners.

On the following day, March 31, I wrote Mr. Ramsay confirming this wire. On April 7 I received a letter from the Board of Grain Commissioners signed by the Secretary, Mr. J. Raynor, acknowledging the receipt of the letter and advising as follows:

Arrangements have now been made to forward you the samples requested.

On April 9, 1931, I received the following note, signed by Mr. Fraser, Chief Inspector:—

I have forwarded to you by express samples as per the enclosed list as requested in your letter to the secretary of the Board of Grain Commissioners.

You will see from that, gentlemen, that those samples from the 120 cargoes were collected in a proper manner by the proper officials and must in every sense be considered as official.

In submitting the results of our growing tests of these samples the Board submitted a list of the boats from which each sample was taken, together with the date of sailing and the quantity of wheat carried in each case. The chart which I presented last week attempted to summarize our findings, but I am of the opinion that a very inadequate idea either of the real situation or of its significance was given. Since these particular cargoes leaving these two leading ports of Canada during the four-month period indicated should give us a very fair idea as to the percentage of Garnet going forward, I shall with your permission deal with them a little more in detail.

Let us take first this sheet dealing with cargoes of 2 Northern leaving Vancouver between the dates November 6 and March 20, 1931. On November 6 the steamer "Seattle" left Vancouver with 8,850 bushels of wheat of which 55.5 per cent was Garnet. On November 14, the boat called the "Knute Nelson," left Vancouver with 33,600 bushels of wheat of which 51.5 per cent was Garnet.

Mr. COOTE: Do you give the grade?

The WITNESS: It is all 2 Northern.

The boat "Panama" left Vancouver 17 with 32,333 bushels of which 63.63 was Garnet. The "Bitterfield" left on November 18 carrying 454,995 bushels of which 78.18 per cent was Garnet. That was the highest percentage of Garnet found in any cargo. The steamer "Simonburn" leaving November 18, 1930, with 37,333 bushels of which 74.676 was Garnet. I will not give you them all. The boat carrying the lowest per cent of this whole series was the "Knute Nelson" with 51.51 per cent of Garnet. The highest percentage was 78.18. The average of the whole 30 cargoes was 61.25.

By Mr. Vallance:

Q. Going out from Vancouver?—A. Yes. Going out from Vancouver during the dates mentioned.

Q. Would that indicate to you that there are many growing Garnet that we do not know about?—A. Undoubtedly.

Mr. DONNELLY: Does not this indicate that there is more Garnet grown in Alberta than in any other place?

The WITNESS: One might infer that. I think, undoubtedly, there is, because I have another sheet showing 2 Northern going from Port Arthur which shows very appreciably less Garnet.

Mr. CARMICHAEL: Would the balance of these cargoes be chiefly Marquis?

The WITNESS: I have the complete list if you wish it included; it gives all of the varieties.

The CHAIRMAN: There was a summary included in the last day's report in appendix A. Do you want these four tables to be put in?

Mr. VALLANCE: I do not think so. Before you proceed, Mr. Newman, I notice you have only dealt with grades 2 and 3. Have you in your grading tests, tests of No. 1. I ask that for the reason that in the statement made by Mr. Ramsay he pointed out very emphatically, trying to prove that the Inspection department was so efficient that all No. 1 wheat had only tested 4 per cent Garnet wheat. Have you tested it out?

The WITNESS: Yes. We have tested some, and there is a record in the evidence which I gave last week, that we have not found as yet very much Garnet in No. 1 except in an odd case, nothing to signify. As I tried to bring out, the inducement for Garnet to go into 1 Northern is not as great as it might be if graded separately and if the big spread which has been suggested were to come into effect.

The question was asked as to the amount of Marquis present. Let us examine a few more cargoes! The "Steele Inventor" left Vancouver December 18th, with 34,500 bushels containing 6.4 per cent Marquis and 62.95 per cent Garnet.

By Mr. Coote:

Q. What would be the rest of that one cargo?—A. That one cargo contained a little Red Fife, 1 per cent, the different selections of Red Bobs, 12.98 per cent, Early Red Fife 4.5 per cent, another selection of Red Fife that has been grown to some extent, 2.5.

Q. That is good enough.

Mr. SWANSTON: That wheat is from Alberta, is it not?

The WITNESS: The bulk of it.

I need not go over all these 120 cargoes, but that will give you some idea.

Mr. DONNELLY: I was not here at your former meeting. Is there any complaint of these grades on account of the Garnet wheat, coming from the old countries?

The WITNESS: You mean in the old country?

Mr. DONNELLY: Yes, complaints about too much of this wheat in our grades in the old country?

The WITNESS: That question was asked Mr. Ramsay the other day and answered by him. I think he referred to one or two complaints that had been made. I will speak of that again in a moment.

In round figures, the percentage of Garnet found on the 30 boats was as follows: 62; 55; 60; 51; 63; 78; 74; 60; 63; 59; 58; 57; 71; 62; 59; 65; 59; 58; 64; 52; 57; 56; 58; 61; 65; 57; 56; 58 and 54. These thirty lots, as I have already mentioned, average 61.23 per cent.

The CHAIRMAN: Are those Vancouver cargoes?

The WITNESS: Yes, Vancouver cargoes, all 2 Northern. The No. 3 Northern shipped out of the same port, namely Vancouver, for the same year contained only 26.77 per cent Garnet. In this case the lowest per cent of Garnet carried

by any boat was 14·61, while the highest per cent carried by any one vessel was 40·41 per cent. Here again as in the case of No. 2, however, there was a remarkable uniformity in the distribution of Garnet throughout the 30 cargoes, although, as has been indicated, the percentage was very much lower on the whole than in No. 2.

I have before me the complete data regarding the 30 boats carrying 2 Northern out of Fort William, as well as those carrying 3 Northern out of the same port. I shall not take your time in placing all of these figures before you unless you so desire, but will be glad to submit them for inclusion in the records of this investigation. I might repeat, however, that the 2 Northern going out of Fort William, according to these data, is very much less than that going out of Vancouver.

I have taken considerable time in endeavouring to show that throughout the autumn of 1930 and the spring of 31, 2 Northern wheat shipped out of Vancouver particularly, contained a very high percentage of Garnet. I have stated that it would seem only reasonable to suppose that this grade of wheat produced in 1931 may be expected to contain even a higher percentage of this variety because of the fact that a large part of Western Canada, which normally does not produce Garnet, produced very little wheat during the past season. I have presented the argument, for what it is worth, that if there was anything very seriously the matter with Garnet there would have been more complaints by this time, and in all probability there would have been a greater spread in price between 1 and 2 Northern than that which exists to-day. If, on the other hand, we should discover that real complaints do exist and that these complaints are proven to be due to the presence of a large percentage of Garnet in the wheat, then I would say we would be justified in going to any length in order to correct the situation.

During the past few months I have been in communication with a number of prominent Old Country chemists who had to do with the commercial shipment which was investigated overseas in 1929, with a view to obtaining their own private views, as to just what Garnet might be doing. I naturally hoped that nothing serious would be found, but on the other hand realized that it was vitally important to Canada to know the truth, no matter what that should be.

Since our last sitting, last Thursday, I received quite a long letter from Dr. Jas. Sword, Chemist of the Scottish Co-operative Wholesale Society of Glasgow, Scotland, a gentleman whom I highly esteem and one of those to whom I wrote seeking information. This letter, Mr. Chairman, I consider a most important one. While it may not appear to support the side which I chose at the outset to take in the present discussion, yet that is quite immaterial as in matters of this kind one must be absolutely impartial. With your permission I shall read it:

SCOTTISH CO-OPERATIVE WHOLESALE SOCIETY LIMITED

GLASGOW, SCOTLAND,

April 1, 1932.

L. H. NEWMAN, Esq., B.S.A.,
 Dominion Cerealists,
 Central Experimental Farm,
 Ottawa, Canada.

DEAR MR. NEWMAN,—Some time ago you wrote to me on the subject of Garnet Wheat. At the time, you were anxious to have my opinion on the status which ought to be given to Garnet, and also on the possibility of applying certain suggested methods for the purpose of obtaining the desired information.

Since the new crop wheat arrived, we have been very dissatisfied with the strength of the No. 2 cargoes. On occasion circumstances have compelled us to use these heavily in our grists, and whenever this has occurred we have had serious and almost universal complaint from our customers. If this is not directly connected with your query on Garnet, it would appear to be a very closely related problem, illustrating what will happen if Garnet is included in the ordinary grades, and in any case one demanding very serious consideration by those responsible for the reputation of Canadian Wheat.

Naturally this inferiority of No. 2 has given us grave anxiety, and we have been at some pains to detect the cause of the inferiority. There is no doubt in my mind regarding the immediate cause of the weakness. Wheats with a protein content of about 10·8 per cent (giving a straight run flour with about 9·8 per cent protein) will not stand up satisfactorily to quarter sponge baking even if the gluten quality is good, and in at least six recent parcels of No. 2 the gluten quality has been inferior, rather soft, lacking in elasticity, and withal somewhat short. These characteristics were found to be repeated in the doughs and sponges in the bakery tests. The short doughs worked badly and kept the baker in suspense all through the bakery process, and ultimately gave a badly cracked loaf of low volume, and with a pasty line above the bottom crust. Strangely enough the water absorption and bread yield are quite satisfactory.

On the primary cause I am not prepared to be so dogmatic, but I have very strong suspicions, and tolerably good reasons for concluding, that the trouble begins with the inclusion of certain weak varieties in No. 2 grade which are excluded from No. 1. I do not mean to infer that this is a new practice. It was very well defined throughout the 1930-31 crop in which the protein of No. 2 was consistently 1 per cent or more below No. 1, with one or two very outstanding exceptions. It would appear that the variety of wheat, so degraded from No. 1, underwent an alteration with the change of crop. Either the variety was different, or it had been adversely affected by weather conditions during the season and was relatively weak compared with the crop of the previous year. It is noteworthy that the parcels from Vancouver were most affected.

From several of the inferior parcels I have separated out what I consider to be the offenders. I have in hand a series of protein tests the results of which I will forward to you for consideration. I shall also post to you a few of the grains which I have separated out, with the hope that you may be able to estimate the percentages of the varieties which are present in each. If you will be kind enough to let me know the results of your analyses I would be at once much interested and very much obliged.

It is quite possible that all these results and defects may have no connection with Garnet Wheat. The parcels in question may be found to contain not one grain of Garnet. If such indeed proved to be the case it would only show that the "high grade" Northern wheats in recent times were being spoiled by the inclusion of another variety of very weak character, and that the result, which I feared might take place if Garnet were added, has actually occurred with this weak variety, and is rapidly undermining the hard won reputation of Canadian Wheats as the leading wheats of the world for strength.

That being so I take the liberty of attempting to describe to you, in brief outline, the way in which we have been affected by the deficiency in strength of No. 2, and how it will probably rebound in the near or more distant future to the disadvantage of Canada.

Hitherto we have always regarded No. 1 and No. 2 as above suspicion. We have considered it reasonable, that, where seven grades of wheat are recognized, No. 2 could be regarded as thoroughly reliable, and possessing more than sufficient strength for the long process baking adopted in Scotland.

It must be obvious that where parcels are not bought on sample, this confidence is an essential foundation for any business transaction between countries so far separated as Scotland and Canada, especially Vancouver.

The present consequence is that the S.C.W.S. purchased large quantities of a top grade, No. 2, which proved to be much inferior in strength to that required for quarter sponge baking, indeed it was inferior in strength to the low grades. It can hardly be denied that we have a very real grievance, but it is, of course, one which finds no redress in the Canadian Grain Acts. These parcels of No. 2 have caused more dissatisfaction among our customers than we have experienced in the course of years. Not only were they unable to produce good bread under normal conditions for the long process system, when used alone, but they so impaired the strength of No. 1 that the mixture caused almost universal complaint.

For some years past the opinion has been growing in this country that Canadian wheat does not possess the strength that it used to do. My own connection with the milling industry has not been of sufficient duration to warrant my offering a personal opinion, but I cannot deny that the experience which we have just had with No. 2 Northern (and we are not alone in this, I understand) has provided an irrefutable justification for the statement, and will undoubtedly leave a permanent mark on the reputation of Canadian wheats as a whole. The repercussion of this will not come immediately. For the moment we will buy more heavily in No. 1 which is still satisfactory, but it must not be imagined that bakers, whose jobs have been in peril for no fault of theirs, will forget this experience readily.

Canadian representatives have not infrequently asked why we continue a baking process which requires such great strength in the flour. They seem to fail to realize that the long process system as used in Scotland is the best friend that the Canadian wheat grower has, for nothing else is so satisfactory for the long process as good strong Canadian wheat. Many others are asking the question, and there is a decided movement in Scotland away from the long process to the short process in bread baking. The recent experience of weak Northern wheats will accelerate this movement, and it becomes important that for the short process Canadian wheat is not essential for good results. Thus the position has actually been created regarding which I expressed a warning in my letter to you on Garnet grading.

I will be much interested to know whether or not Garnet is in any way responsible for the falling off in strength. As far as the S.C.W.S. is concerned it is not of great importance. They are concerned only with the fact that at least half a dozen parcels of No. 2 wheat, shipped from Vancouver between the beginning of November and the end of December, 1931, contained an extremely unsatisfactory type of wheat. That this type was almost entirely absent from contemporaneous shipments of No. 1 would appear to show that it can be eliminated during the ordinary grading processes. That being so we are of opinion that it ought to have been further degraded.

When one examines the report issued by Dr. Birchard in October, 1931, one does not find any indication that No. 2 may be expected to have a low protein. I find that the lowest average for No. 2 protein is

12.9 per cent (Alberta). All others are over 13 per cent. The Winnipeg Standard average is 12.6 per cent. In that same report one is surprised to find that wheats containing only 9.9 per cent protein have graded as high as No. 1. Presumably these are local samples, and clearly there may be a case, on occasion, for allowing a low protein wheat to enter a high grade—a mixture of a very high protein No. 1 and a low protein No. 1 might conceivably make a very good No. 1 mixture. But if low protein wheats are allowed to enter the top grades, it involves the responsibility of ensuring that the outgoing top grades never fall below a certain protein content. That is, of course, if Canadian wheats are to retain their reputation for strength.

The importance of the strength factor in grading can hardly be over-emphasized, and I should like to mention one other aspect which we sometimes feel is not fully appreciated by your authorities. During the last few years we have had occasion more than once to lodge an official complaint regarding the quality of certain cargoes. On every occasion we have been referred to the Canadian Grain Acts. Perhaps we ought not to expect any other reply, but surely those responsible do not really imagine that they are protected in the world's market by the requirements of the Grain Acts. Nor must it be thought that we are so foolish as to imagine that the Canadian authorities would ever dream of grading wheat to suit the baking processes peculiar to Scotland. But we have always assumed that those responsible for the grading of Canadian wheats knew and admitted that Canadian wheats were valued highly because they were second to none in strength. They had other good qualities, but these were always secondary to the quality of strength, and yet, as far as I know, strength is never mentioned in the Grain Acts. That it is not mentioned in the requirements does not alter the fact that it is obviously essential that the various grades recognized should meet a specific demand in the milling trade. If this were not so, all the expense and time involved in grading would be wasted.

Again it would be ideal if the qualities of the various grades could be retained immutable from year to year, but, under the present scheme, that is perhaps impossible. As customers, however, we feel that we are justified in expecting that the one absolutely indispensable quality of a top grade Northern should be the strength which has always been the characteristic feature of Canadian Wheat. Other qualities will be looked for also, but that must be the first essential.

If this can no longer be relied on, then purchase on sample will be required, with all its attendant inconveniences and disadvantages to all concerned.

I have written at some length—I hope not excessively so—that I might interest you in certain aspects of the matter, not new, but perhaps for the moment in danger of being overlooked. I have made the remarks in the spirit of co-operation, that perchance unofficially, we might achieve more mutual benefit than by making an official complaint which is only too apt to produce antagonism on both sides.

I remain,

Your very sincerely,

JAS. SWORD.

Mr. TOTZKE: Did that letter indicate where the 2 Northern came from? Whether from Vancouver or Fort William?

The WITNESS: I think he said it came from Vancouver. He is collecting samples from a number of these lots which he had taken and is sending them over to us in order that we may grow them and help them as well as ourselves in the solution of this present question. These samples will be grown this year. I may say that we hope to have a large number of samples grown this year. Samples have already been selected officially from outgoing boats from Vancouver and Fort William carrying the crop of 1931 chiefly, and we will have these data compiled for our next Standards Board meeting if they are wanted. We think they should be useful. As a member of the Standards Board, I for one, want to have something definite to work on rather than mere hypothesis, especially in a question of this kind which is a large national one.

Mr. CARMICHAEL: Were those reports of Mr. Fraser's and the samples you sent given to this committee at the last meeting?

The WITNESS: Yes.

By Mr. Porteous:

Q. Is it your opinion, Mr. Newman, that the grading of Garnet wheat would encourage the increase of Garnet production in western Canada?—A. No. I think the effect would probably be the opposite, especially if the spread in prices, as has been suggested, between 1 Garnet and 1 Northern should be established. In that case I think a large number of people would drop Garnet.

Q. You are of the opinion that Garnet would not sell as high as Marquis?—A. It would not at first; it would not until it reached its level; until people come to appreciate its value.

Q. Will it ever reach its level if production were not increased?—A. It depends on how much it is decreased. If there was enough going forward to give people a chance to give it a thorough trial it would reach its level. But the fear I have is that it would require too long to reach that level and many people would suffer in the meantime.

F. J. BIRCHARD, called.

By the Chairman:

Q. Dr. Birchard, what is your position?—A. I am chemist for the Board of Grain Commissioners. Mr. Chairman, I have not prepared any lengthy statement for your consideration with regard to the relative merits of Marquis and Garnet wheat, but with your permission I will briefly state my position in this matter and I will then be glad to answer any questions you may care to put to me in so far as I am able to do so. Sir, may I say that I am not here to take sides one way or the other in this question. My duty as I conceive it is simply to state my findings and to leave the rest to the committee. As to milling quality, Garnet is undoubtedly different; that is admitted by everyone. It requires to be handled differently from Marquis—must be conditioned differently and receive somewhat different treatment during the milling process. One must learn how to use it in order to get the best results. In this connection the laboratory at Winnipeg has conducted a careful series of experiment to determine the best possible procedure to be adopted. Having once learned this procedure, no difficulty whatever is experienced in the milling, and the yield of flour obtained is practically the same as with Marquis. As to baking quality, Garnet flour is also different from Marquis—the dough is stiffer, the loaf volume smaller and the colour somewhat yellower, and judged by the ordinary standards the baking quality of Garnet flour cannot be considered equal to 1 Northern. And it was for this reason that some years ago I recommended to the Board that Garnet should be excluded from the 1 Northern grade. I would here like to point out,

however, that it would be very easy to exaggerate and overemphasize these difficulties, as has been done, I think, on some occasions. The main point to be considered, as has already been pointed out by Mr. Ramsay is not so much that Garnet is markedly inferior to Marquis, as that it is a different type, and requires different treatment. It can, however, very successfully, within limits, fully replace Marquis. Thus, when Garnet is blended with Marquis up to about 30 per cent the baking quality is in no way impaired, and may on occasion actually be improved. Also, Garnet may successfully replace Marquis for blending with soft low protein flours—that is up to a certain limit. In our test this limit was found to be about 40 per cent of the hard flour present. If this percentage was not exceeded the loaf volume texture and colour was the same as in Marquis. It is of particular interest to note that the yellow colour of Garnet was completely lost when the flours were blended in this manner. So that the yellow colour of Marquis loses much of its importance and scarcely needs to be considered. In any case, no difficulty is encountered in bleaching if a whiter flour is desired. These are, I take it, the main points to be considered.

With your permission, Mr. Chairman, I should like to very briefly refer to my experience with the millers overseas. When the Department of Agriculture made the shipment of Garnet wheat to Europe I accompanied Mr. Newman, but confined my attention for the most part to the tests in Holland and Germany. I was not able to visit all the mills in these countries when the tests were made, but I was able to obtain first-hand knowledge in most of them. I will confine my remarks to those cases with which I am thoroughly familiar. The plan I adopted was first to visit the mill and talk over the problem with the Ducton and Lead miller, and draw up a plan in consultation with him. I paid a second visit at the time the actual millings were made and discussed the results with the directors. I paid a third visit after the flour had been stored a while and when the baking tests were carried out. In this way I became thoroughly conversant with all stages of the investigation. I first visited the De Maas mill at Rotterdam. The general conclusion reached by the organization is given on page 69 of the report and reads as follows:—

The milling and baking trials with Garnet wheat carried out on the large commercial mill "DeMaas" indicate that Garnet wheat differs from the other varieties of Canadian wheat, first as regards the hardness of the kernel and consequently requiring a somewhat different treatment preparatory to milling, and secondly as regards the colour of the flour, which is decidedly yellow.

When the percentage of Garnet wheat in ordinary Manitoba grades does not exceed 15-20 per cent there would be no objection from the miller in Holland—higher percentages up to 50 would be objectionable—over 50 per cent we would consider quite unsuitable for the conditions prevailing in this country.

The yield of flour obtained from Garnet is satisfactory, and there is no decided objection to its milling properties even when present in mixtures with other Manitoba wheat, up to 50 per cent—though in our opinion it would be preferable to keep the Garnet separate. The chief objection is to the baking volume and poorer quality of the gluten. The milling characteristics are a secondary consideration.

In conclusion it is our opinion that it would be a decided mistake to include more than 25 per cent in the ordinary Manitoba grades; if higher percentages were present we would be compelled to substitute Kansas hard winter for a portion of our ordinary Manitoba. If graded separately we would not ordinarily be prepared to pay more than 5 cents per bushel under the price of the Manitoba IV with which it was compared.

Mr. BROWN: What do you mean when you say they would not be prepared to pay more than 5 cents a bushel?

The WITNESS: That is what the directors stated to me.

Mr. BROWN: Five cents per bushel under the price of Manitoba No. 4?

The WITNESS: Yes. They said that. It should be remembered that grade No. 4 in that crop was a very good one, in fact, they told me they preferred the No. 4 to the No. 2; that the protein content of No. 4 was higher than No. 2, and they preferred it for that reason.

By Hon. Mr. Motherwell:

Q. That was not regular No. 4; that was the No. 4 of 1928, and exceedingly good No. 4. How do you mean that they would not use No. 2?—A. It was cheaper; they would not buy any No. 2. No. 2 was almost unsaleable at that time; it was so expensive.

Q. There was no such thing; it was all frosted?—A. There was some No. 2. I remember in Berlin when I was there at that time there was a considerable amount in the country and they could not get rid of it.

It is clear from this that the DeMaas people were not particularly pleased with Garnet as a substitute for Marquis. The next mill I visited was at Cologne. Although I was largely responsible for the plan of investigation adopted at this mill, I must confess I was not altogether satisfied with the results, that I was unfamiliar with the baking methods adopted and quite unable to interpret the results. The chief point in which I was interested was the important conclusion drawn by the mill chemist and stated on page 65 of the report that "Garnet is not able to withstand the test of blending with weak gluten wheat." Since the methods adopted for reaching the conclusion were so different from those used in this country I arranged to have a special series of tests made at another mill in Germany where methods very similar to our own were employed. I will refer to this later. I then proceeded to Soest. This mill belongs to the Plange group, two other very large mills being situated at Hamburg and Dusseldorf. Tests were conducted at all three mills, but since the Soest mill was the smallest this one was selected for making the commercial tests. The conclusions drawn are noted on page 58 of the report. I next visited the Bienert mill at Dresden. This is a very well known milling organization bearing an excellent reputation and with a very fine laboratory in charge of a well trained chemist. The directors of the mill took more than ordinary interest in this investigation and instructed their chemists to make it as complete as possible. I was particularly interested in the results since the methods employed closely resembled those commonly used in Canada. I will read from the conclusion drawn at page 58 of this report:—

In conclusion, it may be said that the differences in actual value between the different mixtures was not great although we are of the opinion that it might be desirable to restrict the percentage of Garnet in Manitobas so that not more than 50 per cent of the latter would consist of the former variety.

We are also of the opinion, as a result of these tests, that the presence of Garnet in Manitobas may tend toward a general improvement of the latter, providing the percentage of Garnet is not over the figure mentioned above.

Hon. Mr. MOTHERWELL: What mill is that?

The WITNESS: The Plange mill. They are large millers. I understand they are one of the largest in all Europe. The most important conclusions to which

attention should be drawn are found on pages 76, 78 and 80 of the report and are as follows:—

As regards the ability of Garnet to improve the baking qualities of German wheat when the two were mixed together it was found that this wheat proved not only equal to the above Manitobas but, according to our data, was even superior to the latter.

The baking quality is indicated in the table under the heading "Volume of loaf produced from 100 grs. of flour." In regard to this characteristic we may conclude from our tests, that the baker must regard the flour of Garnet as equal in value to that made from ordinary Manitobas of the same grade.

(1) From the standpoint of the miller, no objection can be raised against the use of Garnet in place of Manitoba 2, nor against the mixing of Garnet with Manitoba 2.

(2) Neither in the milling nor in the baking does Garnet wheat offer any difficulties whatever and this variety we consider at least equal in value to the Manitoba 2 with which it was compared.

(3) No objection is justified concerning the colour of the flour of Garnet.

I must emphasize that I can see no ground why this Garnet wheat grading No. 2 Northern should be kept separate from the present Manitoba 2 Northern with which it was compared, in view of the similarity of the two lots in all essential particulars.

Since we in Germany are situated so as to be able to purchase wheat from all parts of the world, the relatively small differences which exist between the above wheats become of practically no significance.

The question as to whether Garnet wheat, either alone or in mixtures, causes any difficulties in milling, must be answered in the negative.

There is nothing in the milling of this wheat, either alone or in mixtures, which could cause the slightest difficulty in a well-equipped modern mill which could not be overcome by an experienced head miller.

I may say that this final conclusion was the result of a second test which was made at my request in order to see whether some of the reports by the other mills could be substantiated. In some cases they had found difficulties in milling Garnet wheat when mixed with lower protein wheat found in Germany.

The final conclusion as stated on page 80 was the result of my request for a further test in order to settle the question of the difficulties found by one of the mills in milling mixtures of German wheats and Garnet. It will be noticed that this mill found no difficulty in this respect. It will be also observed that Garnet was found fully equal to Manitoba 2 Northern for blending purposes with weak German wheats. This, it will be remembered is directly contrary to that which was found at Cologne. The only explanation I can offer for the discrepancy is that different methods appeared to lead to different conclusions; that different standards are used for comparison and the requirements of different localities appear to vary considerably. I closely followed this stage at one institution, namely, the Milling and Baking Institution of Berlin. This is a government laboratory and is, I believe, the best equipped for work of this nature to be found anywhere in the world. Professor Mohs, the head of the milling department, and Professor Newmann, of the bakery—both these gentlemen are authors of well-known textbook relating to their special subjects and are regarded as high authorities by everyone interested in scientific milling and baking investigations.

I will draw special attention to the reports of these two investigators for, in my opinion, they represent the most complete and thorough study of Garnet which we obtained overseas. Let me read the most important conclusions drawn and which appear on pages 82, 83 and 88 of this report:—

In conclusion, the following can be said of the milling properties of Garnet wheat:—

Garnet wheat possesses in a marked degree the milling qualities of a typically hard wheat. This hardness of the wheat demands special treatment in its preparation for milling (conditioning), the exact nature of which the millers must acquire and by which they must be governed.

If Garnet wheat is properly handled by itself throughout, in a manner to correspond with its characteristic properties, it can be said that the milling properties and flour yields will resemble very closely those of Manitoba II. It must be emphasized, however, that this special preparatory treatment presents greater difficulties as compared with Manitobas, inasmuch as it demands a more careful application of milling methods to the peculiar characteristics of the wheat.

All the characteristics of Garnet flour, and its behaviour in the dough, indicate a flour of such strong baking quality that it can be truly said, by proper conditioning of the wheat and suitable treatment, Garnet wheat is to a certain extent quite equal to Manitoba.

From this very comprehensive series of tests, which in each case was repeated several times, the following comparisons between Manitoba and Garnet wheat can be made. Both kinds of wheat are of the hard, glutinous and strong baking flour-type, the gluten being without doubt more stable in the case of Garnet. With this greater stability there are associated greater resistance to fermentation and more consistent but less plastic doughs. It naturally follows from this that the volume of Garnet tends to be lower than in the case of Manitoba. These properties are apparent also in mixtures with typically weak wheats such as dark winter wheats (Square Head). On the other hand it should be noted that the crumb of Garnet possessed very good elasticity with sharply defined pores.

Garnet may be regarded at the present time as a wheat which may become of distinct value, but experience in the use of it must be acquired. When this experience has been gained one can almost say that Garnet is practically equal to Manitoba.

These statements sum up the whole question as to the comparative merits of Marquis and Garnet wheats and are in complete accord with our own reports on the subject.

By Mr. Motherwell:

Q. Now, how long did it take you in your experimental work to find out how to handle it?—A. We studied it rather systematically. We studied it, I think, three or four weeks in order to find out the best method of handling it.

Q. This was the first experiment that these mills ever conducted?—A. Right.

Q. Presumably it would show up better when they know how?—A. At the institution in Berlin they had a small experimental apparatus of a semi commercial size and they made preliminary tests for four or five days on a small mill and they tried it on a large mill, and after each test they altered their methods slightly in accordance with what they had learned, and they said, having once learned how to do it, there was no difficulty.

By Mr. Young:

Q. These reports were from big mills and from chemists of big mills. Have you any reports from smaller mills who do not keep a big staff?—A. This mill at Soest had no chemist in connection with their staff at that time.

Q. They just went at it like a housewife?—A. No. I would not say that. As already pointed out, mills in Europe are accustomed to deal with types of wheat. It is their business and they learn how to do it. They do not go at it hit and miss. They study it first.

Mr. LOUCKS: There would be no objection because there was 60 per cent of Garnet, wheat by the mills over there—excess percentage of Garnet in the 2 Northern.

The WITNESS: I would think that 60 per cent was pretty high. In our own tests, we found that if the Garnet wheat had 40 per cent of the hard wheat present in the blend we got results very similar to Marquis; if it was higher than that we were not so sure. I think 60 per cent is pretty high.

By Mr. Vallance:

Q. Of course, we realize that the 60 per cent went from Vancouver; but from the eastern ports it is down to about 26 per cent, so that those who would be interested in the blend would buy their wheat which ever way it was going out to suit their own purpose, would they not?—A. I do not know that. I could not answer that.

Q. According to the information given by Dr. Newman this morning, the large percentage of Garnet goes via Vancouver. Those of us who have taken any part in following the development of Garnet have always believed that the amount going through Fort William and Port Arthur is only about 26 per cent on the average?—A. There is no question that the percentage of Garnet from Vancouver is much higher. In this connection it may be interesting to have the percentages—the protein percentage in the different grades. The protein percentage in all grades from Garnet wheat this year is lower, and particularly noticeable in 2 Northern—that is from all samples examined. For instance, in Alberta in the average of 2 Northern the protein is 12.4, Saskatchewan 13.4 and Manitoba, 14.

Q. That is of Garnet wheat?—A. That is of all the wheat.

Q. No. 2 wheat?—A. Yes. No. 2 wheat. If you take the other grades you find the same relations this year. Alberta is low. One hard, Manitoba, 15.2, Saskatchewan, 14.5, Alberta, 14.4. 1 Northern, the average from Manitoba is 14.6, Saskatchewan 14.5, Alberta 14.0. 3 Northern, Manitoba, 14.0, Saskatchewan, 13.2, Alberta, 12.5.

Mr. YOUNG: Do you attribute that to the fact that more Garnet is grown in Manitoba?

The WITNESS: I don't know.

Mr. DONNELLY: Have you tested the protein content of Garnet as compared with Marquis?

The WITNESS: Oh, yes. It also is lower.

Mr. VALLANCE: To get a fair comparison, what is the protein content of No. 2 this year as compared with No. 1 this year; does the same relationship exist between the two as did last year?

The WITNESS: I could get that for you, but I have not got the information here.

Mr. LOUCKS: You found that they preferred No. 4 because it had a higher test of protein than No. 2?

The WITNESS: Yes. That is true. That is for that particular year—this particular part of that one year.

Mr. TOTZKE: That does not usually apply.

The WITNESS: I would not say it would, excepting sometimes it does happen that No. 4 has a higher protein content because we allow a good many soft kernels in No. 2 while No. 4 is a frosted grade. A frosted grade, generally, has a slight tendency to have higher protein than sound grain.

Mr. COOTE: You would not have many starchy kernels in No. 4?

The WITNESS: Yes. That is what I mean.

By Hon. Mr. Motherwell:

Q. What was the date you were in Hamburg and these other European points?—A. That was the summer of 1929.

Q. In June?—A. I was there three times. First I went and looked over the situation. I went again in July and later on in August when the flour was being baked.

Q. Did you run across this article where the Lake of the Woods Milling Company conducted an experiment of their own?—A. The Plange people showed that to me when I was in Dresden.

Q. Did you see that?—A. Yes.

Q. Lying on their desks?—A. It was on their desks.

Q. It was not a very good report for Garnet wheat?—A. They said they were not in agreement with it.

Q. You have one of the parties to the agreement with an experimental establishment forestalling it and going off and placarding the whole country in advance of you going over there with Mr. Newman?—A. Yes.

Q. That is what happened?—A. Yes. That is what happened.

H. M. TORY, called.

By the Chairman:

Q. What is your position, Dr. Tory?—A. I am president of the National Research Council. Mr. Chairman, and gentlemen, I think, perhaps, I might ask your indulgence for a moment to explain how it was that the Research Council came into this discussion at all. Some difficulty arose in the year 1926 as between the then Board of Grain Commissioners and the chemist of the Board which seemed to necessitate a careful study by an independent authority of some of the difficulties that had arisen. The documents in the case were handed over to me by the then Minister of Trade and Commerce and I was requested to get an independent judgment. These documents were submitted to two of the leading chemists in Canada, one an organic chemist and the other a bi-chemist, and as a result of their report it was decided it would be wise to organize a research committee for the purpose of repeating some of the work that had been done and extending it very largely. Our plan of operation was to appoint a research committee of the leading men in the provinces and in the Universities who were dealing with these problems and to associate with them the chemists of the Board of Grain Commissioners. Further to have on that research committee other men who perhaps would be regarded not so much as scientists as men of independent judgment. Our plan was to repeat every bit of work we did so that it would be once and for all possible to reach definite conclusions. That is to say, at the laboratories in the university of Alberta, the laboratories in the university of Saskatchewan, the laboratories in the university of Manitoba, and the laboratories of the Grain Commissioners in Winnipeg. Our purpose was to get complete collaboration.

Now, five or six large problems were submitted to us for solution. Some of them were sent to us by this committee, some were sent to us by the Board of Grain Commissioners, others were submitted to us by the pool officials.

Our action in undertaking this work was approved by the Minister of Trade and Commerce. I might just mention some of the matters we have been dealing with. The final report regarding the drying of wheat is now in press and I think we have settled the question of injury in the drying of wheat. The investigation of the possibility of grading wheat by protein content we were asked to do by this committee. Two reports were prepared; one of these was written as a result of studies in Canada and the United States; the second as the result of studies in Europe; and I think that, perhaps, we may say that for the time being these reports were sufficiently conclusive to settle that question until much more chemical work is done. Then we had brought before us the question of the varieties of wheat that were grown in western Canada, and the number of varieties of wheat that were being mixed and sold in Europe. This naturally led up to the study of Garnet wheat as a special reference. Then we have this other large question before us on which we hope to give a final report this year which I believe will be of great significance to the farmers of the west, viz, the question of frost damage. A great deal of discussion has taken place concerning the grading of frosted wheat. In 1928 we made a complete survey of the western provinces to see what the situation was. At the suggestion of the wheat pool and with the help of the Grain Commissioners we undertook a set of experiments scientifically controlled. My impression is that a complete report will be made when the work for this year is finished, and I think that when it is published you will see that it throws very substantial light upon the subject. Another problem before us is the effect of the combine method of harvesting upon our wheat. Special provision has been made for carrying on this investigation during the coming year under the Board of Grain Commissioners. I have a number of the reports published to date bound in a volume which I hold in my hand. There is an additional number of reports now available sufficient to make another volume about half that size. When our studies are completed, I think they will be seen to be the most complete and exhaustive study of the grain problem, scientifically, that has been made on the North American continent.

Now, when we came to deal with Garnet wheat, two distinct aspects of the problem presented themselves to me, as I had the organization of the committee in hand. One was that we had a problem that had to be faced in the markets of the world. If anything were done that would depreciate the value of our wheat as a blending wheat in Europe it would be without question to the disadvantage of our wheat trade. As we had the competition of certain states in the American Union and what is certain to be a growing competition of northern Russian wheats it was necessary for us to be careful that nothing was done, in the way of lowering the quality of our wheat. That was the aspect that came to me first as president of the Research Council. Then there was the other aspect, the local problem which has nothing to do with European markets—the growing of Garnet wheat in Canada in relation with other wheat. Was it an advisable variety to advise our farmers to grow? We set ourselves the problem of answering that question. We made a very careful study. May I again say that all our experiments were repeated in three laboratories under fixed conditions so that one would be a check against the other. Our decisions were reached as the result of that collaboration. We have a final report on these studies that can be presented to this committee. Dr. Newton has that report in hand. In 1929 a conference was called by the Minister of Agriculture of that day, Mr. Motherwell, at his office—a conference between the millers, the officials of the Department of Agriculture and myself, as representing the interests of the Department of Trade and Commerce in addition to representatives of the Board of Grain Commissioners. The problem presented to us at that conference was this: The millers were asking that Garnet wheat be graded by itself. It had been graded on the recommendation of Dr. Birchard

as 2 Northern. I may say that so far as the Research Council is concerned we had nothing to do with the establishment of that 2 Northern grade. The millers were asking that it be graded separately; the producers were asking that it be graded 1 Northern. A tremendous array of figures were presented to us at that conference, as I am sure Mr. Motherwell will remember and also Mr. Newman. The question was whether we were justified in urging the continual sowing of Garnet on account of the difficulties that had arisen. I was rather a silent listener at the meeting for a good part of the time, I confess, perhaps, raising questions because I had in my mind the possibility of injuring our wheat in the markets of Europe. When I saw that the two ideas were irreconcilable I suggested as one way to settle the question, that we should get a shipment of Garnet wheat and send it to Europe and see what would be the reaction of dealing with it as a cargo by the millers of Great Britain and Europe. I suggested this as a compromise. I suggested that if a good report—it was necessary we should get some action because of the coming growing season—if a good report were brought back that the department would be justified in grading it No. 1; if a poor report were brought back, the grade No. 2 should stand until the matter was further considered. I think my first wording of the resolution was that it should be graded No. 2 unless there was a good report, and on the suggestion of the representatives we changed it to 1 unless it was a poor report.

Something like 7,000 bushels of wheat were sent to Europe and Dr. Birchard and Mr. Newman went over with it, and you have the report. When the report came back, apparently, there was no effort made further to grade it as No. 1. In other words, I took it for granted that the nature of the report that was brought back was of such a character that the question of grading it into No. 1 would not again be raised, and that it would be left in No. 2. Shortly after the report was made public the question of grading Garnet separately was again raised and we were asked to look into it further. The millers and certain interests urged that it be graded separately. I think I would be justified in saying that the general trend of the report made by the representatives of the Agriculture Department and the Board of Grain Commissioners who went to Europe—the general trend of their opinion expressed in the report would lead to the conclusion that they believed that Garnet should be graded separately. It was probably because such suggestions had been made in the report that the whole question was raised again. I took the matter up with our committee and we went into it in detail. The work on the 1930-31 crop was completed. We had therefore all the available information before us. I have here a report which is a confidential report of the conference on the grading of Garnet wheat. It is only confidential in the sense that we do not send this out to the newspapers. I have also in my hand the final finding of the committee which was sent to the Minister of Trade and Commerce in February, 1931, and I propose to read this report because it helps you to see exactly the view we took in 1931:

THE GRADING OF GARNET WHEAT

The Associate Committee on Grain Research of the National Research Council has for some years been investigating the comparative quality of the wheat varieties grown in Western Canada, and during the present winter has given special study to the status of Garnet wheat in relation to the problem of grading. The Canadian National Millers Association, at conference with representatives of the Government and of the National Research Council held at Ottawa in February, 1929, proposed that this variety should have separate grades. It was, however, decided to defer consideration of this proposal until the opinion of overseas millers could be tested by an experimental shipment. Such a shipment was made that

year under the supervision of the Department of Agriculture. Mr. L. H. Newman, Dominion Cerealists, followed the shipment personally, and in March, 1930, published a bulletin reporting the results. He found in regard to the question of separate grading and shipment that, "it seems to be the almost unanimous opinion of European and British investigators that it would be advisable to handle this variety separately for a time at least.

The Canadian Millers Association raised the question again in September, 1930, when it was referred by the Minister of Trade and Commerce to the National Research Council for consideration by the Associate Committee on Grain Research. This committee advised against any change in the system of grading in the middle of a crop year, but undertook to study and report upon the question at an early date in the winter, so that growers might have ample time to modify their seeding plans if they so desired.

The first questions which it seemed necessary to answer were: (1) Is Garnet wheat sufficiently different in quality from the standard variety, Marquis, to make it inadvisable to mix the two? and (2) Is Garnet grown extensively enough to affect appreciably the characteristics of the grades into which it now enters?

There is no absolute standard of quality in wheat. It varies with the special use to which it is to be put and with the characteristics of the bread preferred in different countries. Canadian wheat is especially valued in Europe because of its ability to confer strength on a blend. It achieved a reputation for this special quality in the days when Red Fife was the standard variety, a reputation which has been fully sustained by Marquis, the present standard variety. Any new variety which departs from the general type and characteristics of Marquis must be judged unsuitable for admittance to the standard grades.

After many comparisons of Garnet and Marquis Wheat grown in all parts of the West over a period of years, the Committee is in no doubt that there are substantial differences in the characteristics of these two varieties; and that in ability to confer strength on a blend, Garnet is inferior to Marquis. The yield of flour obtained in milling the two varieties is not significantly different, and there is no need to emphasize unduly the yellow colour of the Garnet flour, since in blends this is diluted till it becomes relatively unimportant. The most important differences are in the quality and quantity of protein, in both of which respects Garnet usually falls below Marquis, the most pronounced spread occurring in the northern regions where Garnet is otherwise better adapted.

The report of the Western Grain Inspection Division for the period August 1 to December 31, 1930, shows that Garnet made up 16 per cent of the total Red Spring wheat inspected and 30 per cent of the wheat in Grades 2 Northern and lower. An admixture in such proportions of wheat with different properties must have some effect on the average quality of the grades and lead to distinctions, especially between grades 1 and 2 Northern which are not contemplated in the grade specifications. At one inspection point, there were 8 weeks during the above period in which the proportion of Garnet wheat inspected was over 50 per cent of the wheat grading below 1 Northern; the figure rose to 70 per cent in one particular week. In another part of the period it dropped as low as 20 per cent. At another inspection point, on the other hand, only a single car of Garnet was inspected during the entire five-month period. Such unequal distribution can scarcely fail to cause variability in the quality of different cargoes of Canadian wheat.

It is inadvisable, for obvious practical reasons, to multiply the number of grades unnecessarily, and to justify setting up special grades for Garnet it would need to be shown that it is grown in sufficient quantity to make separate handling economically feasible.

The proportion of Garnet in the present crop is sufficiently high to provide a steady and reasonably large supply of this variety.

There was still another question to which the Committee felt it must give consideration, namely, the availability of a suitable variety by which Garnet might be replaced. An early ripening variety is absolutely necessary in a large part of the wheat-growing area, and many farmers have adopted Garnet in good faith and on the understanding that it would be eligible for grading at least into No. 2 Northern. It is almost certain that if separate grades were established for Garnet, they would sell at the outset at a discount under the Northern grades. The price level eventually would depend on the place Garnet might make for itself in the blending scheme of European millers, who stated that it might be useful in some blends provided it could be obtained separately. Meanwhile, growers should be given a reasonable opportunity to adjust their cropping program before any drastic change is made in grading.

Of the early-ripening varieties which might be used to replace Garnet, undoubtedly the most promising one is Reward. In milling and baking quality this variety has proven superior not only to Garnet but also to Marquis. It is closely similar to Marquis in general characteristics, and may safely be admitted to the same grades as the latter variety with the prospect of improving their average quality.

Any hesitancy which growers have shown in adopting Reward unreservedly has not been based on its quality, but has arisen mainly from some doubt as to its earliness, yield, and susceptibility to loose smut. The relative earliness and yield of Reward and Garnet vary to some extent from place to place, but on the average Reward is not more than one or two days later and yields only slightly less. To offset this there is the fact that Garnet has slightly weak straw, a moderate tendency to shatter, and a pronounced tendency to sprout under unfavourable conditions. These defects may easily result, under field conditions, in losses more than equal to the small advantage in yield it has shown under the more protected conditions of plot tests. Reward has strong straw and is resistant to shattering and weathering. The original stock of Reward distributed in the West was infected with loose smut, and for this reason some fields have been badly infected, although the variety appears to have average resistance to this disease. It will of course be necessary to take precautions to get clean seed stock, or to treat a small quantity by the hot-water method for a special seed plot. Reward is more susceptible than Garnet to the other form of smut, namely, bunt or stinking smut, but this may be controlled by very simple treatment of the seed with copper carbonate or formalin. In resistance to rust, Reward is very much superior to Garnet.

Red Bobs 222 and Supreme are two other popular and moderately early varieties. They are intermediate between Marquis and Garnet in both earliness and quality, and superior to both in yield. They are susceptible to rust, and in wet seasons are likely to give a starchy, poor-appearing sample, although it may actually make a better quality flour than a flinty sample of Garnet. Apart from the question of yield, Reward is decidedly to be preferred to either of them.

In considering the problem of maintaining the quality of the standard grades, it is important to remember the increasing competition which

Canadian wheat has to meet in the European markets, and that it can only hope to maintain an assured place there on the basis of its unique quality. This is particularly true of the Continental countries, which have a high tariff rate per bushel against foreign wheat. Buyers there must pay the same tariff regardless of the quality of the wheat, and are therefore anxious to get wheat with the highest possible blending value. Since it has been shown that the increasingly wide use of Garnet wheat must depreciate the average quality of the crop, and that it may be replaced by a new variety, Reward, the use of which may be confidently expected to improve the average quality of the crop, it seems clear that the path of safety and progress lies in discouraging the use of the one variety and encouraging the use of the other.

On the other hand, the Committee would deprecate any sudden, drastic change in grading. It is estimated that the quantity of Garnet seed planted in 1930 was in the region of 7 million bushels, while the total supply of Reward available for seeding in 1931 is probably not greater than a few hundred thousand bushels. It is felt that the widest possible publicity should be given immediately to the facts as now set forth, and growers given to understand that there is no assurance of Garnet being admitted to the Northern grades after the crop of 1931 has been marketed. Those who desired could then attempt to obtain small quantities of Reward for multiplying in 1931 in preparation for seeding on a larger scale in 1932. If this educational propaganda is successful, the problem of providing special grades for Garnet in 1932 may disappear.

As a matter of fact, our hope was that by giving notice that such a thing might take place Garnet would be very largely replaced in the sowing year of 1932 and would no longer be a problem. Unfortunately, viewing it from the point of view I have just mentioned—unfortunately this document was not published. It was submitted for consideration, and it was considered that it might affect the price of Canadian wheat in the markets of the world at that time. It was objected to by the officials of the Department of Agriculture as likely to be considered as casting a reflection upon them, and so the document was withheld. Our position from the beginning was this: We studied from the double point of view of (a) its affect upon our wheat in the markets of the world, (b) its affect upon our wheat from a growing and economic point of view, the farmers' point of view. We went forward further and classified the wheats as they are growing now, basing the classification on a group of studies repeated in every instance three times, a report of which we will be able to place in your hands Thursday. We will show you from the producer's point of view where we think Garnet wheat should be placed.

We believe Garnet should be graded separately. We believe we are injuring the quality of our wheat in markets of the world by allowing the quantity of Garnet to be increased and mixed with our other wheats. The real reason for this was brought out this morning; in all our research men working in all the laboratories found that Garnet wheat had to be tempered and treated differently from Marquis. If they could be kept separate and treated separately there would be no problem. That was the view we took. We thought at the time that if public statements were made that there would be no assurance that this method of grading would be continued, and suggesting an educational program to put something else in its place, that the problem might solve itself by the process of education. That was not done, and we find ourselves to-day in the position of having a good deal more Garnet wheat mixed with our other wheats and the question of its effect upon our markets still being a vital issue.

By Hon. Mr. Motherwell:

Q. How do you bear that out?—A. That is a question that is now facing us. I am not passing any judgment. We are facing that question. I take it that is the reason for this whole discussion.

Q. That is the crux of the whole thing?—A. Yes. Mr. Chairman, my work has been largely the work of organizing the Research Committee. If I give you the names of the committee you will see that they are rather a responsible body of men who have been considering this whole matter. They are as follows: F. J. Birchard, W. F. Geddes, T. J. Harrison, J. G. Malloch, W. C. Murray, L. H. Newman, Edgar Stanfield, T. Thorvaldson.

At the time this report was issued, Mr. Newman was not present at the meeting. Mr. Newman gave us his reason, a good reason, for not being present when this decision was reached, that the matter had to come before the Standards Board of which he was a member, and, therefore, he did not wish to pre-judge the situation until the meeting of the Standards Board. The details of this whole matter are in the hands of Dr. Robert Newton who has been acting director of our department. He has all the facts and will give them to you.

Q. Dr. Tory, I do not know whether you heard my reference to this supplementary investigation by the Lake of the Woods that was undertaken by Mr. Paren, who was the chemist for the Lake of the Woods. He sent out the result of an experiment conducted by him in June of 1929 which went all over the country, Great Britain and the continent of Europe, and was in the possession of those same millers that we were submitting the other experiment to in an official way, having regard to that, and to the fact that it was a new wheat to them, do you consider that their general report was a serious adverse criticism of Garnet?—A. You are asking for my judgment on the matter, and my judgment would be this: The experiments were made by milling chemists in the European mills and the general conclusion was from the results of their experiments; I take it they did hear some of this discussion as our own millers had openly stated they were not buying Garnet. They told us at the conference they would never buy it, but they had no objection to it being graded separately, but they did not want it mixed. That would not influence me as a scientist in dealing with the matter itself. I do not think the European men were influenced by that. I think they would be influenced by the fact that it was new.

Q. Having regard to that, do you consider the criticism was seriously adverse to Garnet as a milling wheat?—A. I would consider the criticism was on the whole not unfavourable to Garnet. I would consider the criticism as a wheat mixed with Marquis was wholly unfavourable.

Q. You think so?—A. I think so.

Q. You mean it was only unfavourable?—A. It was in favour of separate grading—not so much against it in quality. I think that our own reports—the reports of our own scientists which Dr. Newton will show you—will show much more against it as a quality of wheat for bread than the European millers said. We have studied it very profoundly.

Q. The European millers were not so much against the quality, but they wanted it so that they could do the blending themselves?—A. Yes, because it did not blend with the ordinary mixture. In other words, they wanted to mix it themselves. At the same time, the whole question of mixing wheat is involved; that cannot be overlooked on this occasion.

By Mr. Vallance:

Q. Is there always a scientific analysis of every new wheat going out before the wheat is actually let out to the grower?—A. I could not answer that.

Q. The reason I ask you that is this: You compare frequently in your report Garnet wheat with Reward wheat. For instance, you say in resistance to rust Reward is very much superior to Garnet, Reward is decided on to be preferred to either of them. The thing I cannot get into my head is this, that it did not take Garnet wheat very long to become a very popular wheat with the growers. It must have some advantages that Reward has not got from the growers' standpoint, because Reward to-day, according to your own report, is not finding the same acceptance by the grower as Garnet?—A. I do not think that is quite so by the report. It was because the first Reward that went out was not clean and it got a little bit of a black eye. Our chief reason was that there was not sufficient to replace Garnet. That is why we suggested that we give some notice that Garnet might have to be graded separately. That was merely to promote an educational program in the direction of getting rid of the problem by elimination.

Q. I know I am not a witness and cannot give evidence, but I wish to make this statement that from the portion of Saskatchewan from which I come and which is growing Garnet wheat to a very great extent to-day they cannot grow Reward wheat to any appreciable extent with the same result to the grower?—A. Yes. That may be.

Q. That is the only reason I was trying to point out that Reward, in my opinion, unless you make it utterly impossible for the grower to grow Garnet by some method of preventing him from getting what is not right in that wheat cannot stand with Garnet?—A. May I make this statement. The report I read is a compilation from a set of data that Dr. Newton has, and will bring to the committee, and then I think the whole subject can be discussed more fully.

By Hon. Mr. Motherwell:

Q. Do you remember the report that was given to the press after the conference in the Langevin Block in February, 1929? You and Dr. Grisdale prepared a report for the press?—A. Yes.

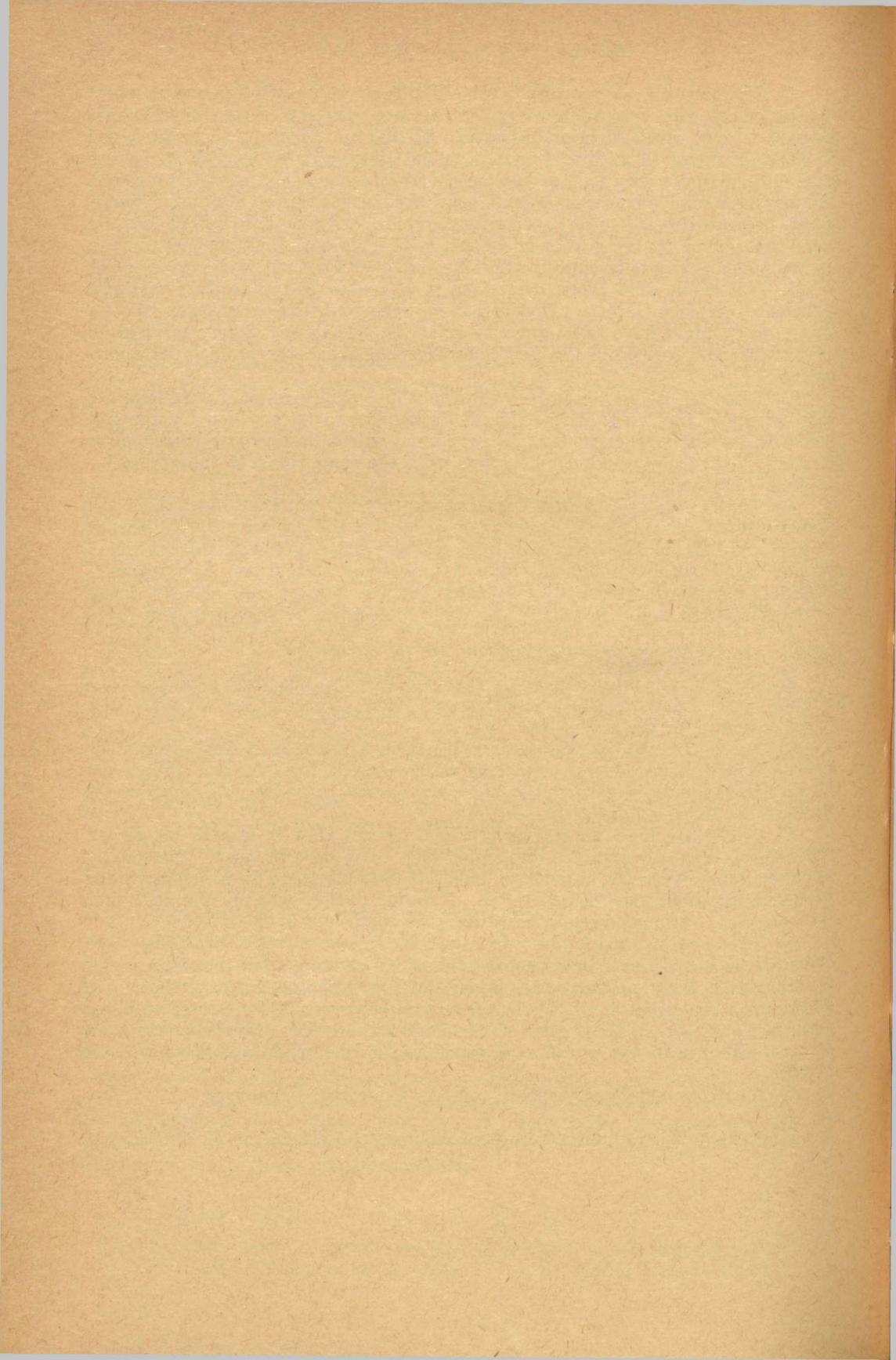
Q. Do you remember this paragraph in the report that it was agreed that provided no serious adverse criticisms were received from foreign millers the Grain Board should be expected to allow the Garnet to go into the same grades as Marquis for the 1929 crop?—A. Yes.

Q. There has been no serious criticism, except that it was to be graded separately?—A. The point of that was this. The motion that I personally made was that if we got an adverse report it should remain in No. 2 grade for that year; it should not be separated. It would depend entirely the next year on the report. If a good report came back we would put it up to No. 1.

Q. The wording was: "Provided that no serious adverse criticisms were received the Board would be expected to allow Garnet to go into the same grades as Marquis." Now, neither yourself nor Dr. Birchard has indicated that there was any serious criticism by the European millers; they merely wanted to blend it themselves?—A. If the report of Dr. Birchard and Mr. Newman is not an adverse criticism of the wheat as a mixed wheat, then I do not know what it means.

Q. You have admitted yourself?—A. As a unmixed wheat, yes.

The Committee adjourned to meet Thursday, April 14, at 11 o'clock.



SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND REPORTS

THURSDAY, APRIL 14, 1932

No. 4

Reference,—Garnet Wheat Grading.

Dr. R. Newton, Professor of Field Crops and Plant Bio-Chemistry, University of Alberta.

MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,

THURSDAY, April 12, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock in the forenoon.

Mr. Senn, the Chairman, presiding.

Members present: Messieurs Barber, Bertrand, Blair, Bowen, Brown, Carmichael, Cayley, Coote, Dupuis, Gobeil, Loucks, Lucas, McGillis, McMillan (Huron-South), Motherwell, Mullins, Myers, Perley (Qu'Appelle), Pickel, Porteous, Rowe, Senn, Simpson (North-Simcoe), Smith (Victoria-Carleton), Spotton, Sproule, Stewart (Lethbridge), Taylor, Thompson (Lanark), Totzke, Valance, Weese, Weir (Melfort), Weir (Macdonald).—(34). In attendance, Hon. H. H. Stevens (Minister of Trade and Commerce).

Dr. R. Newton, Professor of field crops and Plant Bio-Chemistry, University of Alberta, called, heard, and examined.

Witness retired.

Ordered, That,—the letter from the Ogilvie Flour Mills Co.; and the Telegram received from the Canadian Representative of the Scottish Wholesale Co-operative Society, be printed in the record.

The Committee then adjourned until Tuesday April 19, at 11 o'clock in the forenoon.

A. O. FRASER,
Clerk of the Committee.

MINUTES OF EVIDENCE

ROOM 368, HOUSE OF COMMONS,
APRIL 15th, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock to consider the order of reference of the committee on grain standards to the Department of Trade and Commerce.

Mr. Senn, presiding.

The CHAIRMAN: Gentlemen, we are ready to start. Are there any other matters that you wish to bring before the committee before we call Dr. Newton.

Mr. PERLEY: Yes, Mr. Chairman. As chairman of the sub committee I have a wire which I received and which I wish to read into the record:—

As Canadian representative of Scottish Co-operative Wholesale Society Ltd., Glasgow Scotland I strenuously object to Dr. Newman's statement in press stop first that United Kingdom is not buying one northern wheat stop In reply would state as far as we are concerned that we will always buy one northern in preference to any other grade and the bulk of our purchases this season have been one northern stop second our millers and chemists strongly object to any Garnet in Canadian wheat stop Am willing to secure evidence to substantiate my statements John B. Fishe.

I have also a letter from the Ogilvie Flour Mill which I will read into the record also.

Mr. VALLANCE: With regard to that wire, is that from Mr. Fishe or Mr. Fisher?

Mr. PERLEY: I guess it is intended to be Fisher.

Mr. VALLANCE: Yes. It is Mr. Fisher of Winnipeg.

Mr. PERLEY: I will read the letter into the record:—

April 12, 1932.

E. E. PERLEY, ESQ., M.P.,
House of Commons, Ottawa, Ont.

DEAR SIR,—Your letter of the 6th, addressed to the Manager of this Company at Winnipeg, has been referred to me, and I am very much obliged for the opportunity you offer for someone representing the Company to appear before the committee in reference to the question of grading Garnet wheat separately.

I note you are calling Mr. Short, of Montreal, to represent the millers.

In choosing Mr. Short you have made a wise selection. He is quite capable of presenting the millers' views, consequently I see no necessity for having further representation.

Ever since Garnet wheat was first introduced, we have had nothing but dissatisfaction as a result of its being mixed with 2 and 3 Northern grades.

The Department of Agriculture, through their experimental department, has had repeated tests made of this wheat by Canada millers, American millers, and by millers in the U.K. and other countries in Europe, and the opinion has been universally expressed that while this

wheat has a distinct value, it should be kept absolutely separate from the straight grade of other varieties such as Red Fife and Marquis.

The great trouble under existing conditions is that no miller can tell in buying 2 or 3 Northern (and 2 Northern in particular) how much Garnet wheat there is going to be in those grades, consequently, 2 Northern is being avoided and is selling at greater discounts than would otherwise be the case under 1 Northern.

At the beginning of a season it might happen that deliveries of 2 Northern would contain little or no Garnet, because that grade of wheat comes mostly from the Northern area, where the crop is generally slower in maturing; but after the beginning of the season a miller would never know what amount of Garnet wheat he is going to get with 2 Northern, and cannot risk using it in his mixture, as it would mean a decided variation in the quality of his flour.

If Garnet was properly classified as 1, 2 and 3, Garnet similar to 1, 2 and 3 Northern, then a Miller could add regularly such proportions of Garnet wheat as the grade of flour he desired to make would absorb, but the trouble over variation in quality has been so serious that the 2 Northern grade is avoided.

At the present time Cash 2 Northern is selling at a discount of $3\frac{1}{2}$ cents per bushel at Fort William. At times it has sold at as great a discount under 1 Northern as 4 cents.

At Vancouver, where the larger proportion of the Garnet harvested in the North is generally shipped, the discount under 1 Northern is at present $4\frac{3}{4}$ cents.

If the 2 Northern was free of Garnet, I venture to say that the discount under No. 1 Northern would probably not exceed 2 cents, as against the established difference applicable on option deliveries of 3 cents.

I certainly believe it is no kindness to the farmers, as a whole at least, to include the best Garnet wheat with the regular 2 Northern wheat.

It is quite possible that if Garnet was graded as a separate grade, it might on some crops, and for some purposes, command an even better price than the regular 2 Northern for much of it is of a very excellent berry and splendid weight, and up to the present is much freer of screenings than is the case with regular Northern grades, largely on account, no doubt, of the fact that a great deal of it comes from virgin soil, or at least from areas where weeds have not as yet got a strong hold.

There is another grade of wheat, which according to records matures practically as soon as Garnet, called Reward, which is in every way superior to Garnet, and which mills would have no objection to being included in the Northern grades, but for some reason or other little assistance has been afforded farmers to obtain this wheat for seed, as against Garnet, and I certainly think the sooner that Garnet wheat is established under a separate grade, the better it will be for all concerned. We realize that to interior and terminal elevator owners the introduction of another grade will be a nuisance, as dear knows there are sufficient grades existing at the present time, but I certainly believe it is in the best interests of the producer and the miller that Garnet wheat receive a separate grade, and that as soon as possible.

The CHAIRMAN: I am not sure that that letter should be read into the record unless there is a witness here to refer it to.

Mr. LOUCKS: I think that is the kind of information we are after.

Mr. PERLEY: I have a letter here signed by Mr. H. G. Short of the Canadian National Millers Association, Montreal, Quebec.

Mr. BROWN: I do not see why the letters should not be read into the record. We want all the information we can get.

The CHAIRMAN: If that is the desire of the committee, all right.

Mr. VALLANCE: Might I suggest that because of the fact that there will not be any discussion on it and because there is nobody here to support this, that it be handed to the clerk and inserted in the record. Then when Mr. Short comes here we will take the opportunity of questioning him on it.

The CHAIRMAN: I think that will be satisfactory to the committee unless you want to ask some questions on it to-day.

Mr. PERLEY: I have this letter from Mr. Short and he says that he would like to have reasonable notice.

Mr. TOTZKE: In connection with that telegram, Mr. Newman is here. Perhaps you would like to give him a chance to reply to it.

The CHAIRMAN: Mr. Newman will be here again to reply to it. We have Dr. Newton with us to-day, and he is anxious to go away, and if we get into a discussion on this matter we may not be able to finish with Dr. Newton to-day.

Mr. VALLANCE: I think your point is well taken. I notice in the report of last sitting that Mr. Newman made reference to some letters he had from the Scottish Co-operative Wholesale Association, and I think the criticism is based on a letter which Mr. Newman did not have and which I see is now inserted.

Hon. Mr. MOTHERWELL: Is Mr. Fisher coming here to give evidence?

The CHAIRMAN: I do not think so.

Hon. Mr. MOTHERWELL: Should his wire be filed unless he is here? He should be here to support that. I do not think it should go on the record at all.

Mr. VALLANCE: The suggestion in the wire is that he will produce evidence.

Hon. Mr. MOTHERWELL: Let him come and do it.

The CHAIRMAN: I suggest that you leave that to the subcommittee and make your representations to it. They are handling the whole matter of witnesses.

Mr. TOTZKE: I do not see any objection to the wire going into the record.

The CHAIRMAN: I think so, and Mr. Newman will have an opportunity to reply.

Hon. Mr. STEVENS: I would like to explain that there is a special meeting of council called at 11.30 and I shall have to go. I trust the committee will not consider me discourteous if I leave them.

Hon. Mr. WEIR: I am in the same position as Mr. Stevens, and I will have to leave.

R. NEWTON, called.

By the Chairman:

Q. Dr. Newton, what is your position?—A. I am professor of field crops and plant bio-chemistry, university of Alberta. Mr. Chairman and gentlemen, Dr. Tory at the last sitting of this committee gave you the background of our work in the committee on grain research of the National Research Council. To what he said I might just add that the members of this committee who are active in the work in the western provinces are provincial officers for the most part giving their services entirely voluntarily to this committee of the National Research Council. As provincial officers, they have, of course, the viewpoint of their provincial constituencies, and are, therefore, interested in the growers' viewpoint as well as in the viewpoint of the miller who has to use Garnet wheat. There is, of course, no real conflict between the two viewpoints because the growers themselves appreciate the fact that the mar-

ket requirements must be kept in view if a permanent market is to be maintained. There was a question asked at the end of the last sitting which was not answered, and I would like to answer it now. It was as to what was the system of testing new wheat varieties before they were distributed. Some years ago the responsibility for such testing was taken entirely by the originator of the wheat. In recent years there has grown up in the west rather an elaborate organization for this purpose. When I say "in the west" I include, of course, the Dominion Department of Agriculture which has many officers out there, and some of the officers of the Central Farm are also members of this committee.

The work on grain research has already been described. It concerns itself with the milling and baking qualities of the wheat from the standpoint of the export market requirements as well as the requirements of the home market. We have another committee, an associate committee on field crop diseases which now makes elaborate tests with regard to disease resistance, to rusts, smuts and root rots, and other common diseases that wheat varieties are subject to; and there is a close liaison between these committees. Before distributing any new variety, the plant breeders on the committee on field crop diseases submit samples to the grain research committee for comprehensive tests, and if the members live up to their undertaking I think there is very little danger of any unsuitable varieties being distributed in the future. The growth of these organizations is not to be construed as a reflection upon the service which previously was rendered by the Federal Department of Agriculture. Growth is the natural order of things. As the wheat-growing industry has become larger and the universities of the west have developed—naturally these organizations have grown up. I make this explanation mainly to indicate that there are now several organizations in addition to the Department of Agriculture which are vitally interested in the question of new wheat varieties, and specifically in the question of Garnet wheat and the method of its grading.

By Hon. Mr. Weir:

Q. To what organizations do you refer?—A. I was referring especially to those two committees—the associate committee on grain research and the associate committee on field crop diseases. There are a number of other organizations which I will quote later on.

In regard to the quality of Garnet wheat in relation to market requirements we have first of all, of course, Mr. Newman's report of the overseas shipments. As was pointed out in a former hearing, there is considerable contradictory evidence in this report submitted by different mills which tested the wheat; and I think this is not to be wondered at because, as Mr. Newman himself points out—I think it is on page 16 of his report—they had available only one season's crop, and were able to make only one series of tests. Those of us who have been in the work for many years realize that we cannot arrive at an estimate of the quality of any wheat variety until we have tested it for many years, or, at least, for several years, and grown it in several different places under all sorts of climatic conditions.

Q. How many years would you suggest?—A. We have taken arbitrarily three years as the minimum.

Q. Do you think you could come to a final decision on that?—A. With regard to quality, yes; not in regard to yield, possibly.

Q. I mean quality?—A. Yes, in regard to quality, I think it is quite possible to arrive at a final decision as the result of a three-year test, provided those tests are sufficiently comprehensive. I will explain the nature of those tests fully.

While it is a fact that there is in that report of Mr. Newman on the overseas shipment contradictory evidence, I think no one could read the report from

cover to cover with an unprejudiced mind without reaching the conclusion that the preponderance of evidence was that Garnet wheat is not equal to Marquis in the qualities for which the Manitoba grades are prized. Again, there was almost complete unanimity in favour of separate grading. That is the way, as I see it, that that report left the situation. Mr. Newman told us last week that he had had correspondence with some of the same people who had made the tests and they had told him they had had no subsequent opportunity for testing Garnet wheat in a relatively pure condition. He cited the letter of Mr. James Sword of the Scottish Co-operative of Glasgow with reference to the unexplained difficulty in regard to 2 Northern shipped from Vancouver. Naturally, Dr. Sword could not explain the difficulty as he did not know the composition of that wheat; but I think it would not be too much to state that the Marquis growers of the west would undoubtedly conclude, and so also would the cereal chemists, that Garnet was at least partly the cause.

In connection with that overseas shipment, I had personal opportunity to interview quite a number of the parties who tested the wheat. I happened to be over in Europe on another mission in connection with the grading of wheat and visited very much the same people. The question of Garnet naturally came up frequently and I made notes in my pocket notebook at that time. When I was asked to give evidence at this hearing I had those notes abstracted just exactly as I made them without any editing, and I think they would be interesting to this committee.

My first interview was with Dr. Albert E. Humphries. I will read my notes just as I have them here:—

NOTES ON INTERVIEWS WITH REFERENCE TO GARNET WHEAT, EUROPE,
SEPTEMBER-OCTOBER, 1929

R. Newton

Dr. Albert E. Humphries, Coxes Lock Mills, Weybridge, Surrey.—Garnet has good points, but its distinctive characteristics make it desirable to grade it separately. So far as Dr. Humphries knows, there was not a single dissenting voice to this conclusion among those who received part of the experimental shipment.

Mr. Walter Allen, Technical Director, Spillers Ltd., London.—Spillers did not mill Garnet (having no mill small enough), but got some flour and grain samples from the C.W.C., Silvertown mill. Their report is quite good, but they think Garnet should be kept separate from Manitobas at least until it is better known.

Mr. W. H. Raylor, Technical Director, Joseph Rank Ltd., London.—The experimental lot of Garnet fell down badly in the Chopin test, and they were emphatic that it would be disastrous to the Canadian grades to allow Garnet to be mixed in.

Mr. Harry L. Webb, Associated London Flour Millers, Ltd., London.—Mr. Webb tested part of the experimental shipment. He finds it has some good qualities, but is emphatic that it should not be mixed with Marquis grades.

Mr. J. H. Green, Mgr., Silvertown Mill, Co-operative Wholesale Co., London.—Mr. Green milled part of the shipment. His report in preparation is not unfavourable, but he is emphatic that it should not be mixed with standard grades, as it would depreciate them. It is not equal to Marquis. Difficult to temper; very thin, but very impervious bran. Washing with warm water, followed by running for an hour through spouts containing steam jets, was successful.

It is a poor gasser, and very "hidebound," but the colour is not objectionable. Could probably be used up to 25 per cent in mill mixtures. (Supplied Spillers with Garnet flour which they baked).

color

Dr. E. A. Fisher, Director, Research Association of British Flour Millers, St. Albans.—Dr. Fisher has had flour samples from four mills and milled some himself. He has also been in touch with others who received samples. He regards it as distinctly behind Manitobas. It is a poor gasser and difficult to bleach. The dough is stable but short (a common combination). The kernel type of wheat is unimportant except as it affects flour yield. Colour is very important and must either be white or capable of being bleached white. Garnet falls down here. Durums are used in blends, but never more than 10 per cent so that the colour is diluted. Garnet is also sensitive to conditioning, that is, samples of flour from different mills may vary considerably in quality depending upon the method of conditioning the wheat. This is a snag.

Dr. D. W. Kent-Jones, The Laboratories, Charlton Green, Dover.—K. J. welcomed the advent of Garnet wheat as another kind available for special purposes in blending, but on account of its distinctive characteristics advised that it should not be mixed with Manitobas. Garnet has special value for contributing stability to a blend. It makes a stiff dough, but lacks the springiness of Manitobas.

Mr. M. Hirsch, Getreide-Industrie u. Commission A.G., Berlin.—Mr. Hirsch gave me a letter from the manager of their Rhine mills who had tested part of the experimental shipment of Garnet. He summarized by saying that 50 per cent Garnet was needed in the mixture to give the same improvement as 30 per cent Manitoba and that the Hamburg and Dusseldorf mills were of the same opinion.

"Milling" (Liverpool, England) 73 (12): 308-9. Sept. 21, 1929.—There is no doubt that the wheat possesses intrinsic milling value, but meanwhile it is hoped that the Grain Inspection Department will not mix it with high grade Canadian wheats but develop it as a separate variety. The existing definition of Grade No. 1 Northern requires that the wheat shall be equal in value to Marquis wheat. The concensus of opinion is that Garnet is not equal to Marquis in baking quality.

The CHAIRMAN: Doctor, you have not the reports from which that is summarized that you could file with the committee, have you?

The WITNESS: These are not summarized notes; they are the original notes which I made in my pocket notebook at the time I had the interview with each gentleman. One report was published for your committee on protein grading. While I was on that trip I had many interviews with the European millers and one of the things that they unanimously emphasized was the importance of the segregation of different types of wheat, because they have in their mills very much more elaborate facilities for tempering and conditioning the wheats than mills on this continent commonly possess. They are accustomed to handling a greater variety of types of wheats and can do so advantageously provided they get them separately.

Another point they emphasized unanimously was the importance of constancy of grade qualities. They find out at the beginning of the season what is the general average quality of our 2 or 3 Northern and assign it a more or less definite place in their program of mixing for milling purposes, and if succeeding cargoes of 2 and 3 Northern are not constant in their qualities, or if they vary widely, it throws out their mixing program and causes annoyance. I have run across cases where they had actually bought wheat of a given grade and because it was out of line with the expected qualities of that grade had to sell it again at a loss and buy some other wheat. That, of course, was not Garnet wheat but it illustrates the point.

Now, you have had sufficient evidence before you to show the variability in the cargoes of wheat because of the different proportions of Garnet, especially in regard to the comparison between wheat from Fort William and Port Arthur

and from Vancouver. One of the reasons why our Canadian wheat commands a premium over other wheats on the Liverpool and London markets is that it has constancy of quality which can be depended upon in comparison, for example, with wheats from the Argentine. There they have no good system of grading, and their wheat, consequently, sells just for what it will fetch, rather than what the grades indicate. Similarly, Russia was just beginning to loom up at the time I was there as a possible competitor, and I enquired into the character of the wheats that they got from Russia and I was told over and over again that the best cargoes of Russian wheat were equal to our best Canadian wheat, but they always preferred the Canadian wheat because they could depend upon it. The Russians have no proper system of grading. At least, they had not at that time at any rate; and they have also a very much more far flung wheat growing area, with more variability in growing conditions. Our one remaining advantage in competition with them is simply that we have a relatively compact wheat growing area and a good system of grading and inspection. Our wheat is more dependable and, therefore, more in demand. It commands a premium because of its reliability, an advantage which, I think, we must jealously guard. Competition from Russian wheat, of course, is becoming more and more acute, and Russian scientists are making efforts to improve the quality of their wheats. Just ten days ago, before I left Edmonton to come here, we were testing some new Russian varieties of wheat, one of which had the very suggestive name of Cooperatorka. It had been produced for use on the large co-operative farms in the dry areas, and a number of their wheats have equally suggestive names. They have been produced specifically to improve the quality and also to extend the area to which they can grow good wheat.

To meet such competition, it is not enough that we aim merely at maintaining our present standards. We must go forward.

Now, with regard to our home market demands, you are already familiar with the Canadian miller's attitude. I should like, however, to cite one experiment conducted by Mr. B. W. Green, manager of the Northwest Milling Company, Edmonton. This experiment was conducted on the crop of 1929-30, the first time that Garnet wheat began to come on the market in real large volume.

Custom milling, as you probably know, has increased during the period of depression. The farmers instead of selling their wheat and buying flour have more and more gone back to the old system of hauling their wheat to the mill and exchanging it directly for flour. In that particular year Mr. Green was exchanging 22 pounds of flour per bushel for Marquis wheat and 20 pounds per bushel for Garnet wheat. In 1930-31 he raised it to 21 pounds for Garnet wheat. That one pound represented from his point of view the real difference in the milling yield of the two varieties.

Now, I might say that I think from the point of view of a large mill with better facilities for handling the wheat to advantage that there would probably be no such difference in the milling yield. This example is from the point of view of a small miller. He definitely finds difficulty in milling the Garnet and he says that when it is mixed with Marquis it presents a quite impossible situation, and he cannot handle it at all. The first 3,000 bushels which he milled for farmers—for about 80 or 90 farmers in 1929-30—he required that all of them should take at least part of the Garnet flour in exchange. Most of them preferred to take Marquis, but he required them to take Garnet, and all but two out of the 90 later brought this flour back asking for Marquis flour in exchange and being willing to pay the difference in value because their wives did not like the Garnet flour.

MR. BROWN: What mill is that?

WITNESS: The Northwest Milling Company at Edmonton. The same situation actually obtains in other places.

Mr. TOTZKE: Was that Garnet flour made from pure Garnet wheat?

WITNESS: Yes. It was made from the same wheat that they hauled in. As a result of his early experience with Garnet, Mr. Green discontinued milling it. The same is true of other local mills, as for example, at Camrose, and Grande Prairie. Mr. Green, by the way, complained that country elevator men do not consider the milling standpoint, but mix Garnet with other varieties, thus making it unsuitable for local milling. When the two are mixed it is impossible for them to handle it, and, as a consequence, they definitely discontinued milling any Garnet at all.

Mr. TOTZKE: Does he not use any percentage of Garnet in mixing at all?

WITNESS: He cannot handle it at all. That is, if the wheat contains enough Garnet to throw it out of the grade 1 Northern.

By Hon. Mr. Motherwell:

Q. That was in 1930?—A. He is still following that practice. He will not mill any wheat containing Garnet.

Q. Possibly his mill is not suited?—A. He has a small mill. We should not exaggerate that point.

By Mr. Totzke:

Q. Is he entirely a grister?—A. No. He is connected with the Northwest Biscuit Company, and they grind wheat for biscuit manufacturing. He is rather a local miller.

Q. He is not an exporter?—A. No, not as far as I know. The emphasis I would place is not upon the milling difficulty, because that might be specially applicable to a particular local mill, but on the qualities of the flour as preferred by the wives of these farmers. All but two of those brought the flour back because their wives did not want it.

Mr. LUCAS: Have you any other evidence on the Camrose mill?

WITNESS: I saw Mr. Green before I came down here and he said he had been in Camrose the week before and he was in the office of Mr. Byers, manager of the Camrose mill, when farmers actually brought in Garnet wheat and Mr. Byers would not mill it and would not exchange Marquis flour for it, but he insisted that they sell their Garnet wheat and buy Marquis flour. The local mills are, in fact, discriminating against Garnet.

By Hon. Mr. Motherwell:

Q. That was the evidence of the millers?—A. Mr. B. W. Green's statement. I may say he made this at a public meeting at the University of Alberta. We were having a farmers' short course at which I was giving a lecture myself on the quality of wheat varieties. There was no special reference to Garnet wheat at all, the lecture was on wheat varieties in general.

Q. You have taken your information from him as being correct?—A. I took it up afterwards with him. I made a note of it at the time, and when I was coming down here I checked it with Mr. Green as I thought it was important evidence.

Now, with regard to quality tests by our Canadian Cereal chemist, Dr. Larmour, a member of our associate committee on grain research, was the first to publish a rather comprehensive comparison of Marquis and Garnet and Reward wheats. He presented his report to a meeting of the Western Canadian Society of Agronomy, December 28, 1930. It was subsequently published in August, 1931, issue of Scientific Agriculture. I wish to direct your attention to the summary which reads:—

Milling and baking tests were made on samples of Marquis and Garnet grown on adjacent plots in the years 1927, 1928 and 1929. It was found that generally, the Garnet was lower in protein and baking qualities than the corresponding Marquis sample. The difference in protein content seemed to be more pronounced when weather conditions were favourable to high yield and low protein. When grown under dry conditions, there was little average difference in protein of the two varieties.

A study of a large number of samples of the 1929 crop on the basis of protein content led to the conclusion that in general Marquis and Reward are decidedly superior to Garnet of the same protein content. In respect to blending value as shown by the blend-bromate formula, Marquis and Reward are nearly equal, and both are very much superior to Garnet of the same protein content. It was concluded therefore that in respect of protein there exists a real qualitative difference between Garnet and the other varieties.

That is, Marquis and Reward have both more protein and better protein than Garnet. Dr. Larmour published a little later for the special benefit of the farmers of Saskatchewan, extension bulletin 49 of the University of Saskatchewan, and, again, I will give you merely a summary. He compared Reward and Garnet with Marquis, grown side by side in the case of each comparison, and divided all comparisons into those grown in the north and those grown in the south. In regard to their north-grown, the average value of Garnet by comparison with Marquis for protein content is 6 per cent lower, in baking quality 12 per cent lower, in blending value 10 per cent lower. By blending value is meant the capacity for adding strength to a mixture with weak wheat.

Mr. TOTZKE: Can you tell us where that was grown.

The WITNESS: In 1929 the samples were grown at Beauval, Cadillac, Churchbridge, Indian Head, Kindersley, Cumberland House, Fox Valley, Lanigan, Kamsack, Lovern, Lloydminster, Melfort, Rosthern, Saskatoon, Scott, Meadow Lake, Muenster, Riverhurst, Shaunavon, Spruce Lake, Swift Current, Tugaska, Wawota, Weyburn. The average value of Reward is 17 per cent higher in protein, in baking quality 17 per cent higher, in blending value 4 per cent higher. Now, with regard to south-grown: The average value of Garnet is, protein, 2 per cent lower, baking quality 4 per cent lower, blending value 8 per cent lower. The average value of Reward is: protein, 11 per cent higher, baking quality, 15 per cent higher, blending value, 4 per cent higher:—

In protein, baking quality of blending value, there is a greater spread between Garnet and Reward, when grown in the north, than when grown in the south. This means that when these three varieties, Marquis, Garnet and Reward are grown together, Garnet shows greater inferiority in the north than in the south, and Reward shows greater superiority to Marquis in the north than in the south. In other words, the conditions that tend to produce lower protein and lower baking quality affect the Garnet and Marquis more than the Reward.

This, of course, is particularly significant in as much as the deteriorating effect on Garnet of the conditions of environment is more pronounced in the north where Garnet is otherwise better adapted.

Mr. VALLANCE: In making the comparison of these three wheats in the north and south you do not suggest in your research that you could give the volume—that is the number of bushels grown per acre—because that is what determines the attitude of the grower to a great extent.

The WITNESS: I shall give that a little later. I should like to direct attention next to that paper which I believe you have in your hands "The relative milling and baking quality of western Canadian spring wheat varieties," by

Dr. Malloch, Dr. Geddes and Dr. Larmour. These are the men who are directly responsible for the laboratory tests in Alberta, Saskatchewan and Manitoba universities in connection with our grain research committee activities. This investigation, I should explain, was not undertaken with special reference to Garnet wheat; it was actually undertaken as a result of the protein reference which came from this committee through the research council to our committee, and which reference had attached to it a recommendation with regard to the importance of investigating the relative quality for milling purposes of varieties of wheat grown in the west. Of course, Garnet was included with these other varieties in these tests. I should say in regard to the tests that we sought and secured the co-operation of the Dominion Experimental Farms and their branch institutions throughout the west, and also our own university departments of agronomy and certain other bodies such as schools of agriculture in different parts of Alberta. We assembled these samples at the universities, mixed them carefully in order to make sure that we got representative samples of each variety grown in each year at each place, and subdivided each into three parts, one part being sent to the University of Alberta, another part to the University of Saskatchewan, and a third part to the University of Manitoba; and we all carried out the same program of investigation on the samples so that we were able to compare a very large volume of test results.

I might call attention to one or two paragraphs which appear on this paper at page 335:—

The baking quality was judged by the loaf volume, absorption, texture and colour of crumb and the general appearance of the loaf, which includes the shape, and the colour of the crust.

The loaf volume is measured quantitatively, and gives an indication of the strength of the flour. Texture is judged by cutting a slice of bread and examining the fineness of the cellular structure that makes up the slice—the colour of crumb is also judged by the appearance of the slice. All of these points were obtained by using four different formulas in the baking procedure.

One of the difficulties in testing wheat is that you do not know exactly how it is going to be used. There are a great many different ways in which it might be used, depending upon who gets it and what sort of a mixture he is going to make of it; consequently, we try to test it for a wide range of baking conditions, by a widely varying system of testing so that any inherent weaknesses are almost certain to be shown up. It is for this reason that we use four baking formulas. I might explain that they were, first, simple: flour, yeast, salt, sugar and water. That gives you a measure of the capacity of the sample just as it is received to make a good loaf of bread. In practice very few people make it that way, with the possible exception of the housewife. Commercial bakers practically never do. They will put in some substance known as an improver. The second formula included a minute quantity of potassium bromate, which is a constituent of commercial improvers, and which seems to stimulate gas retention if the protein of the flour has a good reserve of strength. In that case, generally the addition of bromate will result in a bigger loaf. If, on the other hand, it is weak in protein the addition of bromate has comparatively little effect; it sometimes may even reduce the volume of the loaf. The next formula included malt or malt and phosphate, the idea being to stimulate gas production. We sometimes get samples of flour that may be inherently very strong but are lacking in gas producing capacity and consequently you end up with a small loaf, even though the protein has an inherent capacity to make a big loaf. Therefore, we add a substance to stimulate gas production. That is quite common in commercial practice. If the protein has a large reserve strength you will get a considerable increase in size of loaf. Finally we tested with what we call the blend-bromate formula. This is important from the point of view

of the overseas requirements. Here we mixed 50 per cent of our test flour with 50 per cent of a soft wheat flour such as might be mixed with it in European practice. Our wheat is preferred above all others because it has reserve strength which it is able to impart to a blend with weaker wheats, and we therefore regard the blend formula as the acid test from the standpoint of the export market. Garnet has not stood up well in this test. I would like to compare that with a number of experiments that have been recorded in which Garnet has been mixed with Marquis. For example, Dr. Birchard at the last meeting told us that he was able to mix up to 30 parts of Garnet with 70 parts of Marquis without deteriorating the quality or size of the loaf. I would point out that that is not the sort of test that Garnet has to face when it reaches Europe. They do not buy Garnet or any part of our wheat in order to mix it with Marquis. They buy it to mix it with weaker wheats. When you say it is possible to add 30 per cent of Garnet to Marquis without deteriorating the quality of the resulting loaf you are merely quoting one more demonstration of the great inherent reserve capacity of Marquis to stand dilution with inferior wheat. That is why the European people buy our Marquis wheat.

Mr. COOTE: When you say weak wheat tell us what kind of wheat you use?

The WITNESS: We are not always able to get the same kind of wheat. Sometimes we use pure starch, cornstarch; but as a rule we use a soft white wheat which we get either from the biscuit flour manufacturers or which we grow ourselves for the purpose, or sometimes even import from England.

The CHAIRMAN: Did you make any experiments with Ontario winter wheat as a mixture?

The WITNESS: I do not recall positively that we have. I think it is quite possible, because we have on occasion obtained soft wheat flour from eastern mills. We always test our weak flour and satisfy ourselves that it is genuinely weak before we use it as a blend. We may go further as Dr. Birchard did when he said he was able to mix as much as 40 parts of Garnet with 60 parts of Marquis without materially reducing its blending value, but, once again, I say that you are merely demonstrating the great inherent reserve capacity of Marquis as a blending wheat. And, furthermore when you say you are not able to go beyond the proportion of 40 per cent Garnet without impairing the blending value of the mixture, you are surely admitting that the Garnet cannot be as good as Marquis from that point of view.

Mr. BROWN: That would upset the Canadian miller, so far as Canada is concerned. They could not use Garnet with Marquis from the home market point of view.

The WITNESS: Yes; but there is not unanimity of opinion that way. I was citing Dr. Birchard's experiment and the mixing limits which he reported, but I am not stating that there is an unanimity of opinion. Certainly our Canadian millers would not admit that you could mix 40 per cent of Garnet with Marquis without deteriorating the quality.

By Hon. Mr. Motherwell:

Q. How do you account for the demand being largely for Vancouver wheat in Great Britain—No. 2—containing a large percentage of Garnet? I think you saw the figures given by Dr. Newman showing the growing tests of various wheats?—A. Yes. He also mentioned a letter from Dr. Sword stating that they found it an unexplained difficulty with No. 2 Northern. We also have the question of increasing spreads between 1 and 2 Northern right now.

Q. You do not make any explanation of that?—A. No. I am not an economist, and I would not venture to enter into an argument on the question of economics, but I believe there can be evidence cited on the other side. I intend to refer to the question of spreads a little later on.

Now, with regard to the question of mixing which we have been discussing, I would to point out that even though you can show it is possible to mix up a certain proportion of Garnet with Marquis without seriously depreciating the quality, provided you keep within limits, I do not think that is a sound business argument in favour of allowing such admixture. One could state, for example, that it is possible to add a certain quantity of water to milk without seriously affecting the quality of the milk, but one does not therefore argue that it should be made legal to add as much water to the milk as is possible until the consumers actively object. If two things are shown to be of unequal quality, then the addition of the one even in a small proportion must have some effect upon the general quality of the mixture.

Now, with regard to this paper, I wish to indicate more specifically the results of certain comparisons. With regard to loaf volume, Reward comes in a class which has on an average of all tests a volume between 650 and 659 cubic centimeters per loaf, Marquis 610 to 619; Garnet 570 to 579. When these are rearranged from a statistical point of view on the basis of the number of classes removed from Marquis, each successive class representing one significant step better or worse than Marquis, you will find that Reward is three classes better than Marquis in its loaf volume and Garnet is two classes below. The 25 varieties are listed on page 342, Table 6, on the basis of loaf volume, in five classes. The first class is "superior to Marquis"; second, "equal to Marquis"; third, "slightly inferior to Marquis"; fourth, "decidedly inferior to Marquis"; fifth, "very much inferior to Marquis." We find that Garnet comes in the fourth class. With regard to texture, we find on page 345, Table 10, essentially the same thing. Here we have no fourth class, but we find that Garnet comes in the third class "slightly inferior to Marquis." I might explain that within each of these classes the varieties are arranged in order of merit, the best one at the top and the poorest one at the bottom. We attach no practical importance to that arrangement; the classes themselves are the main distinction. With regard to crumb colour, as shown on page 348, table 14, we find that Garnet comes in the fourth class "decidedly inferior to Marquis." With respect to the classification on the basis of general appearance, Garnet is in the same class as Marquis, "equal with Marquis." With respect to absorption, Garnet is again equal with Marquis. Then comes the main classification of varieties on the basis of general baking quality, given on page 352, table 21. We find that Garnet comes in the fourth class, "decidedly inferior to Marquis."

With regard to milling quality, as indicated in the classification on page 356, table 26, this was based on the yield of straight flour obtained, and also on the milling properties. For example, we find that Kota is in a lower class because it resembles Durums in its milling characteristics. The middlings are difficult to reduce and consequently the power required is greater than for normal varieties. Garnet requires longer tempering than the normal varieties and the middlings are more difficult to reduce, though not so difficult as those of Kota. Garnet comes in the third class, "slightly inferior to Marquis."

Then the final classification for milling and baking quality combined comes on page 357, table 27, "classification of varieties on the basis of suitability for export and domestic milling." The first class includes "varieties which are similar to Marquis in milling characteristics and are superior to, equal to, or slightly inferior to, Marquis in milling and baking quality. These varieties may be considered satisfactory for export and domestic milling: Reward, Ceres, Marquis, Pioneer, Red Fife, Renfrew, Red Bobs, 222, Supreme." I should point out that this classification is on the basis of milling and baking quality only, and that the practical utility of certain varieties will be limited by their agronomic characteristics.

The second class is:—

Varieties which are similar to Marquis in milling characteristics, but which are inferior to Marquis in baking quality. These varieties may be present in a fair percentage in a mill mix without seriously affecting the quality. Early Red Fife, Ruby, Early Triumph.

There is the third classification:—

Varieties which differ markedly from Marquis in colour and shape of kernel, in milling characteristics, or are so decidedly inferior in baking quality as to depreciate seriously the commercial value of export shipments. (a) White Wheats—Axminster, quality, Hard Federation; (b) varieties differing from Marquis in milling characteristics—Garnet, Kota; (c) varieties inferior to Marquis in baking characteristics. Garnet, Parker's, Selection, Brownhead, Huron, Kitchener, Preston, Marquillo.

Then there is the fourth class which I need not read. But Garnet here is down on two counts and comes two classes below Marquis.

In protein content, although only minor consideration is given to this in the present paper, on page 358 Garnet is shown to be "slightly inferior to Marquis." In weight per bushel it is shown "equal to Marquis". In nearly all these tables Reward comes in the first class "superior to Marquis".

Finally, I shall read you the description of the two varieties in which we are mainly interested—Reward and Garnet:—

Reward has a high weight per bushel and a satisfactory flour yield. It has a very high protein content. The baking qualities are excellent. It gives loaves of large volume with good colour, texture, appearance and absorption. Reward has the best milling and baking qualities of the varieties tested.

Now Garnet:—

The test weight and yield of flour are satisfactory. Garnet differs from Marquis in its tempering properties and cannot be tempered properly when mixed with that variety. For this reason the milling quality of Garnet is classed as fair. The protein content is low. It is satisfactory in absorption and in appearance of the loaves. The other baking characteristics are poor. It gives small loaves with poor texture, particularly when baked by the blend-bromate or malt-phosphate formulas.

It has not the reserve strength which we expect to find characteristic of our Manitoba grades. It will not stand that extra gassing and blending well. "The colour of the crumb is decidedly yellow. Garnet cannot be considered a desirable variety."

The short summary given at the beginning of the paper follows:—

To maintain the quality of Canada's export wheat it is essential that only high quality varieties should be grown. To supply information on which a choice of varieties may be based, a co-operative study was made of the milling and baking quality of 25 varieties of spring wheat now grown in western Canada. Samples were grown in adjacent plots by the Dominion Experimental Farms and Universities of Manitoba, Saskatchewan and Alberta in 1928, 1929 and 1930. Only samples which were sound enough to be placed in the statutory grades by official inspectors were used. Part of each sample was milled and baked in each of the three co-operating laboratories. Four baking formulas were used. The varieties were classified on the bases of loaf volume, texture, crumb color, general appearance of loaf, absorption, and yield of straight flour. These classifications were combined to give classification for baking quality and milling quality and

finally for suitability for export and domestic milling. The last classification is given in Table XXVII and is, briefly, as follows:—

1. Varieties which are entirely satisfactory: Reward, Ceres, Marquis, Pioneer, Red Fife, Renfrew, Red Bobs 222, Supreme.

2. Varieties which are fairly satisfactory: Early Red Fife, Ruby, Early Triumph.

3. Varieties which are unsatisfactory: (a) White wheats; Quality, Axminster, Hard Federation; (b) Varieties differing from Marquis in milling characteristics: Garnet, Kota. (c) Varieties inferior to Marquis in baking characteristics: Garnet, Parker's Selection, Brownhead, Huron, Kitchener, Preston, Marquillo.

4. Varieties which are very unsatisfactory: Early Prolific, Dicklow, Vermilion.

In considering further the quality tests made by Canadian cereal chemists, I think it would be fair to call your attention to Mr. Newman's results published in his last report which is available for the year 1930, on page 27. This is the report of the Dominion Cerealists, pages 27 to 30. There are given the results of milling and baking tests of a number of varieties grown at the stations throughout the prairie provinces. I shall call your attention merely to the baking score. That is a numerical value which attempts to show in a summary, concrete form the combined differences in various things like volume texture and colour. They are summed up in this figure. For Brandon the values are: Garnet 62, Marquis 82, Reward 95.

Mr. BROWN: What do these figures indicate?

The WITNESS: The general baking quality. The higher the figure the better the baking quality. The last one was for Brandon, Manitoba. This one is for Morden, Manitoba: Garnet 83, Marquis 110, Reward 110; Indian Head, Garnet 71, Marquis 91, Reward 98; Swift Current, Garnet 111, Marquis 116, Reward 103. In that particular case Reward is down and Garnet is up. Rosethorn, Garnet 101, Marquis 113, Reward 113; Scott, Garnet 75, Marquis 68, Reward 71.

Mr. SIMPSON: Might I inquire as to what the reason is for the different place that these different wheats take in the different localities? Is it that one wheat is better suited to one locality than another wheat?

The WITNESS: If we had repeated these experiments for a number of years and found it always came out that way we would reach that conclusion, but actually you would not reach any such conclusion on the basis of a single year's test. It simply shows the variability which is inherent as the result of soil and climatic conditions, and these tests, of course, have to be repeated many times.

Mr. BROWN: I cannot understand why in the case of Reward these figures should go up as high as 116 in one case and in another case as low as 71. Is it on the basis of 100, or what is the standard?

The WITNESS: There is no standard. It is an absolute figure. It is arrived at by assigning definite scores for individual characteristics, and simply weighting these scores and adding up the totals. Now, good wheats grown under good circumstances should run around 100, or not less than 100. If the circumstances are unfavourable it may fall a little below, relatively, but a good wheat may ordinarily run around 100.

By Mr. Vallance:

Q. In the case of Scott you have given the figures as Garnet 75, Marquis 68, Reward 71. Now, what would that indicate to you? You just gave those figures. Because Scott is in the heart of my country?—A. I should explain that there are two scores given here, one for the basic or simple baking test and

the other for the bromate. As far as possible I have been using the bromate figures, because I consider that the better test. However, in the case of Scott the scores for bromate were not complete and I had to read the basic test results, though we consider them as less reliable, and they are often lower than the bromate results.

Q. You say that at Scott Garnet was 75, Marquis 68 and Reward 71. Now, what do those figures indicate? Which is the highest?—A. In that particular case, Garnet. I need not read all these figures, but in the comparison of all these stations—about ten stations—Garnet was below Marquis and Reward in all but two comparisons, and the average baking score for the lot was Garnet 89.3, Marquis 104.6, Reward 118.3.

Now, we would, of course, attach a lot more significance to an average score than to one of these individual cases, especially when it is based on one year's experience. If it were based on many years' experience we would attach more importance to the individual stations. Those final figures included all the stations—Scott, Lethbridge, Lacombe, Beaver Lodge, Fort Vermilion and others. I quote them because I feel they substantiate the conclusion we have arrived at in other experiments, namely, that Reward, on the average, is better than Marquis and that Garnet on the average is poorer.

Now, I should like to leave that and to consider the question from the farmers' viewpoint. Mr. Newman, last week, described a wave of resentment that had been aroused among the farmers who grew Garnet wheat by the suggestion that the grading was going to be changed. The first reaction of all of us at any move that threatens our pockets is one of resentment, but I do not believe that that represents the considered opinion of the majority of farmers in the west, and I think I have evidence on which to base that opinion, which I can now present. When we prepared the report dated February 9, 1931 which Dr. Tory presented on the last day, we submitted it to what we thought, at that time, at any rate, was the most authoritative and representative body of grain growers, namely, the wheat pool. It was submitted both to the inter-provincial pool committee and to the central board of the pools, and both bodies concurred fully in the report. There was not a single objection made by either of these bodies to that report. At their last meeting—the meeting that took place this winter—the United Farmers of Alberta had a resolution introduced to the effect that the grading of Garnet wheat should not be changed and that representation should be sent forward to that effect. That was thrown out; it was rejected by the meeting, by the farmers themselves in convention by Edmonton. I have naturally been very much interested in this problem and have talked to a good number of farmers about it, and I think there are, perhaps, three main reasons why it was rejected. First of all they appreciate the importance of quality in wheat, in maintaining markets, and they know that Garnet is with respect to the qualities for which Manitobas are prized not equal to Marquis. Official statements to that effect have been published, for example, this paper of Dr. Larmour. Statements have been issued in all three provinces, and a number of the growers know it is inferior to Marquis because their own wives have told them so, as in that experiment which Mr. Green carried out. I believe there is another reason, and that is that they have a sense of fairness. A good many of them have talked in this strain to me. They know that the farmers in the south who grow Marquis have to face in drought a greater hazard than the farmers in the north have to face in the frost hazard. There are other wheats available which afford the farmers of the north protection against the frost hazard, whereas there are no wheats yet available which will escape the drought. They appreciate the point that the crops of the farmers of the south are often reduced by drought and the northern farmers do not wish to handicap them any further by causing a discount in the value of Marquis grades through

the inclusion of Garnet. Furthermore, they appreciate the situation with regard to rust which the farmers of the south have had to face for many years. They have been sometimes nearly backed off the wheat growing map by rust epidemics, and yet there have been rust resisting varieties of wheat available for many years but they have not been allowed into commerce because they are not suitable for the export trade. The same argument applies in the case of Garnet wheat in the north. The last reason which many farmers have mentioned is that they are convinced that the increasing price spreads are due to Garnet. Now, as Mr. Newman pointed out the other day it is very difficult indeed to adduce positive proof of a point of that sort as the spreads are affected by many factors. For example, in the years 1925, 1926 and 1927, we had an unprecedented volume of damp wheat which had to be dried artificially, and because some of the drying at that time was not done with proper precautions some of it was injured and the lower grades were discounted. During that time we passed through a period of increasing spreads which Mr. Newman cited the other day, although he did not suggest the reason. Those of us who worked on that problem and followed the spreads at the time know something as to the causes. In 1928 there were disastrous frosts which meant that we had very little indeed of the higher grades, and consequently there was an increase in demand for the higher grades, and there again you get the spread. When we come to 1929-30, 1930-31, we had two years of high quality crops and the spread was small, as Mr. Newman's figures the other day showed. When we come to the crop of 1931-32, again we have a very high quality crop and the spread has unaccountably increased, unless we assign it to Garnet wheat. I think that is what the farmers of the west are doing, especially those who are wishing to market Marquis wheat.

By Mr. Coote:

Q. Before you leave that question of the resolution which was turned down by the farmers' convention, would it not be fair to say that probably the majority of the delegates who voted against the resolution did not know and had not sufficient knowledge of the subject to enable them to say whether Garnet wheat should be graded separately or not, and they simply refused to pass the resolution?—A. Well, I suppose that may be partly a matter of opinion. I would not like to argue that point, but I have gathered the impression by talking with a number of Alberta farmers that they are impressed with the points I have given and they have had some influence.

Q. I got that impression from a good many farmer delegates, and that has not been mentioned by you, and I have a feeling that perhaps that is what influenced the majority of the farmers who were there. I think it ought to be on the record that that might possibly be the cause?—A. Of course, I have no objection at all to any other opinion than my own. I am simply citing the impression I personally gathered of the thing. Now, with regard to agronomic data assembled for preparing the report of February 9, 1931. At the time we had our first Garnet wheat conference to which Dr. Tory referred on the last day, we laid out a certain program—that was in the fall of 1930—we laid out a program which we intended to follow through before reaching any conclusion or giving any advice. That included a study of the flow of Garnet and other varieties to market, and also a study of the question of getting another suitable variety of wheat to replace Garnet, and it is to those particular agronomic data that I wish now to call attention. With regard to Manitoba, the information was extracted from the report of the junior co-operative seed growers in 1929-30. It covers the average returns per acre in percentage of Marquis for the three years 1928, 1929 and 1930, and I shall give the ratios of yield of Reward and Garnet in the different districts. I have picked out Reward and Garnet for comparison, because, naturally, we felt that Reward was the outstanding variety that might be used to replace Garnet.

In the Red River Valley, as the result of 59 tests, Reward 120, Garnet 117; Carberry Plains, Reward 105, Garnet 97; Riding Mountain, Reward 95, Garnet 93. Swan River Valley, Reward 118, Garnet 121. Northern Drift, Reward 107, Garnet 102; Central Drift, Reward 99, Garnet 98; Southern Drift, Reward 110, Garnet 100; Souris Plains, Reward 99, Garnet 100. These, of course, are estimates under field conditions on the farms. The average grade for the three years: 85 per cent of Reward went 2 Northern or better; 61 per cent of Garnet went 2 Northern. It could not go better, of course, but that would be comparable with 85 per cent. Marquis, 57 per cent of 2 Northern or better. Reward is outstanding in its grades, and in the majority of cases it is also superior in yield. At the university of Saskatchewan, the average for six years—Marquis, of course, is regarded as 100—is, Reward 96·8, Garnet 103·6 or a difference of 6·8 per cent in favour of Garnet, or three bushels in forty.

In regard to maturity—the length of the growing season—Marquis is recorded as 100, Reward 95, Garnet 94·6, less than a day's difference. In straw strength Reward is 104, Garnet 92·5, or 12 per cent in favour of Reward. The Saskatchewan results were obtained at the university of Saskatchewan and were official tests. Now, with regard to Alberta, this is an abstract from the report of Alberta Seed Board Advisory Committee on varietal zonation giving a summary of the results with wheat for the three years 1928-30 inclusive at Edmonton, Vermillion, Claresholm, Olds, Lacombe, Lethbridge, dry and irrigated land, and finally giving an average of all stations. These, of course, again are official tests. Garnet, 38·2 was the average yield at all stations; Reward 35·8 bushels, or 2·4 bushels in favour of Garnet. In regard to the time of maturity, the average for Garnet was 99 days, Reward 100 days or a difference of one day. At none of these stations was there any large difference.

Now, reports have been issued by provincial bodies in each of the three provinces. In Alberta, the provincial committee on varietal zonation, is the only one of the three provinces which has retained Garnet on the list of its recommended varieties, and it recommends it rather cautiously and only in the zone that has the greatest danger of frosts. Here is what the report says on Garnet:—

Garnet is a variety introduced by the Dominion Experimental Farms and is suited to districts where Marquis is subject to frost damage in the fall. In milling and baking qualities it is inferior to Marquis; it shatters more easily; has a weak straw and lodges readily; sprouts readily in a wet harvest season, and when damaged by wind, hail, insects, etc., it lacks the ability to recover from such injuries to the same extent as other recommended varieties. It is not generally recommended for districts where Marquis can be depended upon. It is inferior to Reward as an early variety in practically all characteristics except yield.

As the figures show, there is a slight superiority in Garnet in yield.

The Saskatchewan agronomists issued a report, including a list of recommended varieties. They do not include Garnet among their "recommended varieties," but they list it among "other special varieties." This is what they say:—

Garnet is a very early high yielding red spring wheat, but is inferior to Marquis in baking quality, shatters fairly readily, has slightly weak straw and sprouts readily when exposed to wet weather after cutting.

Then they add this:—

The situation respecting Garnet wheat has changed distinctly since last year (1930-31). The results of the 1931 season indicated that Garnet may have more resistance to frost than Reward. However, the proposed separate grading of Garnet and the effect of this on the export demand and price for that variety leaves it in an uncertain position.

Finally, the Manitoba report includes the following statement:—

The varieties recommended in this article for Manitoba have the joint approval of Agronomists, Plant Breeders and Plant Pathologists of the Dominion Experimental Farms and the Manitoba Agricultural College. Every variety has been well tested in experimental plots and in the laboratories and in addition the information from the co-operative variety testing carried on by the Manitoba Agricultural College, Experimental Stations, and the Manitoba wheat pool is used as a guidance for wheat varieties.

Now, they do not include Garnet among the recommended varieties, but they do make reference to it in various places, as for example in regard to results obtained in the Red River valley:—

The average results for the co-operative tests for 1928, 1929 and 1930 show that for every \$100 received for Marquis, Garnet would have given \$117.33; Reward, \$119.64.

The report of the Junior Co-operative also cited that. I might mention this further from the report of the Manitoba Junior Co-operative Seed Growers of 1929-30:—

. . . in the north Reward wheat is almost equal to it (Ceres) in yield and the grade is much better. Garnet wheat has not yielded any better than Reward but is much poorer in grade.

Mr. COOTE: Garnet wheat does not present any problem in Manitoba, does it? I understood it was very subject to rust and was not grown very much there for that reason?

The WITNESS: In this committee last week somebody from Manitoba said that Garnet wheat was the most profitable wheat in his district.

Mr. BROWN: I have grown all these varieties, and I found that Garnet was so badly subject to rust that it could not be grown at all.

Hon. Mr. MOTHERWELL: It should not be grown at all there.

The WITNESS: Now, I should like to refer again to Mr. Newman's Report of the Dominion Cerealists for the year 1930, page 26: "Average results for the year 1926-30 inclusive." The following places are given: Beaverlodge, Lacombe, Lethbridge, Swift Current, Scott, Sask., Rosthern, Sask., Indians Head, Brandon, Morden. I think, perhaps, it will be sufficient if I compared Beaverlodge, Lacombe, Scott and Rosthern. In regard to the number of days for maturity at Beaverlodge the average for the five years is as follows: Garnet 121, Reward 121.1, no difference; Lacombe, Garnet 114, Reward 115, one day difference; Scott, Garnet 102.3, Reward 104.1, or a little less than two days' difference; Rosthern, Garnet 108.2, Reward 109.4, or about one day.

Now, I will give you the yield per acre for these same places: Beaverlodge, Garnet, 47.9, Reward 46.0. Lacombe, Garnet 43.6, Reward 41.6. Scott, Garnet 36.6, Reward 34.8. Rosthern, Garnet 41.6, Reward 33.9. That is the one case in which there was a big difference.

With the exception of Rosthern, there is no great difference in these figures for the two varieties. Mr. Newman brought forward other tests by farmers to show that possibly Garnet was better than these official tests seemed to show. Now, it is possible, of course, to cite similar cases on the other side. I shall not weary you with a lot of these things, but perhaps one or two might be permissible. For example, here is a clipping from the Edmonton Journal, dated November 12, 1931, in a despatch from Wetaskiwin:—

There have been several remarkable yields of wheat in this district during the last few days. Sam Lentz, Falum, delivered some 2,000 bushels of Reward wheat which weighed 69 pounds to the bushel and graded No.

1 hard. Harold Gullekson, Crooked Lake district, delivered some 4,000 bushels of wheat which went 69 pounds to the bushel and graded No. 1 hard. It was also of the Reward variety.

I have here a letter dated Rochfort Bridge, Alberta, January 4th, 1932:—

Dear Sirs,—I was much interested in your article in the Press Bulletin re Reward wheat, and as to the loose smut. I seeded 6 bushels Reward in 1928 (seed came from Indian Head), through Dominion Department of Agriculture). The percentage of loose smut was nearly 2. per cent on average count, however, resultant crop was a fine sample of wheat in spite of a somewhat dry season and very rolling (hilly) piece of land. The 1929 crop did not show so much loose smut, field inspector's average was one half of 1 per cent. The quality of this grain was No. 1, in spite of hail damage. The 1930 crop showed less than one half of 1 per cent loose smut, all this crop graded No. 1. The piece of summer-fallow land, 8 acres, yielded 425 bushels. Threshing machine weight and graded No. 1 hard.

That is over fifty bushels on the average to the acre.

I happened to meet Mr. Herman Trelle of Wembley, Alberta, in Ottawa yesterday. I asked him what his experience was and he said he had compared Garnet and Reward for five years and that he found sometimes no difference and sometimes a small difference in favour of Garnet. This was offset by the greater hazard in growing Garnet. It lodged and shattered unless cut promptly and sprouted if rained upon after harvest. There was practically no difference in regard to earliness, and in regard to profit it was always greater with Reward, since any superiority in yield of Garnet was more than offset by the better grade of Reward.

Reference has been made to the sprouting of Garnet wheat. Dr. J. B. Harrington of the University of Saskatchewan published an article in the *Western Producer* under date of December 3rd 1931, in which he reported that in 1927 sprouting percentages in the stook were, Marquis 5 per cent, Reward 24 per cent, Garnet 92 per cent. In swathed grain tested in 1931, results were Marquis 48 per cent, Reward 67 per cent, Ceres 74 per cent, Garnet 97 per cent. This happened, of course, under circumstances which favoured sprouting; but it does serve to demonstrate that Garnet is less resistant to sprouting than those other varieties.

Professor Strickland of the university of Alberta published a paper in "*Scientific Agriculture*" in October 1931 with regard to the relative susceptibility of wheat varieties to wireworm damage. He said:—

In 1926 we received a letter from Mr. W. D. Albright, Superintendent of the Dominion Experimental Station at Beaverlodge, in which he stated that Garnet wheat appeared to be suffering more heavily from wireworm depredations than did Marquis. He came to this conclusion as a result of observations made upon "dates of seeding" plots in which both varieties were grown under identical conditions.

Certain areas of the land that was devoted to these experiments were known to be badly infested with wireworms whereas others were practically free from them. There was little difference between the yield of these varieties in the wireworm-free plots, whereas in those that were infested that of Garnet was remarkably inferior to Marquis. A survey of infested fields in the neighbouring district appeared to confirm this conclusion. It should, however, be stated here that the difference in yield was far more marked in certain years than it was in others.

Mr. VALLANCE: I notice you pointed out that Garnet was more susceptible to the wireworm. I wonder if the wireworm prefers Garnet because of its greater food value?

WITNESS: I don't know. I do not think that it actually prefers Garnet. I think you are thinking about it from the wrong viewpoint. It was not that Garnet was more attacked by the wireworm, but that it failed to recover after the attack to the same extent as did Marquis.

Hon. Mr. MOTHERWELL: It may be that the wireworm approves of Garnet as being better, but I am afraid we are not growing it for the wireworm.

Mr. VALLANCE: They eat more of it.

WITNESS: It was the other way. The wireworm did not prefer the Garnet, but the Garnet failed to recover afterwards. Now, in that report of the Saskatchewan Agronomists which I cited there was a note added that the 1931 observations suggested that Garnet might have more resistance to spring frosts than some other varieties. Dr. O. S. Aamodt of the University of Alberta has been carrying on experiments during this winter on seedling frost resistance of spring wheats under controlled conditions. He assigns to each of these a hardiness index. He had boxes containing these plants which he started in a greenhouse. Then he put them in the refrigerator and subjected them to certain periods of frost. He took them out again to see what injury they had suffered and what kind of a recovery they would make. One hundred plants of each variety were used and these were scored on the basis of those plants that showed no injury being given a score of 1; those that were frozen a bit back from the tip of the leaves were given a score of two-thirds; those plants that were severely injured were given a score of one-third, and those that were killed were given a score of zero. Take a representative case. Supposing that in one particular experiment fifty plants had survived without any injury, 50 times 1 is 50; 15 were slightly injured, 15 times $\frac{2}{3}$ would be 10; supposing 15 were severely injured, 15 times $\frac{1}{3}$ would be 5, and supposing that 20 were dead, well, 20 times zero is just that much. Now, adding up these products you get the sum of 65 as a hardiness index. A preliminary test of 87 varieties was made in July, 1931. Marked differences occurred between varieties but since the sowings were not replicated it did not seem advisable to attempt to draw conclusions. On the basis of this preliminary test certain varieties were selected for study. In the following tables, only the results obtained in varieties grown in the same boxes are presented. Experiment 1, sown December 16, 1931, frozen January 5, one hour at 22° Fahrenheit, and replicated four times. Marquis had an average hardiness index of 64, Reward 57 and Garnet 18. Then there is a second experiment with an exposure of one hour at 20° Fahrenheit and another one of an hour and twenty minutes at 22° Fahrenheit. They were all well up on this test. Marquis was 95, Reward was 95 and Garnet was 94. With a dry soil and only 10° of frost there was little difference in resistance between the varieties. Further experiments under more severe conditions demonstrated sharp differences between the varieties. With moist soil and heavy frosts which form a crust on the surface of the soil, Garnet appears to be more subject to injuries than other varieties in the test. For ability to withstand injury Red Bobs 222 ranks first, Reward and Marquis next, and Garnet last. There was a marked difference in the capability with which different varieties recovered from the frost injury. Their rapidity of recovery was in the same order as their resistance to frost. The tender ones were delayed very greatly in their subsequent date of heading, but the hardy ones were not greatly delayed.

By Hon. Mr. Motherwell:

Q. What do you mean by recovery?—A. When you take the boxes out of the freezing chambers they look pretty sick, but when you have a look at them a week later you find that some of the varieties have recovered quite well and others only poorly.

Q. I never saw a frozen wheat recover?—A. It depends upon how badly it is frozen.

Mr. LUCAS: That would all apply to spring frosts when the grain was growing?

The WITNESS: Yes.

By Hon. Mr. Motherwell:

Q. Oh, you are referring to spring frost?—A. Yes. That was the point made by the Saskatchewan people., that Garnet was more resistant, but these experiments show just the reverse.

Q. There may be. The same point was raised against Marquis when it came out.

Mr. BROWN: Marquis did not begin to stand up with Red Fife.

The WITNESS: Unfortunately Red Fife was not included in the tests. We could have that done. Dr. Aamodt whose experiments I have just cited has also been carrying out an experiment in regard to the capacity of these varieties to stand up in flintiness under adverse conditions as on bush soils. The tendency of varieties to get starchy in the north is objectionable. He has compared all the common varieties and has found that in flintiness Reward and Garnet are always at the top. He has not yet reached the point where he would like to discriminate positively between these two varieties, although he has told me that his impression is that Reward stands up better. I cited the experiments of Dr. Larmour of Saskatchewan which showed that under those adverse conditions Reward stood up very much better in protein content than did Garnet, and that obviously would lead one to the conclusion that if there was any difference between the two in flintiness it would be in favour of Reward. As has been pointed out by a gentleman here from Manitoba there is a general impression that Garnet does not stand up as well as other varieties against rust. That is, when two varieties are rusted to the same extent, say 25 per cent, the yield of Garnet will be cut more heavily than that of the other variety. I mention that because it has a relationship to a generalization I shall make in a moment. I wish to add that in connection with the soil blowing which has been prevalent for the last couple of years, there again Garnet has shown a lack of ability to withstand and recover from the injury. We had an experiment south of Edmonton in 1930 in which we planted Reward, Marquis and Garnet. The Garnet was practically destroyed. The Reward and Marquis both came along pretty well, otherwise our experiment would have been ruined. That was the material we used for the frost studies to which Dr. Tory made reference.

By Hon. Mr. Motherwell:

Q. I suppose that is a grower's problem rather than a miller's problem?—

A. Yes. The susceptibility of Garnet to lodging and shattering has also been mentioned. The question was asked why Garnet is so widely grown if it is not superior to Reward. I think we should remember that Garnet had several years start of Reward and had considerable publicity in regard to its earliness in northern districts which are subject to frost. There has been no such publicity in the case of Reward. Nevertheless, we find that Reward has come up pretty quickly on the basis of its own merits. In that report which Dr. Tory distributed to you the other day it was stated that according to our best estimates in the spring of 1931 there were only a few hundred thousand bushels of Reward available in the country. That, undoubtedly, has been increased in the past season, and I think we may look for a great expansion in the area of Reward grown during the coming season and thereafter. Under favourable conditions Garnet appears to outyield Reward to at least some extent, but the general lack of

ruggedness of Garnet, of which I have given numerous illustrations, appears to make it a more hazardous crop than Reward.

Now, I should like to make a statement in conclusion, that there is no need to argue against the continued use of Garnet in those districts in which Garnet is especially well suited. The figures at Rosthern seem to show it is decidedly superior in yield to Reward at that point. Indeed, I think that our advocacy of separate grading implies that we believe it is going to continue to be grown, otherwise there would be no need of advocating such grading. Neither is there any need to argue that Garnet has no intrinsic merits. It has those European millers who tried it nearly all said that it had some special properties which might be useful for special purposes in their blending scheme provided they could get it separately. The position we take is simply that Garnet does not have those special qualities for which Manitobas have heretofore been prized, namely, the outstanding capacity to impart strength to blends with weaker wheats. Our northern grades have a reputation for this which we must jealously guard if we are going to maintain our unique position in the markets of the world.

In regard to the comparison in yield between Reward and Garnet, we have to face the very old problem of balancing quality against quantity. It is, I think, an economic principle of rather wide application that one can often increase quantity if he is prepared to sacrifice something of quality. And sometimes it may pay to do it. It depends on the relation between yield spreads and price spreads. There may be no substantial price spread, but if there is, the producer must decide for himself whether it will pay him better to sell a larger yield at a lower price or a smaller yield at a higher price.

Q. I think Dr. Newton has given some strong evidence why we should not grow Garnet wheat at all, and at the end of page 7 in this report of the National Research Council I notice these words:—

If this educational propaganda is successful, the problem of providing special grades for Garnet in 1932 may disappear.

Now, that is pretty nearly what Dr. Newman said, that the matter will solve itself. Might I ask Dr. Newton if this educational propaganda has been going on, and to what extent; and how does it result with regard to growing Reward rather than Garnet?—A. This recommendation, Mr. Chairman, you will note, was dated February 9, 1931, when we had hoped that if sufficient publicity were given to the matter that farmers who did not want to take the risk of having Garnet possibly graded separately and possibly selling at a discount would be in a position to secure some other variety such as Reward and grow a small quantity in preparation for seeding it on a larger scale in 1932. No such publicity was given to our report. The provincial officers did not take independent action until recently. The officers of all the three provinces are now actually recommending Reward in place of Garnet where it can be grown advantageously. I get lots of letters of inquiry on this point. I never say that a man should not grow Garnet. I say that Reward is a better variety and that there is a likelihood of Garnet eventually being graded separately. If they still find it pays them to grow Garnet on account of the spread in yield they continue to do so, but I call attention to the situation.

Q. What I had reference to was the nature of this educational propaganda in regard to substituting Reward for Garnet and how far it has produced and how it has resulted. Who is engaged in it?—A. We had hoped that it would have started with the publication of this report, then we might have got the co-operation of the Department of Agriculture, and that the three prairie provinces as well as the Department of Agriculture might jointly have issued statements putting the situation clearly before the farmers more or less along the lines I have just indicated, and warning them to be prepared for a possible change in

the grading of Garnet. That has not been done. Recently, it has been done independently on the part of the provincial authorities, but it is impossible to say what effect it is having because there has been no subsequent crop. My personal impression is that there will be a lot more Reward grown this year than last year, but it is impossible to forecast what will be the result.

Q. The committee are in this dilemma: You mentioned what seems to be almost incontrovertible evidence regarding the undesirability of growing Garnet. Then we have the evidence of Dr. Birchard yesterday. I will not pick out any particular conclusions excepting the first one and the last one. He has been in this work something like 13 or 14 years as advisor to the Board of Grain Commissioners. Dr. Birchard says on page 74:—

Garnet wheat possesses in a marked degree the milling qualities of a typically hard wheat.

Now, he may be right or you may be right. How are we to decide?—A. We do not dispute its milling qualities, but rather its baking quality.

Q. That is what we grow it for. We do not grade it for wireworm?—A. He is referring in that statement to the milling qualities, not the baking quality. Milling and baking qualities are two separate things.

Q. And he says further:—

Garnet may be regarded at the present time as a wheat which may become of distinct value, but experience in the use of it must be acquired. When this experience has been gained one can almost say that Garnet is practically equal to Marquis.

He does not say anything about milling or baking:—

These statements sum up the whole question as to the comparative merits of Marquis and Garnet wheats and are in complete accord with our own reports on the subject.

Now, if we can get these various statements reconciled it will be much appreciated by the committee?—A. When Dr. Birchard made that remark he was referring to the report of Dr. Mohs and Dr. Neumann, the directors, respectively of the milling and baking sections of the Institute of Milling and Baking in Berlin. Now, this is actually what he quoted from Dr. Mohs. I have not read his evidence, but this is the page he referred to:—

If Garnet is properly handled by itself throughout, in a manner to correspond with its characteristic properties, it can be said that the milling properties and flour yields will resemble very closely those of Manitoba 2. It must be emphasized, however, that this special preparatory treatment presents greater difficulties as compared with Manitobas, inasmuch as it demands a more careful application of milling methods to the peculiar characteristics of the wheat.

Now, as I tried to emphasize at the end, I do not argue for a moment that Garnet wheat has not intrinsic value, but that it should be handled by itself throughout just as Dr. Birchard emphasized.

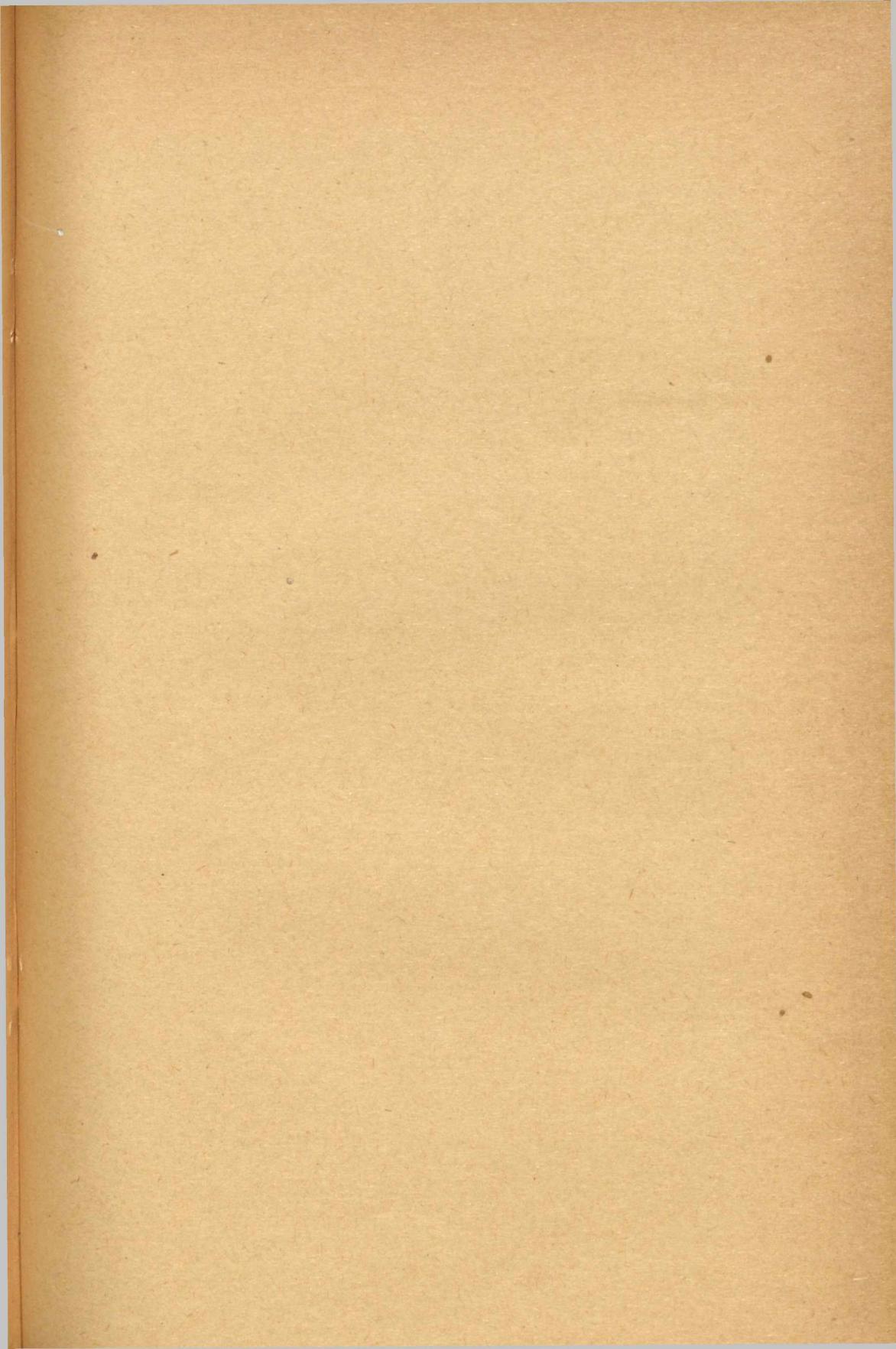
By Mr. Brown:

Q. I would like to ask one question. You referred to the yield of flour given by the Northwestern Milling Company at Edmonton as only 22 pounds to the bushel of wheat. I thought that was a small quantity of flour to give a farmer for a bushel of wheat?—A. That is not the actual yield; that is the amount they give the farmer. They keep the rest for the cost of milling.

Q. I was wondering if they took a cash price?—A. No, that is custom milling.

Q. Wheat will yield anyone 35 or 40 pounds to the bushel.

The Committee adjourned to meet Tuesday, April 19, at 11 o'clock.



SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND EVIDENCE

TUESDAY, APRIL 19, 1932

THURSDAY, APRIL 21, 1932

No. 5

Reference,—Garnet Wheat Grading.

WITNESS:

Mr. J. D. Fraser, (Chief Inspector Board of Grain Commissioners) and
Submission by Dr. R. Newton, Professor of Field Crops and Plant
Bio-Chemistry, University of Alberta.

MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,
TUESDAY, April 19, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock in the forenoon, Mr. Senn, the Chairman, presiding.

Members Present: Messieurs Barber, Bertrand, Blair, Bowen, Boyes, Brown, Carmichael, Cayley, Coote, Hay, Loucks, Lucas, McKenzie (Assiniboia), McMillan, Moore (Chateauguay-Huntingdon), Motherwell, Mullins, Perley (Qu'Appelle), Pickel, Porteous, Senn, Smith (Victoria-Carleton), Stirling, Sproule, Taylor, Totzke, Weese, Weir (Melfort), Weir (Macdonald), Young—30.

In attendance: Hon. H. H. Stevens, Minister of Trade and Commerce.

Mr. Stevens read a submission from Dr. R. Newton, Professor of Field Crops and Plant Bio-Chemistry, University of Alberta.

Ordered, that same be printed in the record.

Ordered, that the Clerk do notify Mr. J. D. Fraser, Chief Inspector of the Board of Grain Commissioners of Canada, to appear at the next meeting of the Committee on Thursday, April 21, 1932.

Moved by Mr. Coote, that Mr. Gauer and Mr. Catton be the witnesses on Tuesday next.

Moved by Mr. Carmichael, in amendment thereto, that one representative of the Pool and one representative of the Grain Exchange be heard on Tuesday next, and the choice of the representative to be determined by the Pool and the Grain Exchange.

Motion as amended carried.

The Committee then adjourned to meet at 11 a.m. on Thursday, April 21, 1932.

A. A. FRASER,
Clerk of the Committee.

HOUSE OF COMMONS,
THURSDAY, April 21, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock in the forenoon, Mr. Senn in the chair.

Members Present: Messieurs Blair, Bowman, Bouchard, Bowen, Boyes, Coote, Loucks, Lucas, McGillis, McKenzie (Assiniboia), Moore (Chateauguay-Huntingdon), Motherwell, Mullins, Myers, Pickel, Porteous, Senn, Shaver, Smith (Victoria-Carleton), Spotton, Sproule, Totzke, Tummon, Weese, Weir (Melfort), Weir (Macdonald), Young—27.

Mr. J. D. Fraser, Chief Inspector of the Grain Board, called, heard and examined. Witness retired.

In attendance: Hon. H. H. Stevens, Minister of Trade and Commerce.

The Clerk read the telegrams received in reply to the telegrams sent to the Wheat Pool and to the Grain Exchange, and it was ordered that Mr. Hutchinson and Mr. R. C. Steele be the witnesses to be heard on Tuesday next, on behalf of the Wheat Pool, and that Mr. James A. Richardson be heard on the same date on behalf of the Grain Exchange.

Ordered: That the Clerk do notify Mr. Strange to appear before the Committee on Thursday next, April 28, 1932.

Ordered: That the Clerk do notify Mr. C. H. G. Short of the Canadian National Millers' Association that the Committee will hear their representative on Monday next, April 25, 1932.

The Committee then adjourned until Monday, April 25, at 11 a.m.

A. A. FRASER,

Clerk of the Committee.

MINUTES OF EVIDENCE

HOUSE OF COMMONS, ROOM 429,

APRIL 19, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock to consider the order of reference of the committee on grain standards to the Department of Trade and Commerce. Mr. Senn, presiding.

The CHAIRMAN: Gentlemen, we have now a quorum and are ready to start. Mr. Stevens has a little matter he would like to bring to the attention of the committee.

Hon. Mr. STEVENS: Mr. Chairman and members of the committee, Dr. Tory who had to return to Winnipeg to attend a rather important meeting drew my attention yesterday to the fact that Dr. Newton when giving his evidence the other day was not aware of a letter written by Mr. Sword which had been included in the record of the day before, and Dr. Newton says that had he been aware of this letter by Mr. Sword, which he has since read, he would have made certain observations in connection with it, and he now asks the liberty of placing on the record some views which he would have expressed before the committee had he had an opportunity of reading the letter in time. He has set forth in a brief statement addressed to Dr. Tory his views, and Dr. Tory has asked me to place this matter before the committee. I will read it and hand it to the reporter:

NATIONAL RESEARCH COUNCIL

MEMORANDUM TO DR. TORY FROM ROBT. NEWTON

In regard to the letter addressed on April 1, 1932, to Mr. L. H. Newman by Dr. James Sword of the Scottish Co-operative Wholesale Society Limited, Glasgow, and which appears on pages 66-69 of the minutes of proceedings of the Select Standing Committee on Agriculture and Colonization dated April 12, 1932, I should like to point out that contrary to the statement in the minute just preceding the letter on page 66, the letter was not read at the hearing. Furthermore, I had no opportunity to read it before I presented my evidence at the subsequent hearing or I should certainly have made reference to it, since it seems to provide incontrovertible evidence that the inclusion of Garnet wheat in the northern grades is doing, and in fact has already done serious and perhaps irreparable injury to the Canadian wheat market.

In describing the great dissatisfaction of his organization at the quality of No. 2 Northern shipped from Vancouver, Dr. Sword states in regard to the shipments in question that "the gluten quality has been inferior rather soft, lacking in elasticity, and withal somewhat short." These, I may say, are just the defects that our investigation of Garnet would lead us to expect in any shipment in which Garnet was present in large proportions.

Dr. Sword goes on to state his strong suspicions "that the trouble begins with the inclusion of certain weak varieties in No. 2 grade which are excluded from No. 1 It was very well defined throughout the 1930-31 crop in which the protein of No. 2 was consistently 1 per cent or more below No. 1, with one or two very outstanding exceptions It is noteworthy that the parcels from Vancouver were most affected." With reference to this statement of Mr. Sword, it is well known that in

1930-31 Garnet was already appearing in large proportions in many cargoes shipped out of Vancouver. This will be clear from the figures given in our report on the "Grading of Garnet Wheat" dated February 9, 1931. It is also clear from the report submitted by Dr. Larmour to the Western Canadian Society of Agronomy, December 28, 1930, and which I submitted with my evidence, that Garnet grown in Northern districts fell off particularly badly in protein content, and this satisfactorily accounts for Dr. Sword's observation that the defective shipments were low in protein.

Dr. Sword admits that he is not in a position to state that the weak variety, which has been introduced into the Northern grades, is Garnet, but is in no doubt that, as he puts it in his letter, "the Northern wheats in recent times were being spoiled by the inclusion of another variety of very weak character, and that the result, which I feared might take place if Garnet were added, has actually occurred with this weak variety, and is rapidly undermining the hard won reputation of Canadian Wheats as the leading wheats of the world for strength." With regard to the doubt in Dr. Sword's mind as to the identity of the offending variety, it must be clear to us who know that no other new variety but Garnet has been introduced in large proportions into these grades in recent times, that there can be no possible doubt that Garnet is responsible for the falling off in quality.

Dr. Sword goes on to describe the disappointment of his organization in purchasing 'a top grade, No. 2, which proved to be much inferior in strength to that required for quarter sponge baking, indeed it was inferior in strength to the low grades.... These parcels of No. 2.... so impaired the strength of No. 1 that the mixture caused almost universal complaint.' Dr. Sword's statement that No. 2 was inferior in strength to the low grades is readily explainable by the fact that the bulk of the Garnet goes into No. 2.

The foregoing quotations are sufficient to prove the inferior quality of Garnet wheat in the eyes of the Scottish millers and bakers. Dr. Sword makes further statements, however, which indicate the very serious nature of the situation which has already been created. He states, for example, 'the experience which we have just had with No. 2 Northern (and we are not alone in this, I understand).... will undoubtedly leave a permanent mark on the reputation of Canadian wheats as a whole.... It must not be imagined that bakers, whose jobs have been in peril for no fault of theirs, will forget this experience readily.'

"The Scottish Co-operative Wholesale Society.... are concerned only with the fact that at least half a dozen parcels of No. 2 wheat, shipped from Vancouver between the beginning of November and the end of December, 1931, contained an extremely unsatisfactory type of wheat. That this type was almost entirely absent from contemporaneous shipments of No. 1 would appear to show that it can be eliminated during the ordinary grading processes." This last statement of Dr. Sword supports the position of Mr. Ramsay that it is quite possible to segregate Garnet within reasonable limits.

As a final quotation from Dr. Sword's letter I submit the following—'The importance of the strength factor in grading can hardly be over-emphasized.... We have always assumed that those responsible for the grading of Canadian wheats knew and admitted that Canadian wheats were valued highly because they were second to none in strength. They had other good qualities, but these were always secondary to the quality of strength. As customers, we feel that we are justified in expecting

that the one absolutely indispensable quality of a top grade Northern should be the strength which has always been the characteristic feature of Canadian wheat.'

(Sgd.) ROBERT NEWTON.

Memorandum recorded as read.

The CHAIRMAN: Now, gentlemen, we were to have heard Mr. Fraser, chief grain inspector, this morning, but owing to a misunderstanding he is not here. It was our belief that Mr. Fraser was in the city, and, unfortunately, he was not notified because of that belief. He is still in Winnipeg. Therefore, gentlemen, we are not able to go on this morning, but will resume on Thursday.

The Committee adjourned to meet Thursday, April 21 at 11 o'clock.

HOUSE OF COMMONS, ROOM 497,
APRIL 21, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock to consider the order of reference of the committee on grain standards to the Department of Trade and Commerce. Mr. Senn presiding.

The CHAIRMAN: Gentlemen, we have with us this morning Mr. James D. Fraser, chief grain inspector, Winnipeg. He is accompanied by Mr. Ludlam, assistant chief inspector. If the committee is agreeable we will hear Mr. Fraser.

JAMES D. FRASER, called.

The WITNESS: Mr. Chairman, gentlemen, I have no statement to make to you gentlemen in connection with the subject, but I will be very pleased to answer any questions you may ask.

By Mr. Totzke:

Q. It has been stated that it is very difficult to distinguish Garnet wheat in a mixture of wheat?—A. I think that statement is correct. It is difficult. I feel that it can be done in a reasonable manner. As a matter of fact, we have been making separations during the last five years, since the fall of 1926. We have kept Garnet wheat out of One hard, and we have practically kept it out of 1 Northern. When I say that we have practically kept it out of 1 Northern I mean this, the instructions sent out to different inspection points to be applied by the deputy inspectors and inspectors at these points say not to be too broad or too stiff on this separation in connection with 1 Northern, that if a mixture came along containing even up to 5 or 6 or probably 7 per cent of Garnet it might be classed in the 1 Northern Grade. It was not the intention to cut that down to 1 per cent as now shown in the Act. The reason for that was this: From the information I could get I was satisfied that 3, 4, 5 or 6 or even 7 per cent of a mixture of Garnet wheat would have no material effect on the milling and baking quality of the wheat, and that is why we were lenient on 1 Northern grading at the inspection points.

Q. Do the elevator buyers in the country elevators have much difficulty in distinguishing Garnet wheat when it is brought in to them?—A. I have had nothing to do with country buyers.

Q. Would they have difficulty, in your opinion?—A. Well, they would have the same difficulty as we would—probably a little more. I think at points where Garnet is grown the buyer at those points should by this time be fairly familiar with Garnet wheat, sufficiently to make a fairly good separation.

Mr. BROWN: You think the buyers would have sufficient knowledge of the varieties of wheat grown in their neighbourhood to recognize it quite easily?

WITNESS: Yes. I imagine that if I had been a buyer I would familiarize myself with Garnet wheat and finding out the varieties that are grown in my neighbourhood.

By Mr. Totzke:

Q. Would you say that the only practical way that the buyers at the country elevators could work their grading of Garnet wheat would be by knowing what the producer is growing?—A. No, I would not say that. Really the only way

one could distinguish at all is to become familiar with the different types of wheat. That is, if you have a sample of true type Marquis and true type Garnet or true type Reward you could tell the difference between them. It is not always an easy matter, depending on whether the grain is fully matured and ripe or not.

The CHAIRMAN: Probably it will be of interest, Mr. Fraser, if you would tell the committee the characteristics of Garnet in comparison, say, with Marquis.

The WITNESS: Well, ever since Garnet has been introduced into the west we have tried to get some written definition describing the shape and colour and so forth of the different varieties grown in the west. At the present time we have not been able to get them. We thought that the cereal department at Ottawa would probably be able to give us a description so that we could use it in distinguishing the different varieties, but we have not been able to get that information. It is a pretty difficult matter to put down in black and white just the exact difference between the different varieties. The only way we have been able to do that is by familiarizing ourselves with each of these varieties by examining the actual grain.

By Mr. Brown:

Q. Generally speaking, there is a difference in the shape?—A. Yes, a little difference in the shape and a difference in the colour.

Q. The colour varies a good deal?—A. Yes, but as a general thing if the wheat is matured, Garnet wheat is of a different colour than Marquis or Reward, and the shape of the kernel taken all through is different from Marquis or Reward.

By Mr. Loucks:

Q. You said that 6 or 7 per cent of Garnet wheat in No. 1 grade would not deteriorate. Do you think that is the belief of the miller?—A. I say that for this reason: During the last five years we have been allowing up to 7 per cent in our 1 Northern. Probably only odd cars would contain 7 per cent. The great bulk might not contain more than 2 or 3 per cent, and some of it would not contain any. So that when the grain is shipped out of the terminals at the head of the lakes or Vancouver, the average content of Garnet wheat in those shipments, I would say, should not be more than 2 or 3 per cent at the most, some shipments, probably 1 per cent. I am quite sure that when a shipment of that nature goes to the old country, or even to our mills here, that it will not effect it, if there is only 2 or 3 per cent.

By Hon. Mr. Motherwell:

Q. Where you find it going higher than that, what do you do? In one of Mr. Newman's growing test cargoes, according to my recollection—it is in evidence—one cargo went up to 19 per cent. There were only two cargoes that were more than you speak of, one was 19 per cent and one about half of that. Would that be as the result of some inspector being a little more generous?—A. I think that might be accounted for by the manner in which the sample was taken from the cargo. It might be possible to take a sample from a spot in the cargo that might show high in Garnet whereas other portions might not show any.

Q. It would depend on where the sticking took place?—A. Yes, where the sticking took place. I would want to know how that sample was taken.

By Hon. Mr. Stevens:

Q. Would you describe how the official sample of a cargo is taken when it is inspected out?—A. In loading boats or cars at the head of the lakes or Vancouver or Prince Rupert, we have samplers on the boat who are continually taking samples from the stream as it flows onto the boat or car. The sample so taken is put in a bucket and during the loading of that cargo we gather probably a bushel or a bushel and a half. That is thoroughly mixed up and we take into our office probably ten pounds of that mixture; but the sampler is there all the time taking samples.

By Mr. Brown:

Q. During the whole time the cargo is being loaded?—A. Yes, during the whole time the cargo is being loaded.

By Hon. Mr. Stevens:

Q. If a person who is not an official sampler, were to walk onto a boat and take a sample, would you consider that a fair sample of the cargo in that hold?—A. Why, no, not if he took the sample from 1, 2 or 3 places from the surface of the grain. If he could probe it or if he was catching a sample all the time, then we might accept that. We would not have to accept it.

By Hon. Mr. Motherwell:

Q. These samples we were discussing the other day that were taken on the other side in Liverpool were taken by Mr. Urquhart, secretary of the Liverpool Corn Exchange, and they were represented as having been taken officially for him. Surely those samples should be official?—A. Of course, I have no knowledge of how he takes the samples.

Q. No, but coming from a gentleman of his standing—

Hon. Mr. STEVENS: That was not the evidence.

Hon. Mr. MOTHERWELL: Oh, yes, that is the evidence.

Hon. Mr. STEVENS: Mr. Newman said some of the samples were taken by some trade commissioner.

Hon. Mr. MOTHERWELL: Of your department on this side.

Hon. Mr. STEVENS: No, on the other side.

Br. BROWN: I think when Mr. Newman came back the second time he did say that the samples were taken by Mr. Urquhart.

Hon. Mr. MOTHERWELL: He was not positive the first day, but the next day he produced correspondence indicating exactly where they came from. The samples from this side came from the Statistical Branch of the Department of Trade and Commerce; those from the other side came from Mr. Urquhart through Mr. Wilson. I do not see how you could get them more official.

By Mr. Loucks:

Q. Is the sampling the same on the other side?—A. I do not know how they take the samples. It is not the same system, because they must go down to the hold when the cargo is being unloaded and take their samples. The cargoes there are unloaded in most cases by suction and the grain goes through the scale and into barges or railway cars.

Q. It is possible that their sample would not correspond with ours?—A. It is quite possible.

By Mr. Coote:

Q. There is no mixing allowed in the terminal elevators now under the new Act, is there?—A. Not in the 3 Northern or higher grades.

Q. Any Garnet wheat, or a large percentage of Garnet wheat which appeared in No. 1 grade in a cargo reaching Liverpool must have been in the car which was graded 1 Northern when it went into the terminal elevator in Canada; that would seem to follow?—A. Yes, or else a mistake has been made in binning the car in that elevator, which is done occasionally. They might get 2 Northern in a 1 Northern bin, and vice versa.

Q. I understood that that was not done any more?—A. Errors are made in binning to-day as they have ever been. They cannot prevent some errors. We were loading 3 Northern wheat at Fort William a while ago and we had to shut it off because No. 6 wheat was coming out of the 3 Northern bin. We checked that up and found it was an error in binning.

Q. Does that lead us to believe that perhaps they need a few more inspectors in the elevators to see that these mixtures do not occur?—A. No, I think not. That was shut down and the elevator was responsible. They had to take that out along with the No. 6 they put in and they lost some of the No. 3. They were the losers.

Q. I think we expressed the opinion a few years ago that to prohibit mixing in these grades we would need a larger staff, really in the sense of policing the elevators to see that these mistakes did not occur. I understand that that has not been done; there has been no increase in the staff. Would it not be supposed that mistakes would be more liable to occur because perhaps you have not put on some additional men to see that no mixing is taking place?—A. Of course, that was discussed considerably in 1929, and the staff required to police these elevators was estimated at about 600 men, from Fort William to the coast. That would be more than doubling our present staff. I do not think that would be advisable.

Mr. LUCAS: You do not claim the trouble is wilful; it is an error?

The WITNESS: Yes.

Mr. TOTZKE: If it is decided to grade Garnet wheat separately, would you anticipate any difficulty on the part of your official inspectors in determining the Garnet as compared with the Marquis—the percentage of Garnet in any sample of wheat that might come in. Let us get away from the fact of whether the initial elevator operator will have any difficulty; will your inspectors have any difficulty?

The WITNESS: No more in keeping it out of 2 and 3 than in keeping it out of 1 hard and 1 Northern. We have been making separations keeping the Garnet out of 1 hard and 1 Northern practically, and we have very few complaints on cars graded down to 2 Northern on account of Garnet, in the last five years.

Mr. BROWN: We have been up to the present time successful in regard to 1 Northern and 1 Hard?

The WITNESS: Yes, in a reasonable manner.

Mr. BROWN: That is up to about 4 per cent as was indicated in evidence in one place.

By Mr. Coote:

Q. You do not feel it would be putting too great a burden upon your inspectors to expect them to be able to determine whether wheat was Garnet or not?—A. Well, of course, it would add to our responsibility; it would slow up the work of the graders. There is no question about it. To make separations

to determine the percentage of Garnet in some other variety would take anywhere from 5 to 15 minutes depending on whether the separation is a hard one to make or not.

Q. What would the average time for an inspection be now?—A. It depends on the grain that the inspector is examining. There are times when he would do 30 an hour; there are times if he has got to make separations he would not do more than 15. It may not be only separations for Garnet, it may be separations for barley or rye, White Spring wheat or Durum wheat. We have all these separations to make now.

Q. Would not the separations for Garnet wheat be more difficult to make than any of these?—A. Yes, more difficult.

Mr. TOTZKE: If Garnet wheat were graded separately it would slow up your inspection to that extent; instead of doing 30, you would only be able to do 8 or 10?

The WITNESS: Well, if the whole work was put onto the deputy inspector; but if separations had to be made we might have three or four men who would be trained to make separations of that nature. They would make those separations for the deputy, and that work would be checked by the deputy before a sample was graded.

Mr. COOTE: Have you suggested to the committee what percentage of Garnet wheat might be allowed in 1 Northern if it is decided to grade Garnet separately?

The WITNESS: I have not suggested it.

Hon. Mr. STEVENS: You might repeat for Mr. Coote's benefit as he was not here when we started, your opening observation about the practice in regard to No. 1 grades.

The WITNESS: When Garnet came onto the market in 1927, from reports received by myself from the Experimental Farm here at Ottawa and from mills and laboratories, it was decided to keep Garnet out of 1 Hard and 1 Northern. Instructions along that line were given to the inspectors in charge at inspection points. The instructions given were to keep 1 Hard free and 1 Northern reasonably free from Garnet wheat. Cars carrying 3, 4, 5 or 6 per cent, or odd cars carrying up to 7 per cent might be allowed into 1 Northern. That was given because from what information I had I did not believe that 4 or 5 per cent of Garnet would materially affect the milling and baking quality of 1 Northern.

By Mr. Brown:

Q. At the present time, I suppose, under present conditions there will be a considerably large number of cars of pure Garnet, or relatively pure, that will come in that would make no difference in the time of grading, that would go as Garnet?—A. Yes. You will find that true. I think the great bulk will go as Garnet.

Q. In that case it will not add to the time required for grading?—A. No, only where separations are necessary.

Q. Have you any idea what proportion of the cars containing Garnet will go into 2 Northern, and what mixture would require that?—A. No. I could not give you that information. We have not kept a record along that line. During the last year and a half we have noted only cars where Garnet has been considerable.

Q. You would not like to indicate the percentage of cars of pure Garnet?—A. No, we did not note that.

By Mr. Coote:

Q. The place from which the car comes would be some indication as to whether you should make a careful check on it?—A. The deputy inspectors in grading the samples have no knowledge of the station.

Mr. LUCAS: Supposing it is put in a class by itself, would that eliminate work or increase work as far as grading is concerned?—A. It would increase our work. To what extent would depend on the percentage of admixture coming from the elevators. If Garnet grades were established the elevator agents in the country would no doubt try to keep it separate in the country more than they are doing at present.

Mr. BROWN: Your work under those conditions would be done partly by the country elevators?

The WITNESS: Part of it would be eliminated in the country elevators; at least that is what I would expect.

Hon. Mr. MOTHERWELL: Before we go any further on that, might I refer to the evidence given by Mr. Newman on the second day that he appeared before this committee. I say this in justice to Mr. Stevens and Mr. Weir, the two ministers present, as neither of them was here when Mr. Newman gave his evidence. This appears on page 63 of report No. 3.

Hon. Mr. STEVENS: I have just been reading it; it is quite all right.

Hon. Mr. MOTHERWELL: It is a very important point, and you were quite right in referring to it as you did. I think I had better put this point on record since it has been raised. Mr. Newman says:—

Since the above meeting I have looked up our records and I find that all of the overseas samples discussed on Thursday last, without exception, were collected through Mr. W. A. Wilson, Agricultural Representative for Canada in London, who in turn placed the whole matter in the hands of one of the most reliable organizations in Great Britain, namely, the Liverpool Corn Trade Association. The Secretary of this association, namely, Mr. Urquhart, gladly took it upon himself to secure reliable samples from incoming cargoes. All data, therefore, which I submitted last Thursday which had to do with these overseas shipments, were obtained from material collected directly by or through Mr. Urquhart, and therefore the samples must be regarded as official. Those who are familiar with the methods of sampling and the general methods of procedure of the Liverpool Corn Trade Association will hardly venture to question this statement.

That indicates that the samples taken on this side were official samples supplied by the Department of Trade and Commerce. That would clear up that matter. Now, I understood from Mr. Newman's evidence that a certain number of samples were sent to you direct to identify—to tell how much Garnet was in them. Some of the witnesses seemed to indicate that the samples had been kind of rigged up a little bit for the occasion. Mr. Newman disavowed any intention to do that and said that all of those samples were just as he had got them and the rest of them were, as he thought, the Inspection Department would run up against in certain districts. Now, can you tell us the result of the separation you gave and how long it took?

The WITNESS: I have not been furnished with any documents in connection with it. I saw a report this morning and I glanced over it. I could not tell you offhand what the result was.

Hon. Mr. MOTHERWELL: Did you not forward the results of this grading to Mr. Ramsay?

WITNESS: Yes.

Mr. BROWN: You have not seen the key?

WITNESS: No, I have not seen the key. I cannot say anything offhand. I glanced over the evidence this morning, but I cannot remember it.

By Hon. Mr. Motherwell:

Q. You would have a covering letter forwarding the findings?—A. Yes.

Q. And you would have a copy of the findings, I presume?—A. Yes.

Q. Can you supply the committee with that?—A. I cannot with the covering letter. I have a copy of the percentage that we found in those samples.

Q. Maybe it would be well to have it on file.

Mr. BROWN: We were impressed with the closeness with which your grading came to the sample given in the key. Did you spend more time in making these separations than in ordinary cases, and how much more care did you give them?

The WITNESS: Those samples were all given to the deputy inspectors, one to each, and they made separations. Those separations were checked over by Mr. Ludlam and myself and we altered them slightly. There was a little more time spent on those than we would ordinarily spend.

Hon. Mr. MOTHERWELL: Naturally.

WITNESS: Yes.

Mr. BROWN: You knew that they were for a special purpose.

WITNESS: Yes.

By Hon. Mr. Motherwell:

Q. Can you give us some idea how much—an hour or a day?—A. On the nine samples?

Q. On the nine samples?—A. Well, it was done in off moments; it was not a continuous time spent on them. The deputy inspectors did not have them more than ten minutes or fifteen minutes at the most. When they were turned over with their results we probably spent another ten or fifteen minutes on each sample checking it over.

Q. You did put them out on a paper?—A. Yes, and separated them. We first weighed up a small quantity of each sample and made our separation and weighed it back. Now, in doing that we used about twenty grams. The scale that we had was not as fine as it should have been and we might easily be 1 or 2 per cent out on that account.

Q. Did the sample seem to be set up in such a way as to embarrass the Inspection Department? If you do not want to answer that question I will not press it?—A. I would not say that, only the mixture of other varieties in it did not just seem to be natural mixtures.

Q. They were difficult ones?—A. Yes.

Q. Of course, there are so many wheats being grown in certain districts, they inevitably must be difficult. You know the kind we have to deal with on the Standards Board. Would you think it was more difficult than the ones we have in bags on the Standards Board?—A. No, no more mixed than that.

By Hon. Mr. Weir:

Q. Do you think that that statement as to the amount of grain in that sample is correct?—A. I would not make a statement saying that we can make a 100 per cent separation. There are cases where I think we could do that where the varieties are dissimilar to such an extent that there would be no trouble; in others I would not guarantee 100 per cent.

Q. One hundred per cent would not be necessary in practical work?—A. No.

Hon. Mr. MOTHERWELL: Will you file a copy of your separation with the clerk?

The WITNESS: Yes. I will file it now.

BOARD OF GRAIN COMMISSIONERS FOR CANADA

OFFICE OF CHIEF INSPECTOR OF GRAIN
WINNIPEG, MAN., February 24, 1932.

Nine samples of wheat received from L. H. Newman, Dominion Cerealist, February 11th for separation as to Garnet Content:

Sample No.	Percentage of Garnet	Amount Separated Grams
1..	None	33
2..	33	33
3..	50	20
4..	None	20
5..	41	12½
6..	100	12½
7..	16	39
8..	None	25
9..	39	33

All percentages determined by weight.

JAS. D. FRASER,
Chief Inspector.

By the Chairman:

Q. Do you find in different localities that the type of wheat grown differs sufficient to embarrass you in your inspection?—A. The type will change, but usually it is to a larger or smaller kernel; it does not change the formation of the kernel.

Mr. BROWN: Or the colour?

The WITNESS: In some localities it might be darker than in others.

Hon. Mr. MOTHERWELL: It depends upon freedom from bleaching.

The WITNESS: Yes.

Mr. BROWN: And the character of the soil.

The WITNESS: Yes, the character of the soil.

Hon. Mr. MOTHERWELL: The first run will run high, and if you get bad weather after that it will be lower on the same wheat.

Mr. BROWN: In the case of bush land which has been opened up it will give a lighter colour than after that land has been cultivated for a couple of years.

The WITNESS: Yes, although there is bush land that has produced wheat of light colour for a great many years. In some of the older districts in Manitoba they have been farming for 50 years and still produce starchy wheat.

Mr. BROWN: I know that my own farm was a bush farm and I am growing red wheat now where I used to grow white wheat.

Mr. LUCAS: Have you received complaints from Canada or Great Britain with regard to No. 2 since the inclusion of Garnet wheat in No. 2 in the last four or five years?

The WITNESS: We have had very few complaints this last two or three years. All the complaints made now are made direct through the Board of Grain Commissioners and by them referred to me. I investigate these com-

plaints and give the particulars to the Board and they reply to the complaints in the old country.

By Hon. Mr. Motherwell:

Q. How does the number of complaints these last two or three years, since Garnet came on, compare with the number of complaints previous to Garnet, that is in 1925, 1926, 1927 and 1928?—A. The last two crops have been very dry. They have been high classed wheat all through and naturally we have not had the complaints to the same extent as in 1927 and 1928 when we had the tough crop.

Q. There is no doubt about that. At the same time, I think the Minister of Agriculture knows there was a tremendous lot of it out in the north these last two years, up in northern Saskatchewan—I do not know about Alberta. There was a lot of bleaching. In that territory they grew piebald Marquis that is growing Garnet and Reward now. Now, which do you think would be preferable, that piebald yellow bellied, if you will excuse the term, it comes from the department—that shocky, starchy Marquis that we used to have from that territory or the Garnet—which would be the more deleterious to the general standing, that piebald Marquis or Garnet substituted for it in that north country?—A. Of course, starchy wheat is a poor wheat.

Q. It is looked upon as poor wheat. Where did you get that from? It was not from Dr. Birchard?—A. Starchy wheats.

Q. Garnet wheat?—A. Starchy wheat or White wheat.

Q. You mean Marquis White wheat?—A. Wheat of any variety. It is very weak wheat.

Q. And they are very scared of that and denounce it more than anything else that we have ever had complained about, is that not right—that starchy piebald Marquis wheat?—A. Yes, we have heard some complaints on that; but as a general rule the percentage of that starchy wheat from the north is lost largely when blended with the harder wheat from the centre and southern parts.

Q. Under present conditions its place is taken by Garnet and, to some extent, by Reward?—A. Yes, unquestionably.

Q. And a higher percentage of redness in the average cargoes than previously?—A. Yes, I think so.

Q. Of course, it does not follow that there will be a corresponding higher percentage of gluten, but as far as the eye test is concerned it is redder, and the percentage of piebald Marquis is disappearing as the other takes its place?—A. Yes, there is no doubt about that.

Q. As far as you know anybody who ever grew Garnet wheat in the south and got one dose of rust was cured of growing Garnet, but so long as there has been no rust in that north country the farmers prefer to grow the Garnet because of its prolificness. Now, the question before the committee is where it should be graded, and has it had a deleterious effect by displacing the low-grade Marquis. It is not an easy problem?—A. No.

Q. Do you think that any one wheat can contain all the good qualities? They have not found any wheat that has contained all the good qualities that are desired?—A. In all the districts in the west—I think they all have faults of some kind.

Q. Have you found any one market that all requires the same wheat?—A. Of course, I do not do any marketing, so I could not say.

Q. Take the Scottish Co-operative, when you were over. Now, those gentlemen have not a good word to say about Garnet. Look over their evidence and it is very strong against Garnet, and yet, on the next page of Dr. Birchard's evidence, another man in Berlin or in Europe, had nothing but good things to say about Garnet. Now, how are we, as ordinary people, to decide when doc-

tors disagree like that? What conclusion did you come to when you were over there?—A. When I was over there there was no question of Garnet; it was a question of bleached wheats.

Q. It was No. 3 that was making the trouble then?—A. Yes.

Q. If there was any complaint this last two years, there were more before.
—A. Yes; there is no question about it.

By Hon. Mr. Weir:

Q. Which would you say would stand up better in a wet season for colour, Garnet or Marquis?—A. I have had no field experience, but it would appear to me that Garnet will bleach quicker than Marquis and sprout.

Q. Oh, yes, sprouting; but my question was as to colour?—A. I cannot answer that, because I have had no experience in growing.

Hon. Mr. MOTHERWELL: Has it come to your experience whether bad weather which produces sprouting deteriorates Garnet as much as the same weather would deteriorate Marquis?

The WITNESS: I cannot answer that. I am satisfied, of course, that Garnet will sprout quicker. As far as the bleaching goes, I cannot answer that.

Hon. Mr. MOTHERWELL: It does, but it sprouts in the ground quicker. If you introduce the ground conditions it will sprout quicker.

By Hon. Mr. Coote:

Q. With regard to the type of different wheats, is it not true that in one variety of wheat you might get two really different types because they were grown in two entirely different localities where the character of the soil was different and also the amount of rainfall and sunshine and so forth?—A. You would get a difference more particularly in the size of the kernel. Of course, the variety of grain in the north and bush land will grow more starchy, but actually the form of the kernel is not particularly changed.

Q. In one part of the country you may get a sample weighing 57 pounds to the bushel and another one weighing 58, because one has had plentiful moisture to make a fine big berry and the other berry is very lean because of the season. Is not that where you get the greatest difference in type within the same variety?—A. I do not know as 58 pounds per bushel would make a great deal of difference, but if it should go down to 51 or 52 pounds it would be so thin then that it would be difficult to distinguish what variety it was.

Q. Where it is down into the lower grades, perhaps that is where you have the most difficulty in determining the varieties?—A. Yes.

By Hon. Mr. Motherwell:

Q. You do not get much Garnet below 2 or 3?—A. Sometimes. We have Garnet down to feed wheat.

Q. Due to thinness or frost?—A. Frost.

Q. That was probably sown after the first crop had been blown out?—A. Possibly.

Mr. LUCAS: In grading Garnet where No. 1 Garnet goes into No. 2 Northern, does that mean that No. 2 Garnet would go into No. 3 Northern?

The WITNESS: No, 1 and 2 Garnet wheat go into 2 Northern. If it is Garnet that is 3, that, of course, goes into No. 3.

By Hon. Mr. Stevens:

Q. Mr. Fraser, would you look over that table which is an analysis of grade samples taken from overseas shipments of the 1930 crop, and the percentage of 1 Northern, referring to 22 cargoes, and you will notice that out of the 22

cargoes, at the bottom of the list, the fifth and sixth column, it shows that the presence of Garnet in No. 1 is described as 9.55 in regard to the "Holystone" cargo, and in the "San Lucas" 13.02 per cent of Garnet. Can you explain or give any explanation to the committee how cargoes could have been inspected out containing as much Garnet as that in No. 1? Before you answer that, I will call your attention to the fact that in all the other instances—the other 20 shipments—the percentage was below 5 per cent or 5 per cent. Could you explain those two cargoes?—A. I do not know that I could give you a satisfactory explanation about them.

By Hon. Mr. Motherwell:

Q. Are those the same cargoes that Mr. Newman referred to?—A. Yes, only the high one is 13 per cent and the other is 9½ per cent. Two shipments of 1 Northern. If that is so, the inspector that let that out has made a mistake in letting it out. If the sample has been drawn correctly on the other side, and if this was a proper separation, then an error has been made by the inspector that has let it out.

By Hon. Mr. Stevens:

Q. Would you have at Fort William samples of those cargoes?—A. Not back to 1930. We keep our samples of cargoes for twelve months.

Q. There is no way of rechecking that?—A. No, there is no way of rechecking it.

Q. Was your attention drawn to it at the time?—A. No, to-day is the first I have heard of it.

Q. There never was any complaint made to you about faulty inspection of those two cargoes?—A. No. I do not remember of ever having a complaint on the San Lucas or the Holystone.

Mr. COOTE: Thirteen per cent would not be very serious if it did happen to get by, from what we have heard about it.

The WITNESS: I would not like to have cargoes of 1 Northern go out containing 13 per cent. There is a chance that complaints might be made.

Mr. BROWN: The whole evidence is that this is a rare occasion; it is an exception.

The WITNESS: There is no question about it.

Mr. COOTE: The statement of Mr. Newman shows that it is an exception.

Hon. Mr. STEVEN: But no complaint was made at the time, nor have you ever had a chance to recheck that?

The WITNESS: No. I have never seen a complaint on 1 Northern on account of admixtures of Garnet from any place either from overseas or the home millers.

Hon. Mr. MOTHERWELL: Will this account for it? It is no mystery to me at all. I know the practice by many farmers who have grown both Garnet and Marquis. They simply market it together either into a car or into an elevator and they invariably catch 1 Northern. I have found the Inspection Department in my experience very fair to the farmer, and when they see a sample of grain with a fair sprinkling of Garnet in it, maybe more than 19 per cent, they will let it go through as 1 Northern.

The WITNESS: I do not think so. I would not acknowledge that. That is not the instructions.

Hon. Mr. MOTHERWELL: How does it get through?

The WITNESS: If it got through it may have been an error in loading or got mixed in an elevator.

Hon. Mr. WEIR: Have you reference to the country elevators?

Hon. Mr. MOTHERWELL: I was referring to the country elevator. They shoot it forward and get the final certificate.

Hon. Mr. WEIR: The country elevators do buy Garnet wheat for 1 Northern and at 1 Northern price.

Hon. Mr. MOTHERWELL: What is more, the farmers deliver it that way.

Hon. Mr. STEVENS: It is not officially graded.

Hon. Mr. MOTHERWELL: Mr. Fraser officially grades it, and it shows 19 per cent by a growing test which they say is the surest way to find out.

Hon. Mr. STEVENS: Of course, that is a wrong impression.

Hon. Mr. MOTHERWELL: Now, anybody who is farming wheat knows the difference between initial inspection at a country point and official inspection by Mr. Fraser's department, and Mr. Fraser's department I want to testify stands high in the estimation of farmers particularly, and it always has been high, not only since Mr. Fraser has had charge, but during the time of Mr. Serls and Mr. Horne.

Hon. Mr. WEIR: The big difficulty will be in the country elevator.

The WITNESS: I imagine you will have considerable difficulty in connection with Mr. Motherwell's question. Ever since Garnet wheat has been excluded from 1 Hard and 1 Northern we have been checking cargo samples that have come back from the head of the lakes and the Pacific coast. We have been checking them, and we keep checking them as these samples are received ever since we have graded Garnet into 2 Northern, and our experience in our separations is that we have found in cases 1 per cent or 2 or 3 per cent or 3½ per cent, and that is about as high as we have got in the samples that we have made separations of, but never anything like 13 or 9 per cent. Now, in regard to this cargo going out and containing that large percentage—we will assume that the sample taken was correct—if that is so the inspector has made an error.

Hon. Mr. MOTHERWELL: I am not referring to the 19 per cent to demonstrate that the inspectors cannot grade it.

Hon. Mr. STEVENS: There is no 19 per cent in any cargo. It is 13 per cent and 9 per cent.

Hon. Mr. MOTHERWELL: Thirteen per cent was the highest. Take 13 per cent in this one cargo. It was not to demonstrate that the Inspection staff could not grade it, but just that it was there and got in somehow; and I think from my experience with the Inspection staff that if they do get a first class car loaded may be right to the top almost with 1 Hard that they will take all things into consideration and may let a little more in, whatever it may be.

The WITNESS: That would be the highest—up to 7 per cent in choice cars.

By Hon. Mr. Motherwell:

Q. The aim of the Inspection staff is to keep your general grades uniform?

—A. Yes.

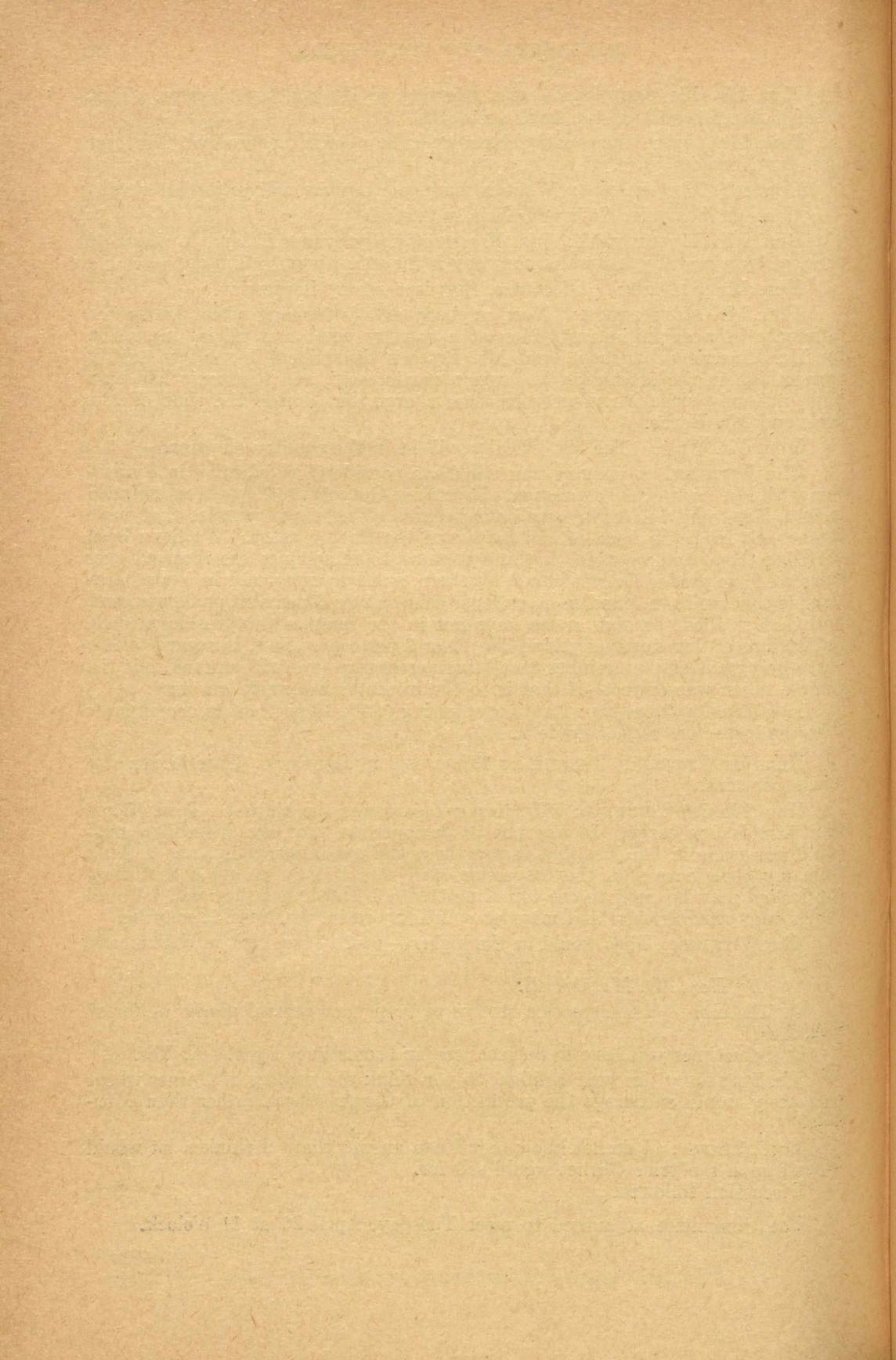
Q. Sometimes you have to be generous, and sometimes tight?—A. Yes.

Mr. PORTEOUS: In your opinion, do you think the grading of Garnet wheat separately would encourage the production of Garnet wheat rather than Marquis?

The WITNESS: I do not know that I can answer that. I think a lot would depend upon the price Garnet would sell for.

Discussion followed.

The Committee adjourned to meet Tuesday, April 26 at 11 o'clock.



SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND EVIDENCE

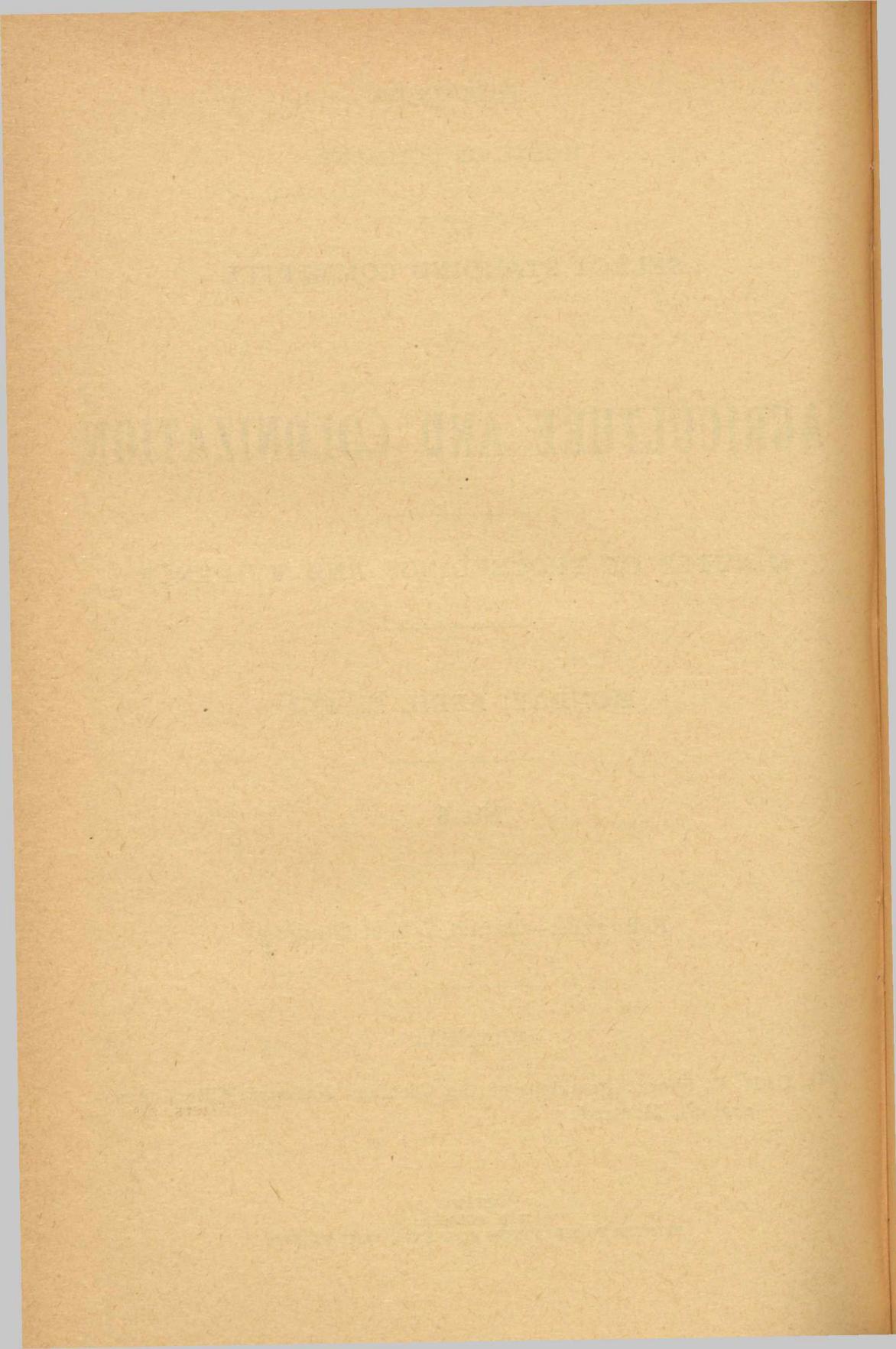
MONDAY, APRIL 25, 1932

No. 6

Reference,—Garnet Wheat Grading.

WITNESS:

Mr. C. H. G. Short, (President of the Canadian National Millers' Association), Montreal.



MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,

MONDAY, April 25, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock in the forenoon. Mr. Senn, the Chairman, presiding.

Members present: Messieurs Barber, Bowen, Boyes, Donnelly, Hay, Loucks, Lucas, McGillis, McKenzie (*Assiniboia*), Motherwell, Mullins, Myers, Perley (*Qu'Appelle*), Pickel, Shaver, Senn, Simpson, Smith (*Victoria-Carleton*), Sproule, Totzke, Weir (*Melfort*), 22.

Mr. C. H. G. Short, President of the Canadian National Millers Association, called heard and examined on the subject matter of the Order of Reference, *re* the Grading of Garnet Wheat.

Witness retired.

In attendance: Hon. H. H. Stevens, Minister of Trade and Commerce; also Mr. Alcock, Chief Chemist of the Canadian National Millers.

The Chairman informed the Committee that the next witnesses to be heard on Tuesday, April 26, were Mr. Hutchison, Mr. Steele, and Mr. James A. Richardson.

The Committee then adjourned to meet at 11 o'clock on Tuesday, April 26, 1932.

A. A. FRASER,

Clerk of the Committee.

MINUTES OF EVIDENCE

Room 429,

April 25, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock to consider the Order of Reference of the Committee on grain standards to the Department of Trade and Commerce.

Mr. Senn presiding.

The CHAIRMAN: Gentlemen, Mr. Short of the Canadian National Millers' Association is to be our witness this morning. I may say that Mr. Short has his chemist with him, and he will be prepared to give us any technical evidence we wish, and if the Committee so desires to hear him he will make a statement as well, I understand.

C. H. G. SHORT, called.

By the Chairman:

Q. What is your position, Mr. Short?—A. I am president of the Canadian National Millers' Association. Mr. Chairman and gentlemen, I am not acquainted with the rules of procedure for a committee of this kind so if I transgress it will be through ignorance and not through intention. I have nothing to add to the presentation and advice previously given by the Association with regard to the grading of Garnet wheat, but I would like to make it clear at the outset that the milling industry is in no way inimical to Garnet wheat. In coming to our conclusions we have always held the conviction arrived at in a purely detached fashion that it was in the interest of everyone to have Garnet wheat separately graded. Our reasons for this are so that we shall be able at all times to maintain a uniform quality of our flour for the export markets. This we have always felt is of very great importance to the Canadian wheat producer, because, after all in the last analysis, it is flour which is the standard bearer for the wheat. Canadian flour in the overseas markets, as you know, goes direct to the bakers. The bakers mix it with flours of weaker quality, and the resultant mixture—the quality of which is determined by the percentage of Canadian flour which they use in that mixture—is the quality competition which concerns the home miller in that country. This quality competition for the importation to any market of Canadian flour entails upon the home miller of that country the employment of Canadian wheat. It is, therefore, a matter of vital concern to the wheat producers of the country that the milling fraternity should be able to maintain at all times the uniform standard of flour.

In October, after we had had communication with the then Minister of Agriculture, the honourable Dr. Motherwell,—in February of 1929 to be correct—a meeting was held at which there were present representatives of the grain growers, the government, and through the courtesy of Dr. Motherwell, the millers were allowed to present their views. At that time our views were submitted in the form of a statement which was read to the meeting, and at this juncture I feel that I cannot do better than to submit again that brief which was then read. I have here half a dozen copies of this brief which I shall be glad to submit to the meeting. I do not know whether you wish it to be read into the evidence.

Q. If you could summarize it for us now we could have it printed in full in the evidence. Is it very lengthy?—A. It is quite lengthy. Mr. Chairman, I wish to disavow myself completely from any pretention to being an expert. I have with me Mr. Alcock who is a cereal chemist. I think perhaps you might defer the reading of this until Mr. Alcock gives evidence, although in the face of the bulletin to which I am going to refer in a few minutes, issued by Mr. Newman, there does not seem to be much purpose in submitting evidence which is so fully borne out by the tests which are referred to in that bulletin.

Q. Of course, if the one corroborates the other it would have some value?—A. Well, it does.

By Hon. Mr. Motherwell:

Q. May I ask if this is the same memorandum?—A. Certainly.

Q. There should be no objection to giving a summary of it and putting it in the record?—A. Perhaps the best thing I could do, instead of summarizing it, is to read it in full.

OTTAWA, ONT., February 15, 1929.

Hon. W. R. MOTHERWELL,
Minister of Agriculture,
Ottawa.

DEAR SIR,—After making inquiries among its members, the Canadian Millers Association recently requested that Garnet Wheat be placed in a class by itself for grading purposes. In view of the interest which the Department of Agriculture has in this variety and of your own keen desire to co-operate with the Department in its important task of developing varieties of wheat better adapted to our needs than those available at present, we have asked our chemists to summarize their findings with regard to Garnet, with the object of preparing a general statement for your information and guidance.

First of all, we think it would be worthwhile to point out that in the matter of wheat varieties the interests of the producers and of millers are essentially the same. If the farmer cannot prosper either because his yield of wheat is low or because his wheat being of poor quality commands but an unremunerative price, then neither can our domestic market for flour expand. Both as line elevator companies and as millers, our prosperity is tied up with the prosperity of the western farmer and we clearly recognize the value to ourselves as well as to others of the work which has been done in the Department of Agriculture.

Before passing on to deal with our findings with respect to Garnet Wheat we would like to say that this variety has been carefully studied in the laboratories maintained by all the large Canadian mills. Working quite independently of one another and arriving at their conclusions without consultation with one another, their results and views display a surprising unanimity and in all essential particulars are in perfect agreement. This gives us the greatest confidence in their conclusions which we have summed up and now present to you as the considered opinions of the Canadian milling industry as a whole, with respect to Garnet Wheat.

MILLING QUALITY

Garnet Wheat is decidedly different in character from Marquis. It is much harder and more vitreous, and when conditioned to the same degree as Marquis does not mill satisfactorily. The bran breaks up readily, contaminating the Middlings and eventually the flour, resulting in a flour of relatively high ash content. The Middlings are also more difficult to reduce to flour.

In order to give satisfactory results in the mill, Garnet Wheat requires longer tempering at a higher moisture content than Marquis and because the new variety requires this special treatment prior to milling, it follows that mixtures of Garnet and Marquis are undesirable. Under the present grading practice, it reaches most of our mills with Garnet in the northern class in the form of a mixture with Marquis and other varieties.

FLOUR QUALITY

Colour.—The most striking feature with regard to Garnet is the decidedly yellow colour of the flour it yields. Whether bleached or unbleached flours are compared, the inferiority of Garnet is so pronounced that there is no disagreement as to its existence. Thus in the bulletin No. 83 by the Department, Messrs. Newman and Whiteside say that "Garnet" produces a flour carrying more of the yellow pigments than Marquis; hence has been awarded a lower score for colour.

Actually the spread in colour between the flours produced by these two varieties is greater than that between top patents and second grade flour, milled according to the usual commercial practice.

Doubts have been expressed by the Department as to the commercial importance of the inferiority in the colour of the flour from Garnet wheat, considering that bleaching methods are now in common use. We have already answered these doubts by saying that even after they have been bleached, the difference in colour between Garnet and Marquis flour still persists. We would add that several countries to which we ship flour prohibit the importation of bleached flour, nevertheless our customers in those countries insist on a flour of good colour and if they cannot obtain it from us they will go elsewhere for it. We find that even where the customers themselves express a preference for unbleached flour, they will yet complain if the flour we supply them does not possess a good white colour. While public taste remains in favour of white flour, a wheat yielding a flour of darker colour must necessarily possess a lower commercial value than one producing a flour having a colour better suited to popular demand.

BAKING QUALITY

Garnet wheat is deceptive in appearance, for though its kernels are hard and red, it is consistently lower in protein by .5 per cent to 1 per cent than Marquis grown under similar conditions.

We find that flour from Garnet wheat absorbs less water than the flour from Marquis and consequently gives a lower yield of bread. The difference in this respect is not great but still averages very close to 1 per cent and is therefore of commercial significance. With regard to protein content and absorption, chemists are again in very close agreement with the published results of the Department. In the bulletin to which reference has already been made, the following conclusions are drawn:—

The crude protein of Garnet grain is usually somewhat lower than that of Marquis although the appearance of the grain might lead one to think otherwise, and

Generally speaking the flour of Marquis absorbs a little more water than does that of Garnet and consequently is inclined to produce a little higher yield of bread.

Loaf Volume is a factor, the importance of which is very generally over-emphasized in laboratories engaged in purely experimental work. The reports of the Department indicate that Garnet yields a loaf of

larger volume than Marquis, whereas the reverse has been found by every chemist connected with the Canadian milling industry.

Comparing the texture of general appearance of the loaves, our chemists report that Garnet is the poorer.

Absorption, loaf volume, texture and appearance are the characters on which we judge the strength of the flour and considering the results obtained in our laboratories, we cannot escape the conclusions that Garnet flour is definitely weaker than that from Marquis, and that in addition to containing less gluten, the gluten it does contain is of a poorer quality. This is confirmed by the statements of mill chemists who have washed out glutens and studied their physical characteristics.

In view of this weakness, we are convinced that Garnet wheat is less suitable than Marquis for blending purposes, also that the flour from Garnet wheat will be less satisfactory to our customers, whether they want a strong flour to be used alone or, as is so frequently the case with overseas buyers, they require from us a strong flour for blending with weaker and cheaper types.

That there are pronounced differences between Garnet and Marquis wheat is, as we have seen, generally agreed upon. To make this clear we quote again from Bulletin 83, on page 52, we find the following conclusions:—

The milling and baking tables indicate that in these particular tests Garnet averaged appreciably lower than Marquis in weight per measured bushel, in crude protein content, and in flour and crumb colour. In absorption, loaf weight and crumb texture Garnet is slightly lower than Marquis.

On Page 74:—

“From the standpoint of milling and baking qualities, Garnet undoubtedly, does not rank as high as Marquis, all things considered.”

Knowing what we do of the requirements of our trade, we know that in milling quality, colour and strength, these differences render Garnet a much less desirable wheat than Marquis for our purposes and we believe they are of sufficient commercial importance to justify us in asking that Garnet should be placed in a separate class for grading purposes.

The desirability of uniform and dependable grades of wheat is recognized by everyone, but while Garnet is grown in any volume and finds its way into the northern grades in varying percentages, uniformity of equality is altogether out of the question. Uncertainty regarding the quality of a product will inevitably bring down the price it commands.

During recent years there have been many complaints from export markets regarding the quality of Canadian wheat, and, owing to the lowering of the quality, Canadian flour and Canadian wheat no longer commands the premiums they used to fetch. The results obtained by our chemists and the interpretation in the light of commercial experience of the results reported by the Department leave no doubt in our mind that the wide spread use of Garnet will be followed by a change in the character of Canadian wheat which will not only result in loss of export flour trade but will increase the dissatisfaction of the foreign miller with regard to our wheat. This dissatisfaction is sure to be reflected in the price.

From the standpoint of the farmers' interests, these are strong arguments against the placing of Garnet wheat in the northern grades. We realize that the farmers in certain localities will benefit by the introduction of Garnet. Whether the farmers as a whole will profit, we regard

as very doubtful. It is conceivable that the yields per acre may be increased to such an extent in some districts as to more than offset the lower price brought about by the poorer and more uncertain character of our grades. This is a matter of opinion and will depend largely upon the growing season in any particular year.

The fact must not be overlooked, however, that the farmers of the more southerly parts of the Prairie Provinces, where yields are generally low, already suffer as a result of their relatively high quality wheat being mixed and sold with the weaker wheat from northern districts. This handicap is now being heavily increased by the further depreciation in quality resulting from the introduction of such inferior variety as Garnet. Obviously, it is in the interests of the farmer who grow such eminently satisfactory wheat from the quality standpoint as Red Fife, Marquis and Reward to keep inferior wheat such as Garnet out of the northern grades. Those on the other hand who grow wheats of poor quality in order to get yield cannot, with any justice, expect to get a higher price per bushel than his wheat is worth at the expenses of the other growers.

Under all these circumstances we cannot but deplore that Garnet wheat was admitted to the northern class. This step only benefits the grower of Garnet to the disadvantage of every other interest. In order that our grades may be reasonably uniform in character, that the milling industry may not be unfairly penalized, that the returns to the growers in different parts of the country may be equitably balanced, and that the reputation of our northern grades may be preserved, we submit with all the emphasis we can that Garnet should now be withdrawn from the northern class and given a separate classification in the manner of White Spring Kota and Durum wheats.

Garnet will be much more valuable in the unmixed condition, for by itself it can conceive the special conditioning that its characteristics render necessary. And if, after all, it should turn out that its qualities are more desirable than the reports of our chemists would indicate, its real value will be reflected in the price it will command on the market.

In any case, we believe that Garnet should stand on its own feet and be sold on its own merits.

Yours very truly,

CANADIAN NATIONAL MILLERS' ASSOCIATION,
President.
Secretary.

As the result, Mr. Chairman, of the meeting held before Dr. Motherwell, it was finally decided that some of the shipments of wheat of that admixture of Garnet would be sent to the largest potential buyers of Canadian wheat overseas, and that their opinions should be solicited and elicited. Bulletin No. 134, issued by the Department of Agriculture, gives the overseas tests of milling and baking qualities of Garnet wheat, and we respectfully suggest, Mr. Chairman, that the advice that we proffer in the matter in respect to the separate grading of Garnet wheat received the fullest degree endorsement from the people to whom this wheat for testing purposes was sent. Mr. Newman, in a foreword to the bulletin, epitomized the situation by saying that to be specific the question now to be settled may be stated as follows: Should Garnet be allowed to go into our highest grades of Manitoba Northern without restriction of any kind, or would it be preferable to set up at least one or two official grades for the accommodation of this variety or continue to handle it as at present. In the baking tests reported upon by the overseas buyers they are all in agreement that Garnet wheat should be separately graded with the exception of one

person, Dr. Biernert, chief chemist of the Biernert Flour Mills of Dresden, Germany. Mr. Newman himself in a general summary of the results obtained from overseas tests on page 15 of that bulletin states:—

In regard to question No. 5 as to whether or not there should be any advantage to the trade if Garnet were offered in a relatively pure state, it seems to be almost the unanimous opinion of European and British investigators that it would be advisable to handle this variety separately for a time at least.

Mr. Chairman, in conclusion I do wish to feature the fact that our sole concern in this matter, the sole reason prompting us in proffering our advice is the absolute essential necessity, from Canada's viewpoint as a wheat producing country, that the uniformity of our product should be kept, and as millers we feel that it is not within our power at all times to insure a uniform product unless Garnet is graded separately and put at our disposition for employment as a separate grade to be used in direct relation to its qualities.

By Mr. Motherwell:

Q. I presume this memorandum applies, Mr. Short, to your own home trade—the undesirability of Garnet for the home market as well as for foreign markets?—A. Yes, I do not feature that as much, Dr. Motherwell. I think it is essential from the export standpoint.

By the Chairman:

Q. Mr. Short, there are quite a number of small mills here in Ontario—100 barrel mills and less—which mix these western wheats with Ontario winter wheats for the local trade. Have they made any representations?—A. Yes. Some time ago Mr. Watts, who represented the Dominion Millers' Association, wrote to me fully on that subject.

By Hon. Mr. Motherwell:

Q. Do you use No. 2 much for your home trade?—A. Dr. Motherwell, we have to avoid No. 2 as much as possible.

Q. For home trade?—A. For all trades.

Q. That is the reason you want to relegate Garnet wheat into the same class as Kota.—A. I cannot speak as an expert and say at what level the value of Garnet wheat will ultimately find itself.

Q. Do you know what happened to those two wheats since they were graded separately?—A. Yes.

Q. Don't you think the same would happen to Garnet?—A. I do not think it is altogether necessary that that follows. As I have tried to explain, we are not inimical to Garnet wheat; we would certainly employ Garnet wheat in our mixture; but we would infinitely prefer from all standpoints to receive the wheat separately so that it may be given the proper conditioning and tempering which we are unable to give it now.

Q. You think if it were separate you would be using some?—A. I see no reason why not, but I would prefer that you ask that question of the practical man who is following me. Naturally I am only giving you the formulated conclusion of the milling industry based upon the findings of their practical men.

By Mr. Donnelly:

Q. I noticed in your memorandum that you say that Garnet wheat, grown under the same conditions as Marquis wheat, was lower in protein content. Have you any evidence to prove that that is true?—A. Again, concerning any

statements I make which are technical I wish you would ask the following witness and he will give you the evidence right now.

Mr. ALCOCK: I will quote here from Mr. Newman's bulletin on Garnet wheat, Bulletin No. 83: "The average protein of Garnet in Manitoba was 12·2; Marquis 12·4, Saskatchewan—Garnet 14·4, Marquis 15·0."

Mr. DONNELLY: I fully realize that that is correct with respect to Marquis wheat; Marquis wheat has more protein; but you say when grown under the same conditions. Now, you must realize that it is in the northern part where Garnet wheat is grown—Marquis wheat is grown in the south—Marquis wheat when it is grown under the same conditions as Garnet wheat in the north is low in protein.

Mr. ALCOCK: When they are grown under the same conditions.

Mr. DONNELLY: I want the evidence to show that.

Mr. ALCOCK: These are chosen plots that Mr. Newman is reporting on. Grain grown under exactly the same conditions. In the north country the spread tends to widen out between these two varieties. That is referred to in the report of the Research Council chemist, Dr. Larmour. Up north the spread between Marquis and Garnet grown under the same conditions tends to widen out.

Mr. DONNELLY: To widen out? How do you mean?

Mr. ALCOCK: The Marquis and Garnet both drop in protein but the Garnet drops more than the Marquis does.

Hon. Mr. MOTHERWELL: I do not think that is borne out.

Mr. DONNELLY: I do not think you will find much Garnet anywhere else than in the north.

Hon. Mr. MOTHERWELL: How is Marquis looked upon in the north country?

Mr. ALCOCK: The appearance of Garnet certainly belies its real quality. It appears under false colours. It is hard looking, but it is not high in protein. This was brought out in Mr. Newman's own statement. It looks better than it really is.

Hon. Mr. WEIR: What is the maximum protein?

Mr. ALCOCK: I do not think I could tell you that.

By Hon. Mr. Motherwell:

Q. You quoted freely from this bulletin. I notice that the tendency of Mr. Newman was to go the other way for fear it would not turn out as well as he expected, and his warning as far as possible is against that possibility, Mr. Short?—A. Yes. I admit that. I also will go a step further and say that that is an eminently fair production too, but I do not see how anybody reading it together with the results of the overseas tests could come to any other conclusion than that the Europeans are in complete agreement.

Q. Now, I have the opinion of Mr. Banks, the chemist for the Ogilvie people, after having samples submitted to them. He gives one of the most complimentary references to Garnet wheat I have seen anywhere. He seemed to be so desirous of being fair to Garnet that he was almost leaning backward. This is on page 62 of the 1926 Dominion Report:—

Garnet wheat would blend well with Marquis and yield an excellent flour, probably one giving greater general satisfaction than that from straight Marquis.

Take that by itself. I asked Mr. Banks, you remember——A. I remember.

Q. I said, "how do you explain making that report and then going on following that and denouncing it up hill and down dale?" I said, "are we to read all the following paragraphs in conjunction with that to qualify it?" He

said, "Yes". Well, you can get anything you like out of that report. Now, any wheat that would blend with Marquis should be a good wheat, yet they have it down here among the low grade wheats like Kota and Durum?—A. He may have been speaking of the early stages, without having given the matter very full consideration.

Q. You think he does not hold that view now?—A. I am perfectly certain he does not.

Q. I think it is the same as with Mr. Newman; all our views are apt to change a little bit with additional evidence?—A. True, but I can only say that the views that we as an Association have entertained, we continue to entertain. We believe that our convictions are fully borne out by these overseas tests. We see that Mr. Newman, who conducted these tests, comes to the conclusion that the tests prove very clearly that the almost unanimous opinion was it should be graded separately. I think you should also grasp the one essential fact that we are not inimical to Garnet wheat.

Q. Are you able to get all your requirements in 1 Northern and 1 Hard?—A. Yes, with a little No. 3—very little—a very small percentage.

Q. Is it only No. 2 that you have to shun?—A. No. Don't exaggerate my language. I did not say that we shun No. 2. I said we avoided it as much as possible. Where, perhaps, in the old days we would be using 40 per cent of No. 2 we are to-day down to 10 or 15 per cent. It reflects the absolute desirability, if I may say so, of maintaining a uniformity of flour to go to the overseas market, and I do maintain with all the vehemence of which I am capable that it is flour which is the standard bearer of our wheat.

By Hon. Mr. Weir:

Q. If it were graded separately, you said you would still use some. What percentage would you use?—A. I could not tell you, but undoubtedly it would be used. There is no question that we would use Garnet wheat.

Q. What would be the advantage? Would it be cheaper?—A. I do not know. I think its price would be determined by the extent to which millers the world over would use Garnet wheat.

Q. The report says that millers prefer not to use it?—A. No. That does not follow, Mr. Weir; it is the admixture; we do not know the percentage in which it is coming to us.

Q. Is your point with regard to Garnet wheat that it does not make as good flour as Marquis?—A. It is used 100 per cent? Oh, no; absolutely no.

Q. If it is not a better wheat by itself and if it does not mix well with Marquis—

Mr. ALCOCK: Before it is milled. If it is mixed after, its disadvantages are not so pronounced.

Hon. Mr. WEIR: If it is used more extensively does it make extra work?

Mr. ALCOCK: I do not think that it would make much difference. Some of the mills would have to change their conditioning systems to some extent.

By the Chairman:

Q. I have a statement here from one of the German mills as presented by Mr. Newman, and it says that "if Garnet wheat is properly handled by itself throughout, in a manner to correspond with its characteristic properties, it can be said that the milling properties and flour yields will resemble very closely those of Manitoba No. 2."—A. It is quite possible, We have never ground it on a commercial scale. We would not dare.

Q. Why?—A. Because its qualities are so different from Marquis flour on which we have built up our trade. In this country we have one mill which is

a European mill, in Calgary, and these people share the opinion of other Canadian mills that Garnet is inferior in milling and baking qualities. It is not altogether a question of changing our mills.

By Hon. Mr. Weir:

Q. You are of the opinion that Garnet wheat is inferior to Marquis in milling and baking qualities?—A. Yes.

Q. What inducement would there be to use it?—A. From the point of view of the quality alone I would say none, but price must enter into the question always, and a sale is made not only on quality but quality and price.

Q. If Garnet were cheaper than Marquis, you think it would be fair to overlook the detrimental effect caused by mixing in view of the fact that it was cheaper?

Mr. SHORT: Oh, no; absolutely no; but there are export markets where quality is not the sine quo non. Take the Orient, for instance.

By Mr. Donnelly:

Q. There isn't any doubt that if we could keep each variety separate and distinct from the other the grain trade would be benefited thereby. Is there any practical solution?—A. I have absolutely no interest in the grain trade. I want to make that very clear.

Q. But, as farmers from Western Canada, we realize that if you can keep each variety separate and distinct from the other it would probably be of benefit to the miller and the grain trade. Is there any method worked out whereby we can do that?—A. I don't know, sir. But, again, I wish to state, we have nothing in mind beyond the advice we offered, other than the fact that a deterioration in the quality of the flours shipped from Canada into the overseas market is a boomerang which will ultimately come back at the wheat producers of Canada and Canada as a wheat producing country.

By Hon. Mr. Motherwell:

Q. Should not that boomerang be occurring about now if it is going to occur?—A. Has it not?

Q. We would like it to be shown, but the evidence, so far, shows that the most popular wheat on the Pacific Coast is No. 2, and that carries a large percentage of Garnet. We have Dr. Humphries, an old country scientist, very very well versed on milling activities, reporting that on No. 2 Pacific, on some cargoes, the percentage of Garnet is as high as 78. Why should we try to correct things before they exist?—A. As I remember the price it is 4 cents or 4½ cents under No. 1—

Mr. ALCOCK: Four cents.

The WITNESS: Four cents under No. 1. And, remember, he has ample Russian wheat at his doors. The flour that the Canadian mills ship, is a single wheat flour.

Q. That is what you ship it as?—A. Yes.

Q. Your difficulty is in getting your colour?—A. Exactly, sir.

Q. Of course, you will have noticed by the report from overseas, by Dr. Birchard and Mr. Newman, that the only reference was regarding the colour and the temper?—A. Nevertheless, sir, you surely will admit that the opinion, with one dissentient, is absolutely unanimous in favour of the separate grading.

Q. That is quite right.—A. I can find only one. You will remember, Doctor, at the meeting in February, we wound up at that meeting by saying: It was quite all right from our point of view if you did not take our advice. If you did not want our advice, to put it in the No. 1 Northern Class too, by

all means. We felt that it was not in the interests of this country, in the last analysis, because so long as Garnet wheat was admixed with Marquis in any appreciable quantity so long is there the danger of deterioration in the quality of the flour.

Q. Well, Mr. Short, taking that memorandum as the basis of our discussion, here is what it says: Here is the report given by Dr. Tory; Dr. Tory and Dr. Gridale prepared this and gave it to the press:

At to-day's meeting, it was stated by the millers that Garnet was a rather difficult wheat to mill, and consequently, they were somewhat hesitant about milling it for either the domestic or the export flour markets. The millers voiced a number of criticisms of this variety in this connection, the two most important being the difficulty in tempering the wheat before milling, and the colour of the flour produced.

—A. Quite right, sir.

Q. Then, what was the position?—A. The position as I understood it, Dr. Motherwell, was that—

Q. I mean in the bulletin of overseas tests?—A. I think, generally speaking, the overseas tests are very much in keeping with our own. I do not suppose for a minute that the sample of Garnet wheat that was sent overseas for testing was the worst sample of garnet wheat that you could get hold of?

Q. Well, do you mean to say it was the best?—A. No, but I would not suggest that it was below the average.

Q. I think it was the exact average.

Mr. ALCOCK: May I answer that question with regard to the results of the milling qualities as found during the overseas tests?

Hon. Mr. MOTHERWELL: A reference was made particularly regarding colour and temper.

Mr. ALCOCK: We have it here, Dr. Motherwell.

The WITNESS: Mr. Alcock, will you give an outline of the reports of the investigators, one to nineteen? Read from one to the end, if it is necessary. We thought that this thing would not be opened up, but we are perfectly prepared to answer your question.

Hon. Mr. MOTHERWELL: In the terms of reference, the major terms were the question of colour, and the other was the difficulty of tempering, preparing it for milling. Those were the two major complaints, and that is what was referred to the overseas men.

The WITNESS: If you will take your bulletin, reports Nos. 1 to 19.

By Hon. Mr. Motherwell:

Q. You mean the overseas bulletin?—A. Yes, the overseas bulletin, starting off with Dr. A. E. Humphries. Mr. Alcock will answer you in detail in respect to that.

Q. What page?—A. Page 18, Dr. Motherwell.

Mr. ALCOCK: I will just give the collaborator's name and quote from his statement.

Hon. Mr. MOTHERWELL: This is dealing with the question of temper now, and the question of colour.

Mr. ALCOCK: The milling qualities.

Hon. Mr. MOTHERWELL: You are going to read this now. As it is, we are all confused in connection with these things, they are quite contradictory. You can get anything you like out of it.

Hon. Mr. STEVENS: Why not let him answer, Mr. Motherwell?

Hon. Mr. MOTHERWELL: Go ahead, then.

Mr. ALCOCK: This is from Dr. Humphries' report:—

As the percentage of water was raised the quality of the work done on 4 breaks worsened in the case of No. 2 Northern Manitoba but did not worsen in the case of Garnet. As an indication of this result, the percentage of bran went up with each increase of water in the No. 2 Northern Manitoba until the 4 breaks would not "clean" its bran whereas the percentage of bran remained practically constant in each case of the Garnet wheat and was quite commercially clean even at the highest water figures. But on the "reductions" side of the milling operations the results were quite different. There at each stage of the No. 2 Northern Manitoba trials the work was excellent, whereas the Garnet products began to flake as the water content reached the maximum."

The next quotation is from a report by Dr. Kent-Jones:—

The Garnet wheat certainly broke up on the mill somewhat after the nature of Durum, the Semolina being sharp and hard and the grind being quite distinct from ordinary Manitoba.

Hon. Mr. MOTHERWELL: Just in order that we may have something on the record, if you don't mind, because I am sure we are all desirous of getting at the facts. You are quoting from Dr. Humphries, a very noted authority. On page 18 you will find what he says:—

The differences between Marquis and Garnet are small except in respect of the colour of the flour and bread. There the difference is substantially in favour of the Marquis and if at any time or in any country the bleaching of flour is prohibited this difference would assume substantial commercial importance. . . . Seeing that the bleaching of flour is so generally practised in all important countries where these two varieties are likely to be used, I am of the opinion that Garnet, inasmuch as it seems to favour the interests of the producer, can be recommended, at any rate in those parts of the Dominion where its virtues will be appreciated by the producer.

Mr. ALCOCK: We do not differ with that.

Mr. SHORT: In Dr. Humphries' own country bleaching is not permissible.

Hon. Dr. MOTHERWELL: In their own country?

The WITNESS: In Great Britain bleaching is not permissible.

Hon. Mr. MOTHERWELL: When did that occur? I know it is frequently done.

The WITNESS: It is not permitted, I can assure you. In fact, 80 out of 100 invoices that go out from Canada bear the notation, "This flour is not bleached."

Hon. Mr. MOTHERWELL: We are told that bleaching is prohibited. I question that very much.

The WITNESS: You yourself read Dr. Humphries' remarks which fully endorse what is in this statement, that there is a very wide difference in colour as between Marquis and Garnet in favour of Marquis, and that to those countries where bleaching is prohibited it will be a matter of great regret—

Hon. Mr. MOTHERWELL: We admit that.

The WITNESS: That is exactly what we have stated. Dr. Motherwell. There are only a few countries where bleaching is permissible, where flour is sold bleached. It is permitted in some countries but in very few. Czechoslovakia just recently enacted a law against the bleaching of flour. It is very much against the law in England. The United States—by reason of their tariff we can ship very little flour there, as you know—have a law against bleaching.

By Hon. Mr. Motherwell:

Q. Assuming that that is correct, any country that has access to all the grades of wheat can get all the colour they want?—A. Yes, but not the strength, Dr. Motherwell. It is not to the advantage of the Canadian wheat producers that the overseas buyer should be interested in colour alone. Is it not very much to the Canadian wheat producer's interest that he should be interested in strength?

Q. But if we can supply colour too it is all the better.—A. Yes, but Garnet wheat is against the colour of the flour. It lessens the colour of Canadian flour. It also lessens the strength.

Q. Well, the point is this, the big seller in Great Britain to-day, according to Dr. Humphries, is No. 2 Pacific. How are you going to get over that?—A. Let us go a step further than that, Dr. Motherwell. He advises that Garnet be made available in a relatively—

Q. I know, I know.—A. Well, Dr. Motherwell, really the millers are not here to substantiate a case. They have proffered their opinion arrived at in a detached fashion, apart from all political interests.

Q. I do not know that there is anything political about this at all. There shouldn't be?—A. No, there shouldn't be.

Q. But might I point out, Mr. Short, in the questionnaire that was subsequent to this reference, you remember the millers were not very well pleased; but it was decided to send that questionnaire—?—A. Oh, yes, we were. We were very much in agreement.

Q. Well, we did not grasp that at the time. But anyway subsequent to the newspaper report that went out, a questionnaire was sent out, and some of the questions were followed by the letter which Mr. Newman accepted—and I think that was proper—that the questionnaire should be agreed to by all. One of the proposed questions, according to my recollection, was with respect to grading and separating. Anyway, that was put in, would it be any advantage to the trade?—A. I don't remember the millers being asked to contribute anything towards the questionnaire.

Q. "Would it be any advantage to treat the grading of Garnet separately?" What other answer could they give?—A. I do not remember the millers being asked to contribute anything towards the questionnaire.

Q. There were a few that remained over. It might not have been official, but I know there were two or three that remained over.

Mr. ALCOCK: I was a member of the Committee who drafted the press report, and I think I was the last to leave. I was with Dr. Tory and Dr. Grisdale, and I had nothing to say about the questions which should be asked.

Q. Well, who got up the questionnaire?

Mr. ALCOCK: Mr. Newman is there. You had better ask him.

Mr. SHORT: I would like to correct one statement. That I have previously made at this sitting——

Hon. Mr. MOTHERWELL: Whoever drafted that question on the questionnaire, "Would it be any advantage to the trade. . . ." my recollection is——

Mr. ALCOCK: Here it is on page 4, in italics.

Mr. SHORT: Mr. Newman, in his foreword, says:

To be specific, the question now to be settled may be stated as follows—and so on.

That is Dr. Newman's foreword to the report on those tests.

Hon. Mr. MOTHERWELL: Well, we will say that it was Dr. Newman that did it. It shows again his absolute fairness.

The WITNESS: Absolutely, I even go a step further and refer you to page 15.

Hon. Mr. MOTHERWELL: I ask you, what other answer under the sun could the millers give? There was no other answer for them to give.

The WITNESS: But what other answer could Dr. Newman give? He asks a question and he answers it at page 15.

Hon. Mr. MOTHERWELL: I know, at that time—

The WITNESS: But it is as a result of the tests that he has made, in agreement with all the rest of us at the meeting held in February, 1929. At that time you deprecated the part that the millers played at this conference. I wish, however, to repeat and point out to you that the millers, in a normal year, are responsible for the disposal of 100,000,000 bushels of wheat directly, and indirectly many millions more. And, Dr. Motherwell, to me the question is asked in relation to the test. It is answered in relation to the test. It is very invidious for the millers that they should be made to appear as obstructionists in this regard, or should be attributed with motives other than those that are disclosed. The motives are exactly as I have outlined them to you.

Mr. Chairman, I have one correction to make. I said that bleaching was prohibited in England. I remember that that is not the case. I will qualify that by saying, that our overseas buyers are practically 100 per cent unanimous in requesting an unbleached flour, and that, as a result, practically every Canadian miller has to guarantee his shipments to the United Kingdom unbleached.

By Hon. Mr. Motherwell:

Q. Well, now, we will assume that you are correct, that Dr. Newman asked that question, and believed that it should be graded separately. Dr. Birchard was of the same opinion three years ago.—A. No, Dr. Motherwell, pardon me. This was issued in March 1930. I quote from a bulletin printed after the tests have been made. It is on the basis of those tests. As I say, we are prepared, if you wish it, to go ahead and demonstrate—

Q. We will accept that if you like. The point is this, it is two years ago, and so far as the Department of Agriculture was concerned, I know this much, it was generally agreed between the officers of the Trade and Commerce Department, the Board of Grain Commissioners, the Department of Agriculture, and Mr. Newman, that we would let it ride for a little while, as the saying is, and find out, by various methods, if the Garnet was so objectionable for export, believing that it would manifest itself in the price of No. 2. Subsequent events have proven that we were wise in waiting to see what the effect on the trade would be, and on the price of No. 2. Now, it is the best seller in England.—A. It is the best seller?

Q. Yes, according to Dr. Humphries.—A. Where does Dr. Humphries say that?

Q. He says it in the correspondence that is on record. The No. 1 is nearly all going to the continent of Europe.—A. Yes. You are not losing sight of the fact that there has been ample Russian wheat available.

Q. There has been, but—A. None of these countries mill a flour exclusively Canadian.

Q. Dr. Humphries comes along and says that the demand is quite active, in fact, very little demand for No. 1 at all. Then Mr. Newman, in order to again be fair, to the point of hurting his own wheat that he is responsible for, gets a letter from the Scottish Co-operative and puts it on file?—A. A letter from Mr. Sword.

Q. Of course, it is against Garnet, but Mr. Newman filed that himself. That has to be taken in with the rest of the evidence.—A. Dr. Motherwell, I cannot understand why you keep projecting Dr. Newman into it. I personally think that Dr. Newman's bulletins are eminently fair in every respect.

Q. That is what I think too. What I object to is taking advantage of his fairness and quoting it against him.—A. I don't think that is quite a correct statement. I simply say that it endorses the recommendations that we put in two years ago; and they are only recommendations.

Hon. Mr. STEVENS: Mr. Chairman, I have been following Mr. Motherwell's statement very closely. Now, why not put on record at this point precisely what Dr. Newman says.

Hon. Mr. MOTHERWELL: Certainly, put anything on the record you like, I don't care.

Hon. Mr. STEVENS: The question Mr. Motherwell is referring to is the question:—

“Should Garnet wheat be allowed to go into our higher grades of Manitoba Northern wheat without restriction of any kind, or would it be preferable to set up at least one or two separate grades for the accommodation of this variety or continue to handle it as at present?”

Hon. Mr. MOTHERWELL: What page is that?

Hon. Mr. STEVENS: That is on page 4. Bulletin 134.

Hon. Mr. MOTHERWELL: That is in the foreword.

Hon. Mr. STEVENS: Yes. Then Mr. Newman answers that at page 15, and I will merely quote it:

In regard to question No. 5, as to whether or not there would be any advantage to the trade if Garnet were offered in a relatively pure state, it seems to be almost the unanimous opinion of European and British investigators that it would be advisable to handle this variety separately for a time at least. It has been suggested that one or two high grades might be sufficient to accommodate the best of this variety, and at the same time to permit the millers to gain a more intimate knowledge of the peculiarities of this wheat.

The general attitude of practically all of those who investigated this wheat in England and on the continent during the past season, seems to have been pretty well expressed in the words of Dr. Kent-Jones whose concluding statement is repeated below as follows:—

‘Garnet wheat, both in milling and in baking, has certain pronounced characteristics. Millers will always be faced with the fact that Garnet will give stability to their blends but not quite the spring and elasticity that is normally given by Manitobas. Millers make their blends remembering all the characteristics of the wheat. There may, therefore, be times when the stability of the Garnet variety will be desired, while there may be times when the blend generally is stable enough and then the stability of the Garnet with its tendency to lack of spring may be a drawback. Since English and European millers are, par excellence, blenders of wheat, they require to know the exact properties of the wheats they use. I, therefore, recommend that Garnet wheat should be placed upon the market as a separate variety and, although in the first instance its price might be slightly lower than the corresponding Manitoba, I am inclined to think the markets would gradually appreciate its merits and there may be times when the Garnet may demand the higher price. The wheat market rapidly adjusts itself to price and thus wheats which are in demand soon appreciate in value. For myself I look forward to the time when Garnet wheat is on the market and when we shall have another variety to assist in making our blends.’

There is the story, it seems to me.

Hon. Mr. MOTHERWELL: Quite right, but we have been living and moving since then, and while that was probably unanimous of all those views at that time, we have come along, and we are taking evidence before this committee to-day, and Dr. Newman,—I have not got the report of his evidence with me to-day, but I remember distinctly, he said that he did not think it would be advisable to grade it into a separate grade at the present time, and that is borne out by the shipments.

Hon. Mr. STEVENS: Of course, those are only statements.

Hon. Mr. MOTHERWELL: It is borne out by the very demand for shipments containing more than 50 per cent of Garnet. We should come up to the present, Mr. Chairman, and not hang around the days of the past when we did not know so much about it, and the present indicates that Dr. Newman now is opposed to separate grading.

Hon. Mr. STEVENS: Why not let Dr. Newman give his own evidence, Mr. Motherwell?

Hon. Mr. MOTHERWELL: Well, he has given it.

Hon. Mr. STEVENS: I know, but—

Hon. Mr. MOTHERWELL: And he is down on the record as saying—

The CHAIRMAN: I rather think we are getting into a general discussion of the question instead of the witness giving his evidence.

Hon. Mr. MOTHERWELL: I would like to keep to the discussion. That is what I am wanting Mr. Short to lead up to.

The WITNESS: You say that Mr. Newman has changed his opinion. Have you any reason to believe that any one of those people to whom you sent this Garnet wheat for testing have changed their opinion as to whether or not there should be separate grading of Garnet wheat, with but one dissentient here, that it should not be separately graded? You now say that Dr. Newman has changed his opinion. In the face of all the evidence itself is there any reason to surmise that those who gave the evidence have changed their opinion to meet Dr. Newman's?

Hon. Mr. MOTHERWELL: I have reason to surmise this much with regard to the evidence that they gave, that it would not be any better at that time than what it should be, for this reason: A great many of them were circularized by the report of a milling test by the Lake of the Woods people at the very time—

The WITNESS: That the European buyer was circularized?

Hon. Mr. MOTHERWELL: Let me read it to you.

The WITNESS: That is your statement, Dr. Motherwell, is it not, that the European buyers had been circularized by a letter from the Lake of the Woods Milling Company?

Hon. Mr. MOTHERWELL: That is not what I meant. I will say exactly what I am going to say, and here is what I am going to ask my friend if he is in any respect responsible for this. Here is an article that appeared in *The Northwestern Miller*, June 12, 1929. It is too long to read. However, I would like to put it in the record, then I can read the concluding portion. It was just about the time that Dr. Birchard and Dr. Newman were leaving for the Old Country. Mr. Pearen was a member of the conference that was held here. In the meantime, and simultaneous, to those two gentlemen going over with the 7,000 or 8,000 bushels, he gets out a test, a very bad test, and he sends it to those people. How it found its way I don't know, but it did, to many of the millers to whom this experimental shipment was being made.

EXTENSIVE TEST OF MILLING AND BAKING QUALITIES OF GARNET
WHEAT MADE

WINNIPEG, MAN.

A test of the milling and baking qualities of Garnet wheat on what is probably the largest scale attempted anywhere up to the present time has been completed at the Keewatin mill of the Lake of the Woods Milling Co., Ltd. The following report prepared by J. M. Pearen, chief chemist for the company, is interesting, in view of the fact that the Canadian government recently shipped samples of this variety of wheat to British and European millers and asked them to submit their findings to the department of trade and commerce, Ottawa.

Mr. Pearen says that during the past three years numerous milling and baking tests have been made with Garnet wheat in comparison with Marquis and lately with Reward, and in many cases the samples used were those supplied by the department of agriculture from the experimental plots at stations in various parts of the Prairie Provinces. This latest, and by far the largest, test gave results in accord with the previous tests. A mix of 2,000 bus. Garnet wheat was prepared in one of the Keewatin elevators and milled in comparison with Marquis on a commercial basis. A mix of each variety was ground in one mill on the same day, and the following is the detailed report of the commercial test:

'Garnet Mix: 1,000 bus. No. 2 northern Garnet, weight 66 pounds, protein 11.1 per cent; 1,000 bus. No. 3 northern Garnet, weight 65 pounds, protein 13.9 per cent; average weight per bushel, 65½ pounds; average protein, 12.5 per cent. Marquis mix: No. 2 northern, No. 3 northern and No. 4 wheat. Average slightly under No. 3 northern. Weight per bushel, 62½ pounds; average protein, 13.2 per cent.

It will seem from the above that we had an excellent sample of Garnet with which to work. Protein of No. 2 northern Garnet sample is rather low, but this is typical of the variety grown in northern districts. On the other hand, the No. 3 northern Garnet is well above the average in protein, and brings the average of the mix to 12.5 per cent, which is equal to the usual ratio below the Marquis.

In spite of the fact that the Garnet mix was higher in grade than the Marquis mix, and decidedly heavier in weight per bushel, the yellow colour of the Garnet flour was distinctly outstanding, as against the creamy white of the Marquis flour.

Both flours were bleached, under identically the same conditions, with the most modern equipment. The colour spread may be best expressed by stating that the difference between the top patent flour from Garnet and the same grade from Marquis was greater than the spread between a top patent and a second patent from Marquis. This colour spread is a feature which Canadian mills cannot overcome. British and continental European millers have the native white wheats and Australians to build up the desired colour by mixing.

Volume of loaf was slightly smaller and texture a little coarser from Garnet flour in each grade. This was true with both unbleached and bleached flours. These two unfavourable features were probably due to the quality of the gluten, which was found to be less elastic from the Garnet flour.

No appreciable difference was found in the absorption of bread yield of the two varieties. The Garnet flour, however, was not as dry in the dough during fermentation. It was noticeably wet, compared with Marquis dough, but did not give any serious trouble in handling through the machines in the bakeshop. This wetness or stickiness in the case of Garnet may not be so apparent when the flour is aged. The glutens from the Garnet flour were lower in each grade, as was expected, due to the lower protein of the wheat mix. A summary of our test on Marquis and Garnet is as follows: colour, decidedly lower from Garnet; volume of loaf, slightly poorer from Garnet; gluten, smaller from Garnet and poorer in quality; absorption and bread yield, no decided difference.'

The WITNESS: Dr. Motherwell, you do not consider that that magazine is a text book of the European miller, do you?

Hon. Mr. MOTHERWELL: Is a text book?—A. To the foreign buyer, but not to the miller.

Q. I asked Dr. Newman if he felt any doubt on the part of the European miller because of the fact that this article had preceded his arrival and he said yes. Dr. Newman has not been asked that question before this committee. I know when he came back he told me, and he will tell you when he gives further evidence, that he found marked copies of this journal on the very tables of the meetings he attended.—A. Do you seriously suggest, Dr. Motherwell, that the overseas millers would be anxious to stand on the result of the Canadian investigations in regard to that question?

Q. What was it done for. Let me read what the article says:

The result of this test further confirms our conviction that we cannot recommend Garnet wheat for our mills if high quality of flour is to be a first consideration.

We appreciate the position of the farmer in northern districts, and realize that Garnet wheat to him may mean the difference between success and failure. On the other hand, we feel that the extensive growing of Garnet wheat in central and southern districts of the western provinces would result in a general lowering in baking quality of western Canada's wheat crop.

Then he goes on and gives instances of tests. In the preceding paragraph to the first one I read, he gives samples. The reason I ask it now is that one of your questions suggested test samples being sent overseas. The samples sent overseas were not the worst samples. If there was any objection going to be taken to samples sent, this is the first time it has been suggested———A. I have not even suggested it.

Q. It was pretty hard that year, Mr. Short to get a bad sample. That was the year when nearly all of Marquis was frozen into three and four, in the field. At that time, nearly all Garnet was in the stook, and some of it in the elevator, on the night of the frost. That was the reason Garnet was so good that year. It was out of the way of frost at the time, and it was all good samples. Now, the point I want to make is this, the gentleman who was the member of the conference at that time———A. Member of the conference?

Q. Is he a member of the Millers' Association?—A. He is an employee. May I look at that?

Q. Certainly.—A. Then I will express my opinion. I have nothing to do with this section. I think it was given to a member of the Free Press. I think it was one of the articles for Miss Hind, and it was simply copied by the reporter of the Northwestern Miller.

Q. This article is sent from Winnipeg. It was first initiated by the Lake of the Woods Milling Company. I would like to see Mr. Pearen here to hear

what he has to say, to see if he solely is responsible.—A. I cannot see anything wrong with that; I would be willing to accept responsibility?

Q. You do not see anything wrong?—A. No; it is a trade magazine, an expression of the millers' point of view; what is wrong?

Q. The court it is referred to is the millers of Great Britain and Europe.—A. How?

Q. The shipment was sent over there.

Mr. ALCOCK: This question was not to be decided on argument; it was to be decided in Europe and other countries, by facts.

Hon. Mr. MOTHERWELL: Is this a fact?

Mr. ALCOCK: Yes.

By Hon. Mr. Motherwell:

Q. Is this Lake of the Woods Company one of the parties to the agreement?

Mr. SHORT: Absolutely.

Q. This information was gathered from unknown sources, and this report was sent, presumably, by those millers to European millers, and it went in advance of the two missionaries that were sent out by Canada to conduct this test.—A. This is not a magazine for the European millers.

Q. I don't know what it is for.—A. It is not for European millers.

Q. They get it anyway.—A. It is essentially a Canadian and American magazine.

Q. Somebody must have sent them a shipment.—A. Certainly, but not the Canadian Millers' Association.

Hon. Mr. STEVENS: It is all a question of fact.

Hon. Mr. MOTHERWELL: Here is a fact. Is this a fact?

Hon. Mr. STEVENS: They have a perfect right to express their view.

WITNESS: Why should we not—

Hon. Mr. STEVENS: Simply nonsense.

Hon. Mr. MOTHERWELL: We will call it a coincidence.

The WITNESS: You are raising more than one question there. I really cannot see any objection. If we were merely asked to express an opinion with respect to Garnet wheat, I maintain we should be entitled to express that opinion.

Hon. Mr. MOTHERWELL: Of course, that is a matter for you.

The WITNESS: I cannot help if magazines choose—

By Hon. Mr. Motherwell:

Q. You conclude, then, that Mr. Pearen, member of the conference on that occasion, 15th February, 1929—A. Member of the conference? Do you wish me to discuss that conference, doctor?

Q. Was it not a conference?—A. No; not exactly, but I would prefer not to say anything about it.

Q. What was it?—A. I am afraid it was an attempt to make us the villains of the piece, which we were not.

Q. It was a conference of the Department of Trade and Commerce and the Department of Agriculture.—A. Exactly.

Q. That conference met with the very idea as enunciated by you in your opening remarks, of getting closer together.—A. Most decidedly. The attempt of the Department was to establish Garnet wheat.

Q. No, to take the next step to see whether it could be established.—A. You have taken those steps, Dr. Motherwell, and you ask a question as to whether the evidence adduced as a result of those tests is in line with the Cana-

dian millers' recommendations; and you answer it through Dr. Newman positively in the affirmative. He states in regard to the question as to whether or not there would be any advantage to the trade if Garnet were established, that there seems to be almost a unanimity of opinion—

Q. I do not want to be drawn away just on that point.—A. No, I am quite sure you do not, doctor.

Q. I will get there in the proper time. I wanted to deal with this question now. Is it your opinion or belief that the publication of this test, gotten out the way it was described by the Lake of the Woods Milling Company from samples that nobody except themselves—that is, that we know of—knows where they got them, and that was not revealed to Dr. Newman, although they were asked, and that that experiment of milling tests was spread not only across Canada, but to those countries, and eventually found its way to many of the millers to whom the experimental shipment was made by the government, is a mere coincidence?—A. Is that the question, doctor?

Q. Yes. Do you think that is good ethics? Either in court proceedings or in milling proceedings, or any other representative proceedings among men?—A. When your question terminates I will answer.

Q. Answer it now.—A. I will answer it. I would say in the first place, I don't know the cause or origin of the article. Mr. Alcock says it was an article for Miss Hind. Miss Hind, I think, saw those tests. The tests were made on actual samples. Nothing the *Northwestern Miller* might say on any question would influence the milling interests on the other side one iota.

Q. You think not, of course.—A. Absolutely, of course not.

Q. What is all this propaganda?—A. What propaganda?

Q. Just like that, all over the country. I am trying to draw to your attention something that you do not seem to know, and that is that the experts went over there, preceded by this.—A. I have just answered you in that regard. I have said it would not have one iota of influence on anyone overseas.

Q. Do you know what effect it would have on Dr. Newton?—A. I don't know.

Q. Who also went there, presumably for some other purpose, but found it convenient to go there.—A. I have never met him in my life.

Q. Well, I am not accusing my friend of being a party to this, but I want to find out if he accepts any responsibility for it.—A. You will have to ask Dr. Newton.

Q. In regard to this. I am talking of this, now.—A. I do not see there is any responsibility to assume.

Q. I do.—A. There is nothing that is contrary to ethics in there.

Q. That is all right, then.—A. That is the answer.

Hon. Mr. WEIR: I think the three points we are here to decide, and to get the benefit of the expert millers' advice, are these: first, the effect on the mixture of Garnet with Marquis, and the demand in the Old Country market; secondly, if there was a separate grade, would there be a demand for Garnet, and if it is practical to do this grading. No. 1 Northern is practically free from Garnet. Do you agree, Mr. Short that the detrimental effect of the mixing of Garnet with Marquis, is fairly evident by the spread now between No. 1 Northern and No. 2?—A. I would say it is a question of cause and effect.

Q. There is a higher percentage of Garnet in the No. 2 now than perhaps any previous occasion, due to the dried out district in Western Canada.—A. That is my belief, but I would prefer to have that endorsed.

Mr. ALCOCK: Yes a higher percentage in the western shipments.

By Hon. Mr. Weir:

Q. Has there ever been as big a spread between No. 1 Northern and No. 2 Northern before it was put with Garnet on the market?

Mr. SHORT: I think it is entirely possible, but I would have to refer to records to determine that. I should imagine that a grain man who would answer you better in that respect—would have it more at his fingertips, Mr. Weir.

Q. Would there be any other element entering into it to give that spread that now exists between No. 1 and No. 2? Take the English miller, the English miller has a great number of different grades of wheat available to draw from.—
A. Yes.

Q. Does it not depend on the type of the wheat in the other exporting countries, that is, whether or not the Argentine wheat for last year was of as high a grade, or whether Russian wheat was of as high a grade, or whether sufficient quantities are available from Russia? Does not that also have an effect?—A. Conceivably, yes, Mr. Weir.

Q. Would you be in a position to say whether you think there were other influences, like for instance, Russia not having any great supply of wheat for export this year, or whether the grade in the Argentine would make any difference?—A. All favourable to Garnet at the moment.

Q. Taking it for granted that this spread is due to a great extent to Garnet, the normal spread is between two and three cents?—A. Two and a half to three.

Q. So there is only one cent of a spread—A. Yes; I would say I think it is entirely due to the fact to which Dr. Motherwell referred, that Great Britain is taking a lot of No. 2. If they were not taking it—

Mr. ALCOCK: We are not taking it.

By Hon. Mr. Weir:

Q. If there are no other forces coming into play, does it not show that Garnet is—A. Mr. Weir, suppose we were not concerned with prices or grades or anything of that sort. Our sole concern is one of selling quality. We are sincere in our belief that we are one with the producing interests—

Q. You agree absolutely with my point as a miller, that it is a fact that millers do set the price, is it not?—A. No. There are any amount of conditions that enter into it. The volume of supply, I suppose, in the last analysis, you might say.

Q. The fact is, that millers buy wheat to use.—A. Yes; but there are a lot of influences the Canadian millers do not have anything to do with. The Canadian millers have nothing to do with setting of prices; I can assure you of this.

Q. What I mean is this: this wheat is grown to be milled into flour, in the last analysis?—A. Yes.

Q. And the people who really decide the price at which it is finally sold is the miller who pays for it, the world miller. I do not mean any group get together and set the prices, but world millers; is that not so?—A. It is a case of supply and demand.

Q. He has before him this question; he has a number of grades to draw from, a supply from different countries, and taking this into consideration, he decides what he should buy to get the flour that he puts out. Of course, demand has something to do with it.—A. Yes.

Q. That is what really sets the price. Now, assuming as a matter of fact that over an extended period of time there is a bigger spread between No. 1 and 2 Northern, than there is now, when the proportion of Garnet in No. 2 Northern is higher than it has ever been before,—

Mr. ALCOCK: May I just point out that you have got No. 1 Garnet in No. 2 Northern.

The WITNESS: There is no difference in Garnet—75 per cent would go No. 1 Garnet.

Hon. Mr. STEVENS: May I ask Mr. Short one question. In your evidence, Mr. Short, you refer very freely to the overseas tests of milling. We have been talking of a report made by Mr. Newman in March 1930. You refer to that?—A. Yes.

Q. I gather that you largely agreed with the findings in that report?—A. Yes.

Q. Has anything happened since 1930 to the present time, in your experience, to cause you to change your opinion in any way?—A. Nothing whatever.

By Hon. Mr. Weir:

Q. The point I wish to make is this—I do not know whether I have this clear or not. I am not referring to the evidence given to-day against No. 1 Garnet, but by previous witnesses, that there would be more than one cent a bushel spread. There may be other forces contributing to it, other than those we have heard to-day.—A. Yes, I cannot analyze it, Mr. Weir.

Q. I think that is the decision we have to make,—A. Yes. I cannot analyze it from that standpoint, I must admit that.

Q. Speaking as a miller, do you think if the Garnet were graded separately that there would be any demand for Garnet?—A. Yes; I most assuredly do.

Q. At what price?—A. I cannot answer that.

Q. You would not even estimate that?—A. I would not even attempt it, because it would be determined in the long run by so many factors. For instance, we cannot export to the Orient to-day unless we have the grades of flour, the grades of wheat, the low-grade group which gives the quality, the people in China want. There is a wide disparity between the good grade and the low grades. I cannot tell you whether the price would be twelve cents or three cents. It is so problematical, Mr. Weir.

The CHAIRMAN: Will you speak louder, gentlemen please? The reporter is finding it hard to catch your remarks.

By Hon. Mr. Weir:

Q. Has not flour been shipped to the Orient with barley or other grains in it, besides wheat?—A. Not to my knowledge.

By Hon. Mr. Motherwell:

Q. With the idea of getting a cheaper flour?—A. Colour would be the important factor.

By Hon. Mr. Weir:

Q. Speaking as a miller, you do not feel that you can make an estimate as to the effect on your wheats when you put into them Garnet or any separate grades?—A. I would prefer you asked the question again to Mr. Alcock. To my mind it is entirely within the bounds of reason that we would be using as much Garnet in its pure state as we use in its mixed state, and there is a distinct possibility, if graded separately, we might be able to employ it more. That is my opinion, but I don't know.

Q. Following that, suppose Garnet is separated, and being separated we all feel that it is going to take a lower price—that is, the European millers may say, here is a wheat we can get at a lower price. We know the qualities of it. We can get it at a lower price than Marquis, and therefore they may use a preponderance of it in comparison with Marquis. Would not that also have a tendency to bring down the price of Marquis?—A. No, for this reason, Mr. Weir, if I may say so. I hate to be redundant, but it is the Canadian flour going into the market which sets the standard of quality, and it is in direct ratio to the Canadian flour going into the country that the quality of competition is set.

Q. The European has to keep up to that standard?—A. Exactly. You see, if we maintain uniformity of our flour, then the Marquis would maintain its levels.

Q. Now, your chief aim then is to keep the quality as high as you can get it, because you set the standard. There is nothing to hinder the Canadian millers now in getting away almost free from Garnet.—A. No, with No. 1 probably.

Q. Yet, the Old Country miller, is not going out to buy Garnet when he is buying grade No. 2.—A. It looks to be a weakness.

Mr. ALCOCK: I have been asked a question as to how much I would be prepared to pay for Garnet as compared with Marquis. I would answer that question by saying about five cents under.

By Hon. Mr. Weir:

Q. For pure Garnet?

Mr. ALCOCK: Yes. I say I would pay five cents under for No. 1 Garnet. Now, if it is mixed 50-50, with 2 Northern, which is normally three cents under, we can say that we have a spread of about 4 cents under.

By Hon. Mr. Weir:

Q. Providing that spread is due to the Garnet.

Mr. ALCOCK: Providing it is, yes.

Mr. SHORT: There are other considerations as well.

By Mr. Perley:

Q. Before Garnet ever entered into the picture at all, going back to the history of the grain trade, there would be seasons in which the spreads varied fully as much as they are varying now, since Garnet came into the picture. For instance, we had a season where quality enters into it?—A. Yes.

Q. From really No. 1 Northern we might take No. 4 Northern?—A. Quite right.

Q. Weighing 60 odd pounds to the bushel, and that was the wheat that the millers wanted.—A. Yes, again a question of supply and demand.

Q. Yes, but the spreads varied as much before Garnet entered into it, as they have since Garnet entered into it, did they not?—A. Yes. I might say, there are many contributing factors at the present time. I would hesitate to give a reason or state a definite reason for the spread.

Q. Regulated in the main by the quality of the group.—A. Quite right.

By Hon. Mr. Motherwell:

Q. May I ask a question with respect to the complaints prior to Garnet. What was the question, Mr. Chairman?

The CHAIRMAN: The question was, Mr. Motherwell, was there not as much spread between the grades prior to Garnet as there is at the present time?

Hon. Mr. MOTHERWELL: Yes.

Q. Any evidence we have had yet from statisticians goes to show that the spreads were greater before Garnet came along, but that might be governed by half a dozen considerations?—A. Yes.

By Hon. Mr. Weir:

Q. Is there any way by which we could get the opinion of others affecting the spread at the time? It might work one way or the other?—A. Yes. It is very problematical.

By Mr. Perley:

Q. Will it not be almost impossible to keep the interior elevators from mixing? How would it be affected?—A. I would prefer not to answer that question. I do not pretend to be a grain man. I have simply expressed the views we have formulated in respect to the grading of Garnet wheat and how it would affect the quality of flour. I do not wish to be drawn into a discussion of other things on which I am not competent to speak.

By Hon. Mr. Motherwell:

Q. Do I understand that the millers took this up with the Department of Trade and Commerce and that they were the ones associated with this movement?—A. I do not think so.

Q. Did any of your organization communicate with the Department of Trade and Commerce?—A. You mean for this present committee?

Q. No, at any time?—A. No. I would say categorically that that is not a statement of fact.

Q. I am not stating it as a fact. I just wanted to know if it is a fact?—A. No. In as far as this present committee is concerned, I do not know anything about it.

By Hon. Mr. Weir:

Q. I think you misunderstand each other. I think Mr. Motherwell is asking where the pressure came from in the Research Council to lead to this demand for a separate grade in Garnet?—A. I would certainly say not from us. We have proffered our views in that connection. You were courteous enough, Dr. Motherwell, to invite us to a general meeting after one or two letters had passed between us.

By Hon. Mr. Motherwell:

Q. You mean in 1929?—A. Yes. I would have said had anyone asked me, without any ulterior thought behind it, that Dr. Motherwell arranged for that meeting.

Q. I do not know whether you call it ulterior?—A. I would have done had anybody asked me.

Hon. Mr. WEIR: Mr. Motherwell's question is that since that meeting what led the National Research Council to come forward with this definite recommendation.

Hon. Mr. MOTHERWELL: I want to know who initiated this new move to get a different grade for Garnet.

The WITNESS: I cannot answer that. Again, I know if I had been asked, not before this committee but by anybody outside, I would have thought it would have arisen from Dr. Newman's own answer to the question you raised.

The CHAIRMAN: Of course, there is the Grain Standards Board.

The WITNESS: Yes, and the action on the part of Dr. Newman. I have omitted that evidence regarding the Western Grain Standards Board.

Hon. Mr. WEIR: Did they make their decision on a resolution that emanated from the National Research Council?

The WITNESS: I do not know. I disclaim all knowledge of that. The millers have played no part in that.

By Hon. Mr. Motherwell:

Q. I would not like to quote it, but I think it is somewhere in the report since we started—I will look it up in the evidence—but anyway you have had no correspondence with the Minister of Trade and Commerce or any other officer?—A. In respect to what?

Q. With respect to the advisability of opening this question and getting a different grade for Garnet?—A. Let me think for a minute, Dr. Motherwell. It is not that I wish to be evasive, but I want to answer truly, and there are so many things that have cropped up in that period. Let me get the time right. I think, undoubtedly, that following the report—the issuance of the report—that I wrote to the Department of Trade and Commerce and pointed out that it was along the lines of the recommendations we have made and that our convictions were still unchanged.

Q. You do remember what part of the year that was?—A. I do not.

Q. Information has come to us somewhere that it was in September, 1930?—A. When was the bulletin off the press? Could anybody tell me that?

Q. I do not know. I think it was before that.

Mr. ALCOCK: In March, 1930.

Mr. SHORT: It would be some time subsequent to the issuance of that bulletin.

By Hon. Mr. Motherwell:

Q. I presume if we call for the correspondence in the House it would not be marked confidential, would it?—A. No. No letter I would address to a Minister would be marked confidential.

Q. Sometimes they are, and I wanted to make sure. I do not want to call for any correspondence which is marked confidential. If it is not marked confidential we can, of course, get the correspondence brought down in the House in the usual way.

Mr. ALCOCK: I might say that after the issuance of this bulletin in March there appeared press notices all through western Canada in which the headlines stated that the overseas tests had vindicated Garnet wheat and had shown its excellent qualities. I wrote to our general manager and I said I thought this was unfortunate; it would stimulate the growing of Garnet wheat, and that the actual facts of the case were in the bulletin itself. They endorsed the stand of the Canadian millers.

Hon. Mr. MOTHERWELL: On the two questions that were submitted in the reference—the question of milling difficulty and the question of the tempering difficulty, I submit they were vindicated. I asked Dr. Birchard when he came back about these two difficulties. “There is nothing to them,” he said; and in his evidence you will find that he says practically the same thing.

Hon. Mr. WEIR: I think, perhaps, the answer is here in Dr. Tory’s report:—

The Canadian Millers’ Association raised the question again in September, 1930, when it was referred by the Minister of Trade and Commerce to the National Research Council for consideration by the Associate committee on grain research. This committee advised against any change in the system of grading in the middle of a crop year, but undertook to study and report upon the question at an early date in the winter, so that growers might have ample time to modify their seeding plans if they so desired.

Hon. Mr. MOTHERWELL: What page is that?

Hon. Mr. WEIR: The first page of Dr. Tory’s report.

Mr. ALCOCK: That undoubtedly answers it.

By Hon. Mr. Motherwell:

Q. Who initiated it?—A. Even in the light of that knowledge I do not know that this was the outcome of those representations. I have not known the history of it, but it is, in the light of that, entirely probable.

Q. If a man in the position you hold makes a representation it is bound to be given some heed to?—A. Yes. Undoubtedly I wrote. I must have written at that date to the Minister of Trade and Commerce in relation to the overseas findings. No doubt that is the statement you have.

Q. We know now where it originated.

The CHAIRMAN: Gentlemen, our time is nearly up. Are there any other questions?

Mr. ALCOCK: The question with regard to the relative quality of Marquis and Garnet has grown in the North country, and that is in Saskatchewan Bulletin 49. It says:—

In protein, baking quality and blending value there is a greater spread between Garnet and Reward when grown in the north than when grown in the south. This means that when these three varieties, Marquis, Garnet and Reward are grown together, Garnet shows greater inferiority in the north than in the south, and Reward shows greater superiority to Marquis in the north than in the south. In other words, the conditions that tend to produce lower protein and lower baking quality affect the Garnet and Marquis more than Reward.

That is in Bulletin No. 49 for Saskatchewan. Would you like to have this, Mr. Weir?

Hon. Mr. WEIR: Thank you.

The CHAIRMAN: Any further questions, gentlemen? If not, I would suggest that the witnesses be released. Is it the pleasure of the committee to release the witnesses?

Hon. Mr. MOTHERWELL: Yes, as far as I am concerned.

Witnesses retired.

The CHAIRMAN: Gentlemen, we will meet again to-morrow morning. We will have Mr. Richardson of the grain trade, and Mr. Steel of the Pool, and we will try to get through to-morrow, if possible. Major Strange will be here on Thursday. I would like you to be here prompt on time to-morrow morning, because we have a lot of work before us.

The Committee adjourned to resume on Tuesday, April 26, 1932.

SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND EVIDENCE

TUESDAY, APRIL 26, 1932

No. 7

Reference,—Garnet Wheat Grading.

WITNESSES:

Mr. James A. Richardson, President of James A. Richardson & Sons, Grain Exporters of Winnipeg; Mr. Lew. Hutchinson, President of the Canadian Co-Operative Wheat Producers; Mr. R. C. Steele, Sales Manager of the Canadian Co-Operative Wheat Producers.

MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,
April 26, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock in the forenoon. Mr. Senn, the Chairman, presiding.

Members present: Messieurs Barber, Bertrand, Blair, Bouchard, Bowen, Boys, Brown, Cayley, Coote, Dupuis, Loucks, Lucas, McGillis, McKenzie (*Assiniboia*), McPhee, Motherwell, Mullins, Perley (*Qu'Appelle*), Porteous, Rowe, Senn, Shaver, Simpson (*Simcoe North*), Smith (*Victoria-Carleton*), Spotton, Spoule, Stirling, Taylor, Thompson (*Lanark*), Totzke, Tummon, Weir (*Melfort*), Young.—33.

Mr. James A. Richardson (President and General Manager of James A. Richardson & Sons), called, heard, and examined on the export problems of the Grain Trade, in relation to the Grading of Garnet Wheat.

Witness retired.

Mr. Lew. Hutchinson (President of the Co-operative Wheat Producers), called and heard as the Representative of the three Wheat Pools, *re* the Grading of Garnet Wheat.

Mr. R. C. Steele (Sales Manager of the Canadian Co-operative Wheat Producers), called, heard and examined on the subject matter of the Order of Reference (*viz.*), Garnet Wheat.

The Acting Chairman Mr. Fred. Bowen informed the Committee that the witness to be heard at the next sitting was Major Strange, of Winnipeg.

The Committee then adjourned to meet again on Thursday, April 28, at 11 o'clock in the forenoon.

A. A. FRASER,
Clerk of the Committee.

MINUTES OF EVIDENCE

HOUSE OF COMMONS, ROOM 429,

April 26, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock to consider the order of reference of the committee on grain standards to the Department of Trade and Commerce. Mr. Senn, presiding.

The CHAIRMAN: Gentlemen, before calling the witness, Mr. Stevens has a statement to make to the committee.

Hon. Mr. STEVENS: Mr. Chairman, I have a letter from the Canadian Trade Commissioner in Sweden which I think I ought to give to the committee. It arrived to-day directed to the Department. He says that he has a letter from Messrs. Kvarnaktiebolaget, J.G.S., Norrköping, Sweden. This is from one of the largest flour mills in Sweden, and this is the quotation from the letter to our Trade Commissioner:—

We wish to point out that the latest shipments of Manitoba No. 2 from the Pacific coast have turned out very unsatisfactory, in consequence of which one had to sell the wheat elsewhere. The cause of this has been the bad quality of the delivered parcels of Manitoba wheat. By analyzing the wheat the percentage of protein is generally found to be rather good but by baking one gets a very bad result, for the bread flows out and gets flat. Evidently gluten has no gasbinding ability.

We have tried to find out the cause of this and are now of the opinion that the delivered Manitoba parcels, which have shown such bad gluten quality, have consisted of wheat of the Garnet type. As per our statements Manitoba No. 2 must not contain more than 15 per cent Garnet wheat, whereas the delivered parcels seem to consist of Garnet wheat only.

We should be glad to have your information regarding this matter.

That is the end of the letter from this milling firm. The Trade Commissioner answered that letter, of course, and has given him as much reassurance as he possibly can. I think the committee ought to have that information as it has to do with the marketing of this year's crop in one of the best markets in Europe.

Hon. Mr. MOTHERWELL: Was a report asked for?

Hon. Mr. STEVENS: Oh, no. That is the reason I brought it here this morning. It came in our usual report unsolicited.

The CHAIRMAN: Gentlemen, we have as our witness this morning Mr. Richardson, and I will ask him to make a statement to the committee. Please give your name and your position to the reporter.

JAMES A. RICHARDSON, called.

The WITNESS: Mr. Chairman, I am president and general manager of James Richardson & Sons. I do not know, gentlemen, that there is anything very much that I can add about Garnet wheat. I understand that you have had millers and chemists before you for a long time past and they know much more about Garnet wheat than I do, but as a merchant and exporter I will be very glad to let you have the high spots in regard to Garnet wheat as I have seen them in my contact with that wheat.

Mr. TOTZKE: Have you had any complaints from overseas importers?

The WITNESS: Well, I have some papers on that. I came down here at the request of the Winnipeg Grain Exchange, and the Winnipeg Grain Exchange as such are not in a position to officially declare themselves, because we have a great many members who have a great many opinions on the question of Garnet wheat and how it should be handled. Naturally, there are varied opinions. In speaking on this matter I am giving my own opinions and the opinions of my associates in the grain business and those opinions, undoubtedly, would be the views of a large number of people in the trade, but not necessarily the views that all the people in the trade would entertain.

Hon. Mr. MOTHERWELL: It was suggested yesterday that our wheat, and especially our No. 2 Pacific, did not compare as favourably with foreign wheat during the last two years as formerly. Have you anything to say on that?

The WITNESS: I am quite satisfied that we either have to discourage the growing of Garnet wheat and see that the acreage is not increased and further extended into the south or we have to make arrangements to grade it separately. Otherwise, we must be prepared to see our wheats lose some of the standing they now have on the markets of the world. Wheat can be produced any place in the world in almost any latitude or altitude; but we enjoy an advantage on high quality wheats, and I do not think we should avoid taking any steps necessary to preserve the reputation and high character of the wheat that we have been producing. Of course, our wheat in the south has always been a far better milling wheat than the wheat in the north, and our acreage has steadily spread so that it has been more difficult to continue a uniformly high product which could be more easily done if we were going to select the acreage for the wheat and confine it to that.

Mr. LOUCKS: Do you attribute that to the high protein tests in the south?

The WITNESS: Yes. The sharp soil of the south with less moisture produces a very much finer milling wheat. I am not setting myself up on any question of chemistry of wheat. My knowledge of the grain business is from the point of view of a merchant and dealer. I know what the miller wants and what he will pay the most money for. Why he does so is of no particular concern to me. We do know the wheats that are in the most demand and we do know what they are used for, where they go to, and we have assumed that when the miller does not want certain wheat at all he does not want it except at considerable discount, and that it is not as desirable wheat.

Mr. PERLEY: You are speaking of the miller overseas?

The WITNESS: I am speaking of all the millers. Of course, we have had it especially brought to our attention by Canadian millers who are able more or less to select where their wheat comes from. Now, we sell wheat from our own elevators direct to the Lake of the Woods and other mills, but they would not take the northern wheat and Garnet wheat from us; they did not want Garnet at all for a long time past. They want to select where their wheat is going to come from.

The CHAIRMAN: Is that because it is Garnet wheat or because it is northern?

The WITNESS: Of course, northern-grown wheat has not been as desirable a milling wheat even where Marquis is grown. It has not been as desirable, but we have always suffered a bit from the north because we have had far more varieties of wheat in the north than in the south. Northern Alberta has always grown all kinds of seed wheat.

By Hon. Mr. Motherwell:

Q. The millers liked to select their areas from which they got their wheat for their mills long before Garnet wheat was ever thought of?—A. Yes. That

is quite true; but although I do not know, I think the moisture has a good deal to do with it. Wheat grown on scrubby land in the north tends to go off a little in colour, to be a little piebald, and tends to revert a little bit to a berry of a softer type and is graded a 2 Northern wheat whereas the Garnet grown in the same area retains its colour and it would be graded a 2 Northern. Any wheat that has been grown in the section of Alberta that always has a lot of moisture in the soil tends to produce a bigger berry and to soften the wheat a little bit. Of course, I am quite satisfied when we are talking about the north country and northern wheat grown on scrubby land that if we grow Marquis wheat in the same land year after year and change the seed every year in two or three years we would be entirely cleared of that difficulty or a tendency to revert to the softer type. That difficulty would largely be cleared up.

Q. In other words, a certain amount of drought is necessary to grow the best wheat provided it is not too much?—A. You certainly get a high gluten and a much better quality of wheat in the south when you have an adequate amount of moisture, and, no doubt, much depends on the character of the soil. If we get a lot of rain in a dry belt—we have never had anything but the finest wheat out of the dry sections of the country. I think that is because of the sharp soil.

Q. Yes, that is right. Your opinion concerns the opinion of the Trade Commissioner that Mr. Stevens has just recently read about, that when Garnet wheat is going forward almost solidly, as it seems to be doing now, that is not the wisest way to deliver it—if it is going forward as it is now, almost absolutely Garnet?—A. I feel very emphatically that Garnet is an inferior wheat for milling and baking purposes, and I base my opinion on our experience in selling it to the mills. That is my experience.

Q. You mean the Canadian mills?—A. Yes, the Canadian mills, and our experience out of Vancouver.

By Mr. Lucas:

Q. As an exporter are you finding any difficulty at the present time in selling No. 2?—A. We are having difficulty in selling any kind of wheat, but, relatively it goes out at a price. Now, our mills in Canada have been running on the same character of wheat practically altogether and producing a very high-grade flour. Now, the English miller, for instance, has to put ten kinds of wheat in the same barrel of flour, and he is an expert on the question of using all kinds of wheat. He is interested in only one thing, and that is the price. If we grow a poor wheat the English miller will buy it from us, but he would not give us very much for it. Now, it is possible, and I think it is probable, that we can make better use of these mixtures than our own mills can but that is not going to give us any advantage.

Q. Do you find there is any shying off from No. 2 this year as compared with the past?—A. Out of Vancouver our 2 Northern is ruling now at about $4\frac{1}{2}$ cents discount and there were times this winter when it ruled at $4\frac{1}{2}$ to 7 cents discount on account of the large percentage of Garnet wheat in it.

By Mr. Totzke:

Q. Is that the discount over Atlantic shipments?—A. I mean that 2 Northern sold at $4\frac{1}{2}$ to 7 cents under 1 Northern out of the Pacific.

Q. Is there any difference between 2 Northern out of the Pacific and 2 Northern out of the Atlantic?—A. Oh, yes, the Atlantic wheat was at a premium that year over the Pacific. In January we sold 1 Northern in the elevator at Marseilles, French Mediterranean—1 Northern from Vancouver and 1 Northern out of Atlantic ports both in the elevator at the same time—we sold the same grades in the same elevator on the same day and Atlantic wheat was 5 cents more than Pacific wheat.

Hon. Mr. WEIR: That is 1 Northern?

The WITNESS: Yes.

Mr. LUCAS: How do you account for that?

The WITNESS: Well, I think we got a better price on account of it going into France, but I remember particularly that we wanted to be sure there was no mistake about it and we cabled. We said, "confirm whether you are buying Atlantic wheat or booking Pacific wheat." And they had the grain in the elevator and they bought it because it had a higher gluten content and because there is only a limited admixture of foreign wheat that they are allowed to grind and because there is a very high duty on the wheat going into the country; and if in France, for instance, they have to use 15 bushels of one character of wheat to bring their standard flour up to what they wanted it to be and 10 bushels of another wheat would do the same job and there was a very high duty, they would, of course, pay more money for the wheat that had the higher gluten content rather than import and pay duty on such a large quantity.

Mr. BROWN: Did the element of time and delivery enter into it as between Atlantic and Pacific shipments.

The WITNESS: I mentioned this instance because it was quite unusual that they were both in the elevator at the same time.

Mr. BROWN: But the time of delivery—

Hon. Mr. MOTHERWELL: What year was that?

The WITNESS: It was in late January and February.

Mr. LUCAS: Would you say there was any difference in the quality of No. 1 out of the eastern outlet as against going out by Vancouver?

The WITNESS: I think the eastern wheat was preferable.

Hon. Mr. WEIR: Garnet would not play any part in that?

The WITNESS: No. Garnet should not be in that picture at all.

By Hon. Mr. Motherwell:

Q. And did this spread exist all through the years between the Atlantic and Pacific?—A. Yes.

Q. It does not indicate anything; those spreads have always been there?—A. Oh, no.

Q. All but one year?—A. There was a little spread, but we have never had spreads like this year.

Q. Mr. Newman quoted statistics here that seemed to be official indicating that the spreads have been wider?—A. This is the widest spread we ever had. I do not know what Mr. Newman had to go on.

Q. We have to deal with the evidence?—A. Yes. I do not know where he gets his figures. They are difficult to get.

Q. He gets them from the Statistical Branch?—A. They are not in any statistics I have. We do not give out our statistics. There are statistics on what we buy the grain for. It is all based and the wheat is sold out of Vancouver on the basis of relation to the Winnipeg market, and I think a great many of the fellows who bought that wheat in Vancouver sold it for a lot less money after they had paid for it. A good deal of the business out of Vancouver has to be put afloat on anticipation of business and perhaps be on the ocean a couple of months. It can be put on the boat and hedged there the same as in an elevator. If you buy it for more than the other fellow will pay for it you are out of luck, and that seems to be the general practice for some time past.

Hon. Mr. MOTHERWELL: Was this bad for the European market, this 5 cent spread?

The WITNESS: That was in France.

By Mr. Coote:

Q. The contention has been made before the committee by many witnesses that it was the inclusion of Garnet wheat in samples going from Vancouver that resulted in a lower bid for Vancouver shipments. Now, we are told that there is no Garnet wheat in No. 1 Northern. So, apparently, Garnet wheat will not be responsible for those spreads at all from what you tell us about those shipments of No. 1?—A. Garnet wheat is not responsible for the fact that 1 Northern wheat out of Vancouver is not getting as good a price as 1 Northern wheat out of the Atlantic, but Garnet wheat is responsible for the large spread between 1 Northern and 2 Northern both on the Atlantic and on the Pacific.

Q. What is the spread between 2 and 3 Northern?—A. Well, there is a daily report on the Grain Exchange on it and I would want to refer to the records before I said anything definite.

Q. I am trying to find out from you whether it is greater or smaller than usual; whether it is a normal spread. You were suggesting to the committee that there is more than a normal spread between 1 and 2, is that right?—A. Yes.

Q. Could you tell us whether there is more than a normal spread between 2 and 3, or whether it is less?—A. As a matter of fact, I looked up the spreads between 1 and 2 and I have not gone over the spreads between 2 and 3. To answer that specifically is a matter of record. The point I understand you are interested in is whether Garnet wheat is as good a wheat as Marquis, and from the milling advices they do not mix well together because the same wheat cannot be milled well. Now, I think that last year when we had a very large crop across the north and a very short crop across the south the difficulties with Garnet wheat were very much accentuated because Garnet represented a much larger percentage of the crop than it will this year when we are likely to have a good crop, a reasonable crop across the south. This year Garnet will not be as big a factor. I think the farmer has been encouraged to grow Garnet wheat, and he expected that it was an earlier ripening wheat and would escape the frost, and there was some merit, perhaps, in having him try it out, and there is no doubt that there are some districts in the north where, perhaps, Garnet wheat is the best wheat for the farmer to grow. But Garnet has spread. The farmer has made a little better grade for it. It is early ripening. It is not rust resisting. While it is early ripening, rust develops on it much earlier than in Marquis. It has no merit for rust resisting qualities and it is very susceptible, I am advised, to early spring frosts. I think that we ought to encourage Reward wheat in the north and discourage the expansion of Garnet wheat. If we do not do that, then we must arrange to grade it separately.

The CHAIRMAN: Do you mean that by establishing separate grades we would discourage the increase of acreage of Garnet wheat?

The WITNESS: Well, our main variety of northern wheat to-day sells on its merits. It would be pulled down in price by an admixture of Garnet.

Hon. Mr. MOTHERWELL: Have you anything to indicate that it is being pulled down in price? We want to hear all the good things and bad things about this wheat.

The WITNESS: On January 21st we sent a cable to various European importers asking them from the standpoint of milling quality what was the comparative quality in Pacific wheat of grades 1 and 2, and we received replies from Dusseldorf, Switzerland, Liverpool and Italy, regarding the comparative values of these two northern wheats. They were buying it out of the Pacific on account of it being so much cheaper, but the protein was not satisfactory, and if the spreads narrowed up on the Pacific they would prefer to buy Argentine wheat.

By Mr. Porteous:

Q. Does Garnet wheat enter into that picture at all?—A. Yes, I think Garnet wheat—as these spreads have widened out our 2 Northern has widened out. Our mills here have told us that they do not want that wheat, and now that situation is reflected in the wider spread in buying abroad.

Q. Does that reflect in the spread between Atlantic and Pacific wheat?—A. Well, sometimes we have 1 Northern selling at quite a premium because there is only a small quantity. This year we have a big market, and there is no reason why 1 Northern out of the Atlantic or Pacific should sell at $4\frac{1}{2}$ or 5 or 6 cents over 2 Northern except that 2 Northern was not as satisfactory wheat as usual. We have never known it to sell at these spreads except there was an acute shortage of 1 Northern.

By Hon. Mr. Motherwell:

Q. Was there not a special demand for the top grades this year on account of wanting to get the most protein in a cargo because of the high duty?—A. Oh, yes, there has been a demand for our 1 Hard and 1 Northern.

Q. Would not that have a tendency to put them up?—A. I think it would have some tendency to put them up. On the other hand, we have a lot of 1 Northern. We have been able to supply that. I have never known it before where we had sharp premiums on 1 Northern except when 1 Northern was very scarce. There is the odd miller who will not buy anything but 1 Northern, and if it is short he pays for it.

Q. Now, these figures were interesting with regard to the relative spreads between Atlantic and Pacific exports in January of this year. Have you any corresponding year to give us the same figures for, say, before 1928—there was no Garnet before 1928, say, 1926 or 1927?—A. I have never seen the spreads prevail out of the Pacific that prevailed this year. I am sorry for it. I did not anticipate it. If I had ever known that to happen before it would have saved some money. We had wheat at Buffalo and at Vancouver, and the wheat went out cheap. We have got it yet. It took the business away from the Atlantic.

By Hon. Mr. Weir:

Q. Our information is that there had been a big spread, perhaps a bigger spread out of Vancouver before Garnet came in than there is now. That might be due to different conditions altogether?—A. I dispute that—that there ever was. Of course, when you are figuring out of Vancouver you have to take the ocean freight into consideration.

Q. We are talking of the spreads?—A. I know; but we have got to take it at the price at Vancouver. You cannot take it relatively as against Fort William because you have got the ocean freight at 5 cents a bushel less out of the Pacific. The Vancouver price should go up 5 cents.

Q. You are giving us instances showing the spread out of Vancouver between 1 and 2 Northern. Would not that same information be available before 1928 to show the spread then?—A. Oh, yes, there would be a record. I think the Vancouver people would keep some kind of cash grain spread out of Vancouver.

Mr. COOTE: Is it not true that the bulk of the wheat going to Vancouver today would be northern grown wheat?

The WITNESS: Yes. That is a factor. The Northern grown wheat out of Vancouver—northern Alberta wheat had a tendency to widen out that spread at Vancouver.

Mr. LOUCKS: Would you say that was due to the fact that there was more Garnet wheat?

The WITNESS: Yes; and there was more of it in the east too, and it widened out the spread.

By Mr. Coote:

Q. On that point is it not difficult to say how much of this might or might not be due to the inclusion of Garnet. There is the fact that this is not a normal year and that the bulk of our wheat came out of the north from which districts we expect a little lower protein anyway?—A. Yes, that is quite right. I do not think the northern grown crop is as good as the southern grown crop anyway.

Q. That is what I am suggesting—A. I think a northern grown crop of Marquis or particularly Reward wheat would be better than a northern grown crop of Garnet wheat, and I feel that the Garnet wheat mixed with our southern wheat makes a bad mixture. If you put Marquis into Garnet I do not think it would hurt the Garnet, but by putting the Garnet into the Marquis you hurt the Marquis, giving the wheat somewhat different characteristics. Garnet wheat is a harder, more vitreous wheat, and I am told that when it is tempered to the same degree to which they are accustomed to temper Marquis that it breaks up on the rolls and does not handle right, and that the miller claims that to get good results out of it you have got to handle it entirely separately, and even if you do handle it entirely separately you get a smaller loaf of bread and not as good a colour, and it is not as satisfactory an importing wheat.

Q. I wanted to clear up that other point?—A. In fact, our boys tell me that a lot of farmers have drawn their grain into the local elevators to get it gristed and they want the miller to give them back flour from Marquis wheat.

Q. We had evidence on that point the other day. I wanted to clear up this point, or to ask you to clear it up before the committee. In regard to the amount of wheat grown in the north and south last year, would it not be true that there was very little No. 2 wheat which came out of the south last year, that the bulk of it was No. 1, and that whatever No. 2 did come the bulk of it came from the north where the No. 2 would not carry as high a protein content as it would in other years when the grain came from the south?—A. Oh, it has something—Garnet wheat is one of the difficulties. One of the difficulties is that it is very hard to tell Garnet wheat. What you say is, I think, a consideration and a factor in the whole thing. No matter what other factors come into it, I am satisfied that Garnet wheat is not a desirable wheat for us to go further into, and if we do we will sell our whole crop at less money as time goes on. I think it is very desirable that we do not move in this matter hurriedly. I think the farmer has got to have a chance to move around to it, and I certainly think he ought to be told that if he continues to grow Garnet wheat he will have to take—probably have to take less money for it; that it is not as good a milling wheat; and that it is up to him to calculate as to whether the additional yield and any other advantages that he sees compensate him sufficiently for continuing to grow it. I do not think we want to take any chances on lowering the whole standard of our wheat, and I do not think Garnet wheat is going to be what the farmers thought, and I think we ought to switch the farmer off it.

By Hon. Mr. Weir:

Q. One of the big advantages in selling our wheat in Europe now is the high European test. They think of our wheat as of one kind. What effect would it have on the old country buyer if we had an official grade which would give them the impression that we are growing two kinds of spring wheat in place of one?—A. My own judgment is that the grade of our wheat should be maintained at a high quality. That is one of our assets. Our competitors can grow wheat, but not the same quality, and we should not sacrifice our quality.

Q. Would it not have a tendency to lower both Marquis and Garnet if they were only split up and not creating as high a standard?—A. I was going to say that I think we ought to maintain the high quality of our wheat and the more of our wheat that we can put in 1, 2 and 3 Northern, the well-recognized grades that everybody all over the world knows the value of and which they can buy two or three months ahead and know what they are getting, the better; and therefore I think the prohibiting of mixing 1, 2 and 3 Northern is bad for the farmer and bad for the country. I do not follow that at all. I think it is a mistake. I think we should be allowed to mix 1, 2 and 3 Northern. We should maintain the grades and if a car comes along with seeded 1 Northern and we clean the seeds out why should we not get a certificate for 1 Northern? Why call it something other than what it is. Wheat comes in frequently characterized as seedy, smutty, tough or damp. You cannot merchandize it in that way, and if you can put it in shape so that it covers all the requirements of the standard grades that is the best way it can be merchandized, and that is the way it will leave the most money in the country. If we could ship nothing but 1, 2 and 3 Northern wheat I would like to see that done. I would prefer not to have another set of grades if it could be avoided, because the immediate reaction to that would be that Garnet wheat would sell at a discount. But what would happen is that Garnet wheat would get to the place where it belongs on its merit and would not hurt Marquis wheat.

Q. If Garnet wheat were in a separate grade and brought a considerably lower price, would there not be a tendency for millers to buy it and thus decrease the demand for Marquis?—R. I do not think our millers would be interested in it here unless they got a very big discount; and as far as the English millers are concerned if they could get it cheap enough they would use it to replace some other wheat, but not our 1 Northern at all.

Q. The information is that in 1927 the spread between 1 and 2 at Fort William was 5 cents; 1926, 4.9. That was before Garnet wheat came along?—A. Yes. There will be acute circumstances when 1 Northern is very scarce, but that does not prevail this year. It may be due to the fact that there was more 1 Northern grown in the south this year and that had something to do with the spread. That does not make Garnet a good milling wheat.

By the Chairman:

Q. If separate grades were established, Mr. Richardson, will it create a problem in the country elevators in regard to binning?—A. I think it will increase the problem in the country elevators; they will have to meet that problem. As far as the trade is concerned—

Q. You will have to meet it by mixing?—A. No. As far as the country elevators are concerned, if they make mistakes it costs them money. They do not inspect the grain. The Inspection Department inspects the grain. They inspect it for themselves, and if they do not buy it right, it is their own lookout. The Inspection Department have grades, and they have to be adjusted to.

By Hon. Mr. Motherwell:

Q. Your fears are rather based upon what might happen if Garnet were grown to a greater degree than to any particular harm which it has done yet?—

A. I think it has hurt the crop this year. Some of these things are a little hard to prove specifically, but I have not any doubt in my mind that Garnet wheat has injured and has continued to injure the reputation of our spring wheat; but I do not think it will be as big a factor next year as this year owing to the fact that we had a big crop in the north and a short crop in the south.

Q. What I was going to say is that I think everybody feels that side of the question. We want to maintain the quality of our wheat abroad. There is a

little danger in the offing, in addition to what we already know—in addition to the evidence already produced. Now, if it were generally known that there was a variety of wheat that was a hybrid of Garnet and Reward developed with the idea of maintaining good qualities of both and eliminating the poorer qualities of both, and that there are ten generations of that already developed looking towards that variety, would that seem to meet the situation; would that seem to be a step in the direction of meeting the difficulty?—A. Repeat your question, please?

Q. There is a hybrid wheat now being developed by a cross between Reward and Garnet and Marquis and Garnet—both of them—looking towards the elimination of the objections taken to Garnet—that is colour and tempering—looking towards the elimination of those defects and maintaining the good qualities, and looking towards the elimination of the poorer qualities in the other wheats as well and maintaining the good qualities. Now, ten generations of that hybrid have been developed by growing two crops a year, and that is the aim of the Department of Agriculture now through its cereal branch to develop those new wheats that meet the situation.

Hon. Mr. WEIR: The only real difficulty is that Reward does not yield high enough after a crop on breaking and summer-fallow to replace Garnet, and if these other varieties increase the yield of Reward it will solve itself.

The WITNESS: Yes, but we have got to do all the experimental work, and we have got to be very careful that we have the right stuff before we recommend that it be used too generally. That is the difficulty. I feel that we are very confident as to what Garnet might do. Garnet has, apparently, satisfied the farmer in regard to grade and yield. Now, how much of that satisfactory yield has been due to good moisture conditions in the districts where it is grown and how much is due to the fact that he has already sown Garnet wheat, we do not know. That is another thing. If he has planted two experimental plots and has three or four bushels more and put the experimental plots alongside of each other, all right, but he cannot prove one way or another because growing conditions and moisture were altogether different in those years.

Hon. Mr. MOTHERWELL: You think that Garnet has been over-boasted by somebody?

The WITNESS: I think the farmer likes to get his Garnet wheat if it is graded 2 Northern—he likes to have that better than he does Marquis wheat if it is graded 3. It has the quality of ripening early which is an advantage, and it has spread very far. There have also been good yields. Whether that is due to Garnet or to other conditions is something we cannot very well prove.

Hon. Mr. WEIR: The biggest boost for Garnet was the two years of frost that got Marquis and did not get Garnet.

The WITNESS: Yes.

By Hon. Mr. Motherwell:

Q. I have not noticed much boosting of Garnet, unless on the principle that every knock is a boost. If that is it, of course, it has been tremendously boosted. I think Reward has been given more departmental boosting than any other wheat, because outside of its low yield and its tendency to loose smut, it has been an excellent wheat, and it is coming along. I think it has been boosted more than Garnet. I have noticed that more care has been taken to distribute Reward than Garnet. The attempt seems to be to hold Garnet down?—A. Yes, that is the problem to-day, to hold Garnet down. It is all right if they continue to grow it across the bush country where it will not be too much of a factor, but if it starts spreading down into other districts it is going to be a serious question.

Q. Don't you think its predisposition to rust as compared with Reward will hold it down in the south?

Mr. BROWN: It will not interest our district.

Hon. Mr. WEIR: There is some grown in the south of Manitoba.

Mr. BROWN: No. We tried it in our section.

Hon. Mr. WEIR: I was surprised when I was down there this winter; they do grow it.

Mr. BROWN: I introduced it there myself and distributed some, but it has all disappeared.

By Mr. Coote:

Q. One of the main reasons why we wanted a representative of the Grain Exchange here was to find out if we could what spread would be set by the Grain Exchange for hedging purposes—the spread between Garnet wheat, if we had a separate grade for it, and northern wheat. I wonder if Mr. Richardson would give us his opinion in regard to that?—A. I think in all probability it would be a pretty substantial discount. I think it would be quite a substantial discount. If you are going to deliver it on our future I do not see how you could do anything else if you do not want to pull down the future. The idea of the future market is that we call for 1 Northern wheat and 2 Northern wheat at a 3 cent spread and 3 Northern at an 8 cent spread, and when we set those spreads we figure that 2 Northern is good value at 2 or 3 cents under. A man buys one. If he gets No. 2 at 3 cents less he is satisfied, and if he gets 3 Northern at 8 cents less he is getting good value. That does not mean that 2 Northern cannot sell at 2 cents under 1 or 3 Northern cannot sell at 5 cents under 1, both of which happen at times, but if you put 2 and 3 Northern too close to 1 Northern you would never get any 1 Northern on your future; they would deliver you 2 and 3 and the 1 Northern would go at a premium which is the situation at the present time. As to what would be the collective opinion of the elevator companies in the grain trade as to that spread I do not think I would be justified—I have not made a particular study of it from that angle and I would only be expressing my own opinion. It would be quite a sharp discount, I know.

Q. We would be glad to take your opinion. I think the committee would like very much to have it and to consider it simply as an opinion?—A. I do not like to give an opinion in this matter. It would not be a very carefully considered one because, after all, whatever would be done on that would be the collective judgment of the trade; it would not be my judgment. I rather think, probably, they would figure about 8 cents discount on Garnet wheat.

Q. If it were graded separately?—A. Yes. But, mind you, it would sell on its merit. It would find its level. In all probability it would be too low at the start because people would be buying stuff they knew the value of. Until they could grind it and get more used to handling it and find out just what they could do with it, probably it would not trade at quite its full value. I think, probably, something like that would happen.

Q. You would not anticipate any greater spread? I am only asking you for your opinion?—A. The elevators have a problem unquestionably. If mistakes were made in the mixing of this wheat, any errors made in the elevator would be very costly, and there is no doubt there would be an increase to that extent; but the elevators are taking that kind of chance all the time in the conduct of their business, and I have not any doubt whatever but that the elevator companies when this grain is separately graded, allowing for sufficient competition between them, will handle the grain right on its merits and there will be no undue tax put on it as far as elevators are concerned.

By Mr. Perley:

Q. The Canadian miller can be put out of the picture. He has established his interior elevators and gathering houses for these mills in certain districts where they are growing more or less Marquis wheat. They can select grain. No matter how much Garnet wheat is being grown, there is sufficient territory growing Marquis?—A. Very few of them have enough elevators to take care of their demands.

Q. Even if they select from private elevators?—A. Yes.

Q. This is a matter to be considered from the export point of view; how it is going to affect the standard of our wheat over there and how it is going to be received by the miller in the old country?—A. Well, he is getting some very nice wheat from Australia this year—some very nice wheat. A part of the crop from the Argentine is very nice wheat, but there is a lot of poor stuff that finds its way into the United Kingdom market especially, and the more poor stuff we grow the more competition we will have, and the better stuff we grow the less competition we will have.

The CHAIRMAN: Now, gentlemen, half our time is gone and we have two more witnesses.

By Hon. Mr. Stevens:

Q. In your opinion, Mr. Richardson, has the presence of Garnet wheat in the No. 2 grade adversely affected the marketing of No. 2 grade?—A. I think it has.

Hon. Mr. MOTHERWELL: Have you any evidence?

The WITNESS: That is my judgment on it.

Hon. Mr. STEVENS: I am asking the witness his opinion on it.

By Hon. Mr. Stevens:

Q. Secondly, Mr. Richardson, if we are to continue the production of Garnet wheat in Canada in quantity do you think it is in the interest of our export trade that it should be graded separately?—A. Yes,—I feel that decidedly,—unless we can control and reduce the acreage.

Q. Of course, I said if we are going to produce?—A. I think it should be discouraged where Marquis and Reward varieties will do equally well. Undoubtedly, I think there are some districts in the north where it may be proved that Garnet wheat is the best wheat to grow. I do not think we need seriously consider that if the quantity grown is small enough; but unless we can reduce it we should arrange to grade it separately.

By Hon. Mr. Motherwell:

Q. Did you ever know of any wheat being graded separately from the northern wheat which survived? I have in mind White Fife and White Quality and Kota. Did you ever know any of them to survive?—A. They had no right to survive.

Q. I know, but White Fife and White Quality were given a special grade. Do you think Reward wheat would survive if it were given a special grade? Would it not go down?

Mr. COOTE: It is near Marquis; it is not necessary.

Hon. Mr. MOTHERWELL: I mean Reward. Reward is reckoned as being quite as good as Marquis. If we put it in a separate grade and called it Reward and put it on the market to-morrow would there not be a differential against it?

The WITNESS: I think that our long established reputation of our well-known grades on the market is worth something to us. It is like a trade mark. The other fellow may make just as good goods but if he has not got as good a

trade mark he has to sell his goods for less money. I think our 1 and 2 Northern are grades which are worth something to us, and I agree that if you start to sell something under another name immediately you are taking away any advantage that reputation has built up. I think that wheat will sell on its merit just as Durum wheat. Now, a few years ago all our Durum wheat on this continent went to the American seaboard. We had only a small amount of Canadian Durum wheat and it went to the American seaboard because there was no established market for it. Now, our Canadian Durum wheat has grown in favour with the buyers abroad, and instead of Canadian Durum wheat being practically unknown the buyer prefers that to the wheat he has always bought, the American Durum wheat, and that is a wheat that has survived right along and has grown in popularity.

Hon. Mr. MOTHERWELL: You cannot call that a bread wheat; that has a specific demand.

The WITNESS: Its popularity has grown, as against the American variety, on its merits.

Hon. Mr. MOTHERWELL: There is no question about that. It is not a bread wheat, although bread is made out of it sometimes.

By the Chairman:

Q. Mr. Richardson, suppose Garnet wheat were all placed in the No. 3 grade, instead of establishing other grades, would that be a satisfactory solution of the problem; what effect would it have on the three grade?—A. I think it would widen it out.

Q. You do not think that would be satisfactory?—A. No, I do not think it would.

By Hon. Mr. Weir:

Q. Would a good Garnet not raise the price of a poor 3 Marquis? I think that is the Chairman's question?—A. The millers' argument, as I understand it, is that they do not mill well together—the mixtures do not mill well. I understand that Marquis would not hurt Garnet, but the Garnet hurts Marquis.

The CHAIRMAN: That would mean that the No. 3 grade would be largely a Garnet grade?

The WITNESS: Yes.

Hon. Mr. WEIR: And No. 3 Marquis would not be a good milling wheat either?

The WITNESS: I think it is usually mixed.

The CHAIRMAN: We have had a very interesting discussion and have received a lot of information from Mr. Richardson. We will now hear the other witnesses.

LEW HUTCHISON, called.

The CHAIRMAN: Give your position to the reporter.

WITNES:: I am Vice-President of the Canadian Co-Operative Wheat Producers and Vice Chairman of the Board of Directors of the Alberta Wheat Pool. I do not want to take up very much of your time, and to avoid that I have condensed my ideas somewhat, and have put them in a definite form. What I say here today represents the opinion of the Boards of the three western wheat pools, who, in turn, represent some 140,000 wheat growers. The personnel of each of these wheat boards contain both Marquis and Garnet wheat growers. The question of the grading of Garnet wheat represents three major aspects:—

- (1) Its effect on the quality, reputation and saleability of Canadian wheat.
- (2) Its effect on the growers of wheat, both Garnet and Marquis.
- (3) The effect it has on the physical handling of the grain through country elevators.

In dealing with the first phase, it is not my intention to discuss the question of actual milling quality of wheat, as that is a question for experts and I take it that you have had placed before you everything required in that line.

For many years Marquis wheat has been quite universally accepted as the standard of excellence in Canadian wheat and naturally the introduction of any other wheat into our outgoing sample which differs in quality or requires any different treatment in milling from Marquis, tends to decrease the desirability of any grade of our wheat so affected. This is quite plainly shown in the attitude of the Canadian Millers. They have decided quite definitely that they do not want Garnet. Whether they are justified in this or not is not the question; they have taken that attitude and that is what we must face. The Alberta Pool is not able to make any sales to Alberta Mills of any grade of wheat below No. 1 without a stipulation that it contains no Garnet, in which case a premium is easily obtained.

The Manitoba Pool Elevator Company had some No. 2 wheat which they were unable to sell to a certain Mill, the buyer for which stated that they were not buying any No. 2 wheat as it contained Garnet. When guaranteed that this particular wheat contained no Garnet, no difficulty was experienced in making a sale at a premium over quoted price for No. 2. The Saskatchewan Pool has had the same experience.

The Canadian Mills are the largest single customers for Canadian wheat and certainly no sane merchant will ignore the preferences of his best customer.

As an indication that Garnet is discriminated against on the market, note the wide spread nearly all this year between No. 1, which contains no Garnet, and No. 2 which contains most of the Garnet grown. The normal spread between No. 1 and No. 2 has for years been about three cents, although it varied slightly, except in years that the character of the crop caused a premium on No. 1, while this year it has been fairly consistently from five to six cents.

By Hon Mr. Weir:

Q. If there was a separate grade for Garnet do you think the Canadian millers would buy Garnet?—A. I suggest as to Garnet I do not think they would touch it at all. As I understand it the trouble is the colour. The Canadian demand is not for a yellow flour. There is also trouble in the milling and tempering of the wheat for milling.

HON. MR. MOTHERWELL: Is not that due to the fact that they have not got the equipment for tempering it?

WITNESS: They can temper it I think but it requires different tempering to Marquis, and they are handling Marquis and they do not want to change their methods. I do not think we can afford to eliminate the Canadian miller from a picture of that kind. Their continued picking at the cream of our wheat as they are doing now must necessarily leave a bigger proportion of Garnet wheat.

The year 1927 was referred to a moment ago in which the spread was wide between 1 and 2, but owing to a lot of tough unsprouted wheat No. 1 was scarce. The year 1928 was the same. The same spread existed in 1928. The year 1928 was a year when our wheat was hurt by frost damage and No. 1 went at a high premium. Except in cases like that when there was a scarcity of No. 1 the normal spread was around 3 cents while this year it has been almost constantly 5 or 6 cents. The day I left Calgary we received a report from our western salesman in Vancouver to the effect that there was a fair demand for numbers 1, 3 and 4 and no demand whatever for No. 2 and the spread was 5 cents between 1 and 2. The spread between 1 and 3 was 7½ cents. The spread between 1 and 4 was 8¼.

Owing to the fact that most of the drought damage last year occurred in the Marquis growing regions, while the Garnet territory enjoyed good crops, we probably have a much higher proportion of Garnet in our crop than usual this year, which would seem to account for the increase in the spread previously mentioned.

Furthermore, the spread between "No. 1" and "No. 2" at Vancouver has been consistently wider than that at Winnipeg, the wheat going to Vancouver containing a larger proportion of Garnet than that which goes via Fort William.

We have heard considerable controversy as to whether the European Miller prefers Garnet or Marquis, but regardless of that preference, apparently all are agreed that they do not want them mixed as each requires different treatment in tempering before milling.

The separate grading of Garnet may result in its selling at a discount, at least for a time, but it is not a certainty. One thing, however, is certain—no matter how high the qualities of Garnet it will never be in a position to obtain a premium until it can be obtained in unmixed form.

Practically all our export wheat is sold on the basis of the Certificate Final—so that when a European buyer buys "No. 2" Canadian wheat, as our wheat is now going out, he has not the least idea whether he is getting Marquis, Garnet, or a mixture of both. Certainly, with the acknowledged difference between the two wheats, such a situation must be militating not only against both varieties, but against the general reputation of Canadian wheat.

We have had an indication that Russia has received an impression that Canadian wheat is not in as great favour with British buyers as formerly and they are conducting an investigation as to just what kind of wheat is most acceptable to Britain, with a view of producing that wheat. There may be nothing much to this, but it is a situation not to be ignored.

From the standpoint of the grower in the northern sections of the wheat area, there is no question but that Garnet is very desirable largely on account of its earlier maturity which enables it to escape many of the early frosts.

Until the development of Reward wheat, which practically equals Garnet in early maturity and yield, and does not clash in the least with Marquis, either as to quality or milling treatments, there was considerable justification for growing Garnet. That justification seems now to have very largely disappeared so that any man who still desires to grow Garnet should be prepared to let it stand on its own merits. An abundant supply of Reward is now available so that no hardship would be caused in making the change.

It may appear to be good politics at the present time to pose as the champion of the grower of Garnet, but what will be the position when the grower of Marquis who is in large majority wakes up and finds out of what is being done to him? When he finds that all his number two wheat is being penalized to the extent of two to three cents per bushel in order to protect the Garnet grower against a possible discount?

The third phase of the question, that of physical handling, is one in which we Pools are vitally interested as we are each operating a large line of Elevators. Certainly the separate grading of Garnet will complicate the elevator handling as it means more bins, but that problem is already present in Manitoba elevators where they have in addition to regular wheat grades and coarse grains, the separate grades of Barley and Durum. If Manitoba elevators can handle Barley and Durum in addition to their other business, surely the Saskatchewan and Alberta elevators can handle Garnet.

Owing to its splendid colour and appearance, Garnet is a wonderful mixing wheat and an elevator agent with a good supply of Garnet, a large proportion of which is really "No. 1" in quality, is in a fine position to handle any bleached "No. 3" and "No. 4" Marquis that comes along and raise them a grade. So that as elevator companies we are loath to see a change.

If the question of elevator handling were the only one involved, probably we also would be tempted to pose as champions of the Garnet grower, but the larger questions involved in the other two phases of the situation so far outweigh these that we are firmly convinced that Garnet should be put in separate grades and given a chance to prove itself, not later than next year. Further delay only means that, that much longer must we endure the injustice of a penalty on the majority to protect the minority from possible loss.

If it is equal or superior to Marquis and Reward, it has nothing to fear, and if it is not, it is not entitled to a ride at their expense.

We have far more barley grades in Manitoba than we have in the two western provinces. Now, just a word in regard to the attitude of the growers of Garnet. I may say in the first place that I had been a grower of Garnet myself until this last year. I changed to Reward because I realized that this was coming, and our experience with Reward has been that while it is not at all conclusive because we have tried it only one year, it yielded exactly the same as Garnet did under the same conditions.

Now, there is no question about it, you can raise quite an objection on the part of a great many Garnet growers the minute you talk about separate grading. They say that if you put Garnet in a separate class it will mean that they will have to sell at a discount. That is perfectly natural, but that same man, if you explain the whole situation to him will say that that is quite fair. If it is going to damage the Canadian crop why he will have to take what Garnet is worth, and I think you will find that that is the general consensus of opinion among growers when the matter is put up to them in that light.

Now, I do not know whether Mr. Ramsey brought out in his testimony—unfortunately I did not have a chance to go over it all—whether he brought out the results of his visit through the Garnet country last summer. He was up in the Peace River country at many points looking into this Garnet question because it was a live question up there, and his report to us when he came back was that he encountered no serious opposition to the segregating of Garnet once the situation was explained to the farmers. You will notice that the U.F.A. Convention held in Edmonton, which is a very representative body of Alberta farmers, refused to entertain a resolution asking for the postponement of the segregation of Garnet. I do not think we can take it for granted at all that the Garnet grower is going to start an insurrection or anything of that kind if we segregate Garnet. Naturally, he does not like to see Garnet sell at a discount, but he can easily switch to Reward now, and I think, in most cases, he will find that it will give him as good results. Even if he does not, I do not think that is any legitimate reason for Garnet going into the other grades in the light of what has been brought out as to the relative—I cannot say quality of the grain—I am not trying to make out that Garnet is not as good a wheat as Marquis—but the fact that it is different and requires different treatment is reason enough to exclude it from our other grades. Now, with regard to preference overseas, as near as I can gather from some of the questions there seems to be a tendency that there is no need bothering about that overseas business until it really gets hold of us. In other words, would it be good business on the part of a grocer, for instance, to start mixing brown and white sugar together. Some of his customers would kick right away if he continued to do it. Would he be justified in continuing to do that until all his customers quit him and went somewhere else for their sugar? Just as soon as we find that our wheat is not coming up to the standard of the past should we not look about us very carefully and provide against that condition existing?

By Hon. Mr. Motherwell:

Q. Have you any well grounded suspicion? We would like to hear it regarding the European or British market?—A. I take it from what evidence

I have seen that whether the European buyer prefers Marquis or Garnet he does not want them mixed. There has been no demand.

Q. There is no doubt about that?—A. That is the main question. He does not want them mixed, and we are trying to insist on him buying them mixed.

By Hon. Mr. Weir:

Q. Do you think there would be any great practical difficulty in the country elevators under a separate grading? That is my chief worry. If we have a separate grade of Garnet it would be cheaper, and there will be a big temptation in the country elevators, as you suggested, to try to raise a poor Marquis to Garnet, and that is where the mixing will take place?—A. They are doing that now.

Q. Yes. but if there is a separate grade for Garnet that will bring Garnet far below No. 2 Northern, and there will be a much greater tendency?—A. As Mr. Richardson pointed out, that is the responsibility of our Inspection Department.

Q. No, this question I refer to starts in the primary elevator?—A. If an agent does that and gets caught and suffers a stiff loss he will be very careful, because he is responsible. He may take it in and he can mix it out and he may get away with it, but if the Inspection Department detects an undue proportion of Garnet in any of the grades—

Q. They will make it very difficult for him. But the farmers have lots of time and they can mix their own grades, and a lot of this wheat is delivered as you know under very uncomfortable circumstances in the cold weather. The elevator man will have his mitts on. It may be snowing or very disagreeable weather, or it may be dark. I am not trying to over-emphasize this, but I feel that the big difficulty is in the country elevators?—A. There is no question about it; it creates a difficulty. It makes quite an obligation for the elevator agent.

Q. When you were suggesting that a separate grade should be established, that was your own opinion?—A. Well, personally I would like to have seen it established this year, especially in line with what seems to have come before you with regard to this year's crop. It is too late now. It is definitely decided not to do it; but certainly it should not be later than the next crop.

Q. 1933?—A. Yes.

Q. The average spread, you say, is 3 cents between 1 and 2?—A. Yes, in normal years.

Q. This year it is up to 4½; that is what Mr. Richardson stated?—A. At Fort William, I believe, yes.

Q. Wheat importing countries had a very fair grade of wheat in 1931, I believe. Therefore, on account of their duty they wished to buy the highest grade they could buy which has had the tendency to raise No. 1 Northern. So that would have a tendency to increase the spread, outside of Garnet. This year in particular in the west on account of the drought in the south a great deal of Marquis—the big proportion of Marquis has come from the north, and it is of an inferior grade to the Marquis of the south. The Marquis alone will have a tendency to lower the grade of No. 2, would it not?—A. It might.

Q. With regard to exporting countries, what about the quality of their wheat for 1931? I understand that it was lower than the average?—A. I do not think Australia was; I think the Argentine was.

Q. I thought there again that would have a tendency to have importing countries buy our 1 Northern?—A. It is quite true that possibly what we are taking for indications—certainly they are not proofs—nevertheless they are indications, and when we go clear down the line and see that the indication is all the same way we naturally think there must be something to it, and it is

a question with us of not waiting until we are slapped in the face before we do anything. What Mr. Richardson said with regard to the difference between the wheat of the south and the north is perfectly correct. I do not know that he is quite correct in putting it on a southern and northern basis. The farmers in the drought areas can grow better wheat than we can in the bush areas.

Hon. Mr. MOTHERWELL: That has always been the case.

The WITNESS: That makes it all the more incumbent upon us to try and overcome our difficulties, and the best we can do is to work a little harder to grow good wheat through that country, and certainly we want to do everything we can to overcome that handicap.

By Hon. Mr. Weir:

Q. We are all agreed on that. Unlike yourself, I have not grown Garnet wheat for a number of years. Under what conditions did you have your Reward and Garnet this year? Was it on breaking or summer-fallow, or was it grown on third crop stubble?—A. Our Garnet was on second crop stubble, well cultivated. Our Reward was on a strip of breaking and right next to it, but it was very poorly worked. We did not work our breaking on account of the wind the year before. It did not get anything like the working it should, and the Reward was put in in rough shape.

Q. My impression is that Reward wheat for breaking or even summer-fallow has a good yield, but that it decreased in yield much greater than Marquis or Garnet?—A. That may be true. I have not had a long enough experience. Even so, I suppose we are justified in growing Reward. The difference in quality and the danger we are incurring with our other wheats is a greater consideration than a few bushels extra yield.

The CHAIRMAN: If separate grades are established for the 1933 crop do you think it will seriously interfere with the growing of Garnet—diminish the growing of Garnet?—A. I think probably it will. In fact, there has been—I know quite a number of my neighbours are turning to Reward instead of Garnet because they thought this change was coming on.

By Hon. Mr. Motherwell:

Q. Because of the educational propaganda, as some have called it, against Garnet?—A. Well, they figured that if Garnet was going to be graded in a separate grade it would sell at a discount and Reward appeared to be just as good and they might have to go into Reward.

Q. In other words, the question was solving itself?—A. Yes, if you take those measures to solve it; but the question of Garnet being put into a grade by itself is what urged them to do it, because, simply from the grower's standpoint, it is a very advantageous grain to grow and it is a nice grain to handle.

By the Chairman:

Q. Still, the establishment of the grades will, you think, eventually do away with the Garnet altogether?—A. I would not say that. It depends entirely upon the place Garnet finds for itself. As far as our own millers are concerned, I do not contemplate any change in their attitude for some little time possibly. Otherwise the millers may develop a demand for Garnet. Once it is in a pure state and they find its qualities it may develop a demand and sell at a premium the same as Durum did.

Q. Don't you think if they could buy Garnet at a discount and, perhaps, use it to advantage by a different process, it would have a tendency to lower the price of Marquis and other northern wheats?—A. I do not think so compared to what we are selling now, because it is all going onto the market now, and it would not make any more wheat. It might tend to bring the two together.

Q. If they could buy it, as Mr. Richardson suggested, for 8 cents less and and use it by a different process, would it not have a tendency to reduce the price of 1 Northern wheat?—A. It might. In doing that that it would increase the demand for Garnet, I suppose. If there was a demand for Garnet that discount would quickly disappear.

By Hon. Mr. Motherwell:

Q. Are you speaking for the Alberta pool or for all the pools?—A. For them all.

Q. You sometimes change your mind on these questions. Maybe if you had read the evidence you would be in better position to give an impartial opinion regarding the other provinces?—A. I have read most of the evidence, and I have been quite surprised as to the extent to which that evidence corroborated my former opinions. There has been far greater evidence to my mind of the necessity of segregating Garnet than I thought there was.

Mr. BROWN: There is one point I think on which there seems to be no difference of opinion and that is that your European buyer does not want it mixed.

The WITNESS: Is not that enough to settle the whole question?

Hon. Mr. MOTHERWELL: You will recall that on the very important question of mixing the pools were all in favour of mixing up until nearly the very last mix was done and until the legislation prohibiting it was nearly ready. You have changed your mind since you have had all the facts before you, and the pools were finally all behind the abolition of mixing.

The WITNESS: I would not say that.

Hon. Mr. MOTHERWELL: They were sufficiently behind it to make the abolition go. When you have all the facts before you in regard to this question you probably will change your mind on that too?

The WITNESS: No, I think the question of mixing—possibly I am a little out of my line in divulging past history—the pools got together and decided not to support the reason for the abolition of mixing, but to increase the standard. When the politicians got hold of it they forced our hand so we could not do anything else.

Hon. Mr. MOTHERWELL: The politicians did good work.

The WITNESS: I do not know. I am not at all prepared to admit that they did.

The CHAIRMAN: I am afraid we are getting away from Garnet wheat.

R. C. STEELE, called.

The CHAIRMAN: Mr. Steele, will you state your position?

The WITNESS: For the past two years I have been in charge of the Coarse Grain Sales for the Canadian Co-Operative Wheat Producers and for the Saskatchewan Pool Elevators. Previous to that, for five years, I was in charge of the Grade Checking staff of the Saskatchewan Pool Elevators, and at the convenience of the committee to give any assistance possible from my familiarity with the operation of country elevators and grading grain. With your permission I would like to read in a little statement:

There is no technical information I can add to that which has already been submitted to this committee. I wish to endorse what Mr. Hutchinson has said that the wheat Pool Boards and Delegate Bodies are on record as being in favour of the grade segregation of Garnet wheat.

We as an organization and myself as an individual do not care to enter into a controversy as to whether or not Garnet wheat is commercially equal to Marquis or Reward.

It is sufficient that large quantities of Garnet wheat are produced, and will likely be produced for a time at least, and therefore it should be handled in such a manner that the best possible returns can be secured for the total Canadian wheat crop.

Evidence already submitted to this committee would appear to indicate that the principal objection to Garnet on the part of our overseas customers is its admixture in Manitobas. The demand for No. 1 rather than No. 2 as evidenced by spreads in prices between the two grades and the quantities of No. 2 now in store in Canadian terminals would also appear to indicate that statutory grades containing Garnet were not in such demand as No. 1 which contains little if any Garnet.

The producers of Garnet wheat while not necessarily admitting that Marquis or Reward are commercially more valuable than Garnet, realize the importance of keeping up the standard of Canadian wheat in compliance with the wishes and requirements of our customers.

If Garnet is equal in milling and baking value to Marquis and Reward, segregation in grade will eventually demonstrate it. If not equal then all the more reason for segregation.

The difficulties in handling through country elevators and in grading are not insurmountable.

These, Mr. Chairman, were the particular points on which I am able to speak—the difficulties in the country elevator and in grading.

By Mr. Brown:

Q. On that point, have not those difficulties been exaggerated? Would it not be true that in most cases the country elevator operators would know what their customers were growing, that is on the matter of grading wheat?—A. I would say that even although they did not know what their customers were growing they would find little difficulty in grading the grain separate—the Garnet and Marquis separately.

Q. They would find little difficulty?—A. Yes.

Q. There would, of course, be the difficulty in binning?—A. They would require more bins. They would require to use a little more care, but it is not a question of inability so much as the question of desire to do it. That is my firm conviction.

By the Chairman:

Q. In Ontario we often grow varieties that are not at all pure. I suppose that prevails to a certain extent in the West. What would be done with a mixed variety of Marquis or Garnet or Reward? That would go below the grades entirely, would it?—A. That would have to be arranged by the Inspection Department and the Western Grain Standards Board.

Q. It would practically go outside of the standard grades entirely, would it?—A. There would have to be commercial grades set up for it. That is my opinion. All these details of segregation of the different grades and the different mixtures would have to be handled by technical men employed for that purpose, such as the Western Grain Standards Board.

Q. Have you any knowledge of what percentage of the wheat grown is mixed in growing? Is it small or large?—A. Well, it is very difficult to say, because a great many of the mixtures coming from the primary inspection points takes place at the country elevators. They were not necessarily grown in that condition. It is my opinion that not a great percentage has been grown in that way as yet. Later on there would be more probably.

Q. If there was a change from Garnet to Reward there would be a larger percentage?—A. There would be more—a larger percentage.

Q. It would certainly increase the difficulty of separating these mixed grades?—A. Yes. There are difficulties. They would have to be overcome. But we operate quite a substantial system of country elevators and we feel we can do it.

Q. What about the elevator man in the country? Suppose two farmers bring in grain and they may have Marquis and Garnet and they dump them together. What position is the elevator operator in?—A. He has that responsibility. He is liable to take a loss when it is finally graded by the Government Inspection Department. There would not necessarily be any loss to the farmer himself, but those who are handling grain have to be prepared for that sort of thing.

Q. If there were a real spread between the Garnet grades and the Northern grades there would be an inclination for dishonesty for the farmer to try to pass his Garnet off as something else?

Hon. Mr. WEIR: In the case of grain delivered at night he would have to keep a sample and not grade until morning.

The WITNESS: Yes, there would be some encouragement to do that.

By Hon. Mr. Weir:

Q. When you say that separate grading should be established in your opinion, you mean for the 1933 crop?—A. I would say not any later.

Q. Would you recommend this year, 1932?—A. I cannot see how it can be done.

Q. On account of the October options?—A. Yes.

Q. You think that is the unanimous opinion of the pools in the west that if possible Garnet should be given a separate grade this year, and at the latest it should be given a separate grade next year?—A. That is the unanimous opinion of our delegate bodies, but, of course, speaking as individuals, I have been through the north quite a little bit this winter and there are some who object, of course—some individuals.

Q. But the body that speaks for the three pools is unanimous that Garnet should have a separate grade as soon as possible, either this year or next year?—A. Yes.

By Hon. Mr. Motherwell:

Q. Have the pools been conducting any educational campaign looking towards the grading of Garnet separately?—A. No, any more than that when the matter comes up at a lot of meetings it is discussed pro and con—not as an educational campaign in that respect.

Q. They give both sides?—A. Yes.

Q. What is the general consensus of opinion as to what would happen to the grain if it were graded separately?—A. The general consensus?

Q. As regards price, and the general fate of it?—A. I suppose the consensus of opinion—the consensus of opinion certainly is that the price would be lower to begin with. There is a certain amount of opinion expressed that it would not necessarily remain so; that when Garnet found its level it would come up. There is a very definite feeling of that.

Q. It might come up to be the equal of the other?—A. Yes.

Q. That is what a number of overseas men indicated, that it might come up even more than the other; but in the meantime what would happen? Can farmers at this time afford to take less for it? They are fearful of the next two or three years. Is not that the trouble? If they could get past that they would take their chance of it going up as well as coming down. In the intervening years they say "what is the use? We might as well go back to Marquis or

Reward even if it yields less?" Is not that the situation?—A. There is some feeling along that line, but I feel that this is the time to do it. There is a greater feeling that if Garnet is to be segregated it should be done fairly soon.

Q. Before there is too much of it?—A. Not necessarily before there is too much, but before the prices do come up and it is more convenient for them to change into another variety before too much harm is done to the name of our Canadian wheats overseas.

Q. It is amazing that the same parties that were quite disregardful of the effect mixing had on our standing overseas are now so terribly scared that Garnet will hurt the overseas market when there is no evidence of it except one complaint from the Scottish Co-operative?—A. I would not agree with that entirely—that the same parties who are now in favour of segregation were so strongly in favour of mixing.

Q. Well, you were speaking for the pools, and the pools, just before mixing was stopped, were all in favour of mixing, quite disregardful of consequences?—A. Oh, no.

Q. We will leave that. They are all now in favour of segregating Garnet?—A. Yes.

Q. That is the situation?—A. Yes, that is the situation.

By Mr. Cayley:

Q. Do you think it will increase the value of Garnet wheat to segregate it? I am asking for your personal opinion?—A. I would hate to say.

Q. In view of the fact that we have heard some evidence here that they have made certain tests as to the baking qualities and the texture and so on of Garnet and have found that it is inferior to Marquis, is it possible, in view of that, that Garnet will ever be worth nearly as much as Marquis?—A. It is just possible that those tests were made—the milling and baking tests were made in a manner which did not suit the peculiar characteristics of Garnet; that in time Garnet can be milled to be equal to other wheats. Now, it is possible; but it is hard to say until quantities go overseas and prove their merits.

Q. The ultimate test is the loaf of bread?—A. Yes, and the loaf of bread can be made by so many different methods and results can be obtained—different results can be obtained.

Q. I would infer from that that they have not carried their research far enough in your estimation?—A. It will depend upon the research of the people who use it in large quantities. They will determine whether Garnet will be worth more money in greater lots.

Q. Do you mean by that if Garnet is handled right it will produce a loaf equal to Marquis?—A. I do not know. I do not mean that. I do not know, but I do say that different methods of preparation can produce different results with the same wheat.

By Hon. Mr. Motherwell:

Q. You mean in tempering?—A. Yes.

Q. Well, the previous witnesses indicated that the Canadian mills have not tempering equipments suitable for Garnet and that is one of the troubles?—A. Yes.

Q. Do you think the farmer should change his methods or the miller should change his method?—A. Not necessarily. I do not necessarily mean that the farmer should change.

Q. You are suggesting, are you not, that they should change from Garnet to Reward and that will suit the millers because they will not have to change their tempering equipment then?—A. I would not suggest that farmers should

necessarily change from Garnet to Reward because conditions have such a lot to do with it, but I would merely suggest that the segregation would prove the value eventually on the overseas market, and when that time comes the farmer can determine from his local conditions what he shall do to get the greatest return.

Q. You will have to determine by study how much Garnet will be permissible in No. 1, whatever the percentage is, and how much other wheat will be permissible in straight Garnet, will you not?—A. Yes.

Q. You will have to define all that?—A. Yes.

Q. When the wheats are so like each other as they are in some areas that will involve adjustment on the other side, I imagine. If this wheat is so objectionable some buyers want a certificate, if they can get such a thing over there, and there is no such thing. They will want an adjustment with whoever they are dealing with on this side if they find there is more than the statutory percentage of Garnet in it, won't they?—A. The present legislation in respect of mixing should cover that, because while there would be some cases of mixtures going through the Inspection Department possibly slightly over the percentage of Garnet permitted—

Q. Whatever it was?—A. Yes, whatever it was—that would not have any depreciable effect on the outgoing cargoes provided no mixing was permitted in the terminals, because a great volume of wheat goes forward from the areas which do not produce Garnet.

Q. We will say that by judicial and careful binning of our wheat. Now, don't you think provision should be made to prevent such a mass of Garnet going forward? If there were a crop in the south in the Marquis area, would you have any problem now?—A. You would possibly not have such a problem as at the present time, but at the present time we have a certain amount of segregation of Marquis from Garnet, and we secure premiums for the regular grades if they segregated Marquis wheat.

Q. For the home market?—A. Yes, and for the American market, and for millers who export Canadian flour.

Q. But not for the foreign market or the British market?—A. Not for the foreign wheat market.

By Mr. Cayley:

Q. What millers are ready and equipped now to handle Garnet wheat?—A. Well, that would be pretty hard for me to say what millers are actually equipped.

Q. The Canadian millers are not?—A. The Canadian mills I would say. They claim not to be. I believe they are not.

Q. And the overseas millers seem to prefer No. 1; that is, they do not want Garnet?—A. They do not want the mixture at any rate.

By Hon. Mr. Motherwell:

Q. They are taking it now, and the best seller, according to Dr. Humphries is No. 2 Pacific, right in Great Britain today. There is only one party who has objected to it in any way and that is the Scottish Co-Operative.

Mr. BROWN: Mr. Stevens read a letter this morning.

Hon. Mr. WEIR: In that letter this morning it stated definitely that the protein content was good. Now, we are led to believe that the protein content is not good.

Mr. BROWN: It made the statement again and again in that letter that the gluten was weak.

Hon. Mr. WEIR: That might be due to an inferior quality of Marquis that came out of the north country; and it was only an opinion. And to show the interest that he had taken in it, he did not know there were not separate grades yet.

Hon. Mr. MOTHERWELL: Piebald Marquis in the north country, to my knowledge, has done our wheat far more harm. What would my friend think about that?

By Mr. Cayley:

Q. Are the millers ready to handle pure Garnet?—A. I would say that the Canadian millers who export Canadian flour are not ready to handle pure Garnet.

Q. Then, who is?—A. The overseas millers. I can judge from the report of the National Research Council and the Department of Agriculture and those publications to which I have had access, and when I say they do not want the mixtures that is what I had reference to. I should not have made that so dogmatic.

By Hon. Mr. Motherwell;

Q. While the millers and markets are getting ready it would be bound to come down?—A. Yes, it is my opinion.

Q. Do you think farmers can stand any more worry just now, either the northern or southern ones?—A. Well, they have had so much worry I do not think a little more would affect them at all.

Q. One more flea on the dog does not hurt?—A. No.

Mr. LOUCKS: I think we have heard all the evidence. The thing that concerns us most of all is the foreign market and the British market, and it has been well proven to me that we are taking a great risk if we continue the same practice at the present time as far as Garnet wheat is concerned. Now, the hon. Dr Motherwell has referred to a minority of farmers and he seems to be very much concerned about them, but I think our chief concern should be to hold the reputation of our foreign markets, the British and European markets. And if that is the case, I think we have evidence enough to show us that we had better segregate Garnet wheat.

Hon. Mr. WEIR: Don't you think one of the reasons why the millers objected is that it has not been proven conclusively that the spread or any great portion of that spread has been due to Garnet? There are so many other causes. I do not know the millers very well, yet I feel that all these people, the European millers and the grain dealers purchasing our grain, will jump at any reason they can find to say that Garnet is inferior for mixing and to use that to force the price down, but in spite of all these things the price has not been forced down very much. If the objection is so great as we have been led to believe by some I think the spread would be much greater. I say that, although I have Reward wheat to sell and I have not any Garnet wheat to sell.

Mr. LOUCKS: Don't you think that the evidence shows clearly that that is the cause of a greater spread?

Hon. Mr. WEIR: No. One thing I asked Mr. Richardson was this: That the importing countries had a very inferior grade of wheat in 1931, and because of the duty and other charges they had a tendency to buy 1 Northern more than usual. Other exporting countries have low grades. Therefore, they cannot get a good grade of wheat from those exporting countries and that also raises the value of 1 Northern. At the same time, the great bulk of our Marquis this year in the west comes from northern areas where it is of poorer quality, and that has a tendency to increase the spread the other way, and it is leaves Garnet to be responsible for whatever is left.

By Mr. Cayley:

Q. Do you think the millers would undertake the responsibility of re-equipping their mills to handle Garnet?—A. The Canadian mills? I do not think so. Leaving out Canadian mills—

Q. Any mills?—A. Leaving out Canadian mills, if Garnet is a wheat which can be treated and will give good results I feel quite confident that the continental millers at least will adapt themselves to it providing they can get it even fractionally cheaper than the Manitobas, irrespective of what they can actually do it at.

By Mr. Porteous:

Q. Do you think that if Garnet wheat were graded by itself that the best grades of Garnet would sell above 2 Northern provided there was no Garnet in the 2 Northern?—A. I do not believe it would for the time being until it became well enough known, and then if they could show that it was more valuable even if by different methods of tempering, etc., there is no reason why it should not be.

Q. What benefit would be derived in grading Garnet by itself?—A. The main benefit, I take it from the evidence, would be to put wheat which has to be handled in a different manner, with special characteristics, in a special bin to that which can be handled regularly as Marquis is being handled at the present time. Garnet wheat is quite similar to Durum in regard to brittleness. You can tell that just by biting it or handling it.

By Hon. Mr. Motherwell:

Q. It is a hard wheat?—A. Yes.

Q. That is one of the very desirable characteristics?—A. Yes.

Q. Very hard?—A. Yes.

By Mr. Porteous:

Q. Do you think that in grading it by itself it increases the production of Garnet wheat?—A. Not at all.

By Hon. Mr. Motherwell:

Q. It would stop it for a while?—A. It would stop it for a while, but when it reached its price level, its value in price, why it would balance.

Q. Would not there be a danger before that time was reached that there would be so little that they could not handle it alone; that it would not be worth while?—A. If it was not any more valuable wheat than Kota that is what would happen to it.

Q. But do you think it is in the same class as Kota?—A. No, I do not. It is valuable—

Q. It is so valuable that you cannot hold it down. The only way to hold it down is to give it a black eye by segregation?—A. No. I would not say that.

Q. You have admitted it will knock it down?—A. It will not necessarily give anything a black eye. We do not give extra fresh eggs a black eye by segregating them.

Q. Will not the buyer be careful? He would say, "What is this Garnet? It is not Manitoba, this is Garnet; you had better buy safe."

By Hon. Mr. Weir:

Q. Would it be to the advantage of the millers and the grain trade to have Garnet at quite a low price if it is forced below its normal value? Would you consider that to be an advantage to the millers and the grain trade?—A. I cannot see that it would be of any advantage to the trade.

Q. They would buy it cheaper because of this abnormal load it would have to carry.

Hon. Mr. MOTHERWELL; Sure.

By Hon. Mr. Weir:

Q. Then they would have the opportunity of selling it at a higher price on the European markets?—A. If it was lower on the Canadian markets than its actual value and higher on the European market, of course, it would be of advantage to the grain trade. Competition would right that.

Q. If it survives.

Mr. BROWN: It will only survive if it is desirable that it should.

By Mr. Cayley:

Q. I understand that young flour is not a popular flour?—A. On some markets it is not.

Q. On foreign markets?—A. For certain foreign markets where they blend considerably with very white flours it does not seem to make any great difference because it blends into a creamy texture, rather than a yellow.

Q. I take it from the evidence we have heard here that you look for Garnet wheat to disappear—to be grown less and less; am I right? Dr. Motherwell says you are giving it a black eye by segregating it. That is, it is going off the market. If the millers could not get a constant supply would they be willing to change their equipment?—A. In the first place, I do not think it takes any great change in the equipment, no expensive change. In the second place, I do not think the segregation would give it such a black eye unless there is something material that can take its place, in which case we would not want to produce Garnet.

Q. Some superior wheat at the same price?—A. A superior quality wheat which will sell at a higher price overseas and will produce higher crops in our northern areas.

The Committee adjourned to meet Thursday, April 28, at 11 o'clock a.m.

SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND REPORTS

THURSDAY, APRIL 28, 1932

No. 8

Reference,—Garnet Wheat Grading.

WITNESSES:

Major H. G. L. Strange, Director of Research Department, Searle Grain Co., Winnipeg; Mr. L. H. Newman, Dominion Cerealist.

OTTAWA
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PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1932

MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,
THURSDAY, April 28, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 a.m.

Members present: Messieurs Barber, Bertrand, Bouchard, Bowen, Boyes, Brown, Campbell, Carmichael, Cayley, Coote, Dupuis, Hay, Loucks, Lucas, McGillis, Moore (*Chateauguay-Huntingdon*), Motherwell, Mullins, Perley (*Qu'Appelle*), Pickel, Porteous, Senn, Simpson (*Simcoe North*), Smith (*Victoria-Carleton*), Spotton, Sproule, Stirling, Taylor, Totzke, Weir (*Macdonald*), 30.

Mr. Senn, the Chairman, presiding.

In attendance: The Honourable H. H. Stevens, Minister of Trade and Commerce.

Major G. R. L. Strange, Director of the Research Department, Searle Grain Co., Winnipeg, was called, and questioned on the grading of Garnet Wheat. Witness retired.

Mr. L. H. Newman, Dominion Cerealist, recalled, and questioned on the progress that the Dominion Experimental Farms are making in regard to improved strains of Reward Wheat and to what extent it might replace Garnet Wheat and how soon sufficient seed of the former variety would be available for seeding purposes.

Mr. E. E. Perley, Chairman of the sub-committee reported that they did not recommend the calling of any further witnesses on the subject of the present reference.

The Chairman then appointed the following members as a sub-committee to prepare a draft report to be presented to the Committee for their consideration.

The Committee adjourned to meet at the call of the Chair.

A. A. FRASER,
Clerk of the Committee.

MINUTES OF EVIDENCE

HOUSE OF COMMONS, ROOM 429,

APRIL 28, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock to consider the order of reference of the committee on grain standards to the Department of Trade and Commerce. Mr. Senn presiding.

The CHAIRMAN: We are here this morning for the purpose of hearing Major Strange. Major Strange, please give your position to the reporter.

H. G. L. STRANGE, called.

The WITNESS: Mr. Chairman and gentlemen, I am director of the Research Branch of the Searle Grain Company. I have put my ideas in written form in order to save time under various headings of paragraphs dealing with the particular points I wish to present to you, and I have numbered each heading. If there are any particular questions you wish to ask me and if you will try to remember the number that will serve as an index to the paragraph to which you are referring.

The CHAIRMAN: I will ask the committee to allow Major Strange to submit his brief and to ask your questions at the close. By so doing we will save a good deal of time and confusion as well.

The WITNESS: Before I use my memorandum I should like to say that I think I was one of the first farmers to grow Garnet wheat in conjunction with Mr. Newman's co-operative scheme in the testing of varieties in Rod Rows in 1925, and I grew those Rod Rows for six years, so that I think I may say that I know a little about the plants of Garnet, Reward and Marquis and some other varieties. The Research department of the Searle Grain Company is a department which attempts to assist farmers in their various problems, and the study of Garnet wheat was one of the problems which they thought should be studied. I may say that the Searle Grain Company—and I suppose this is true of most other grain companies—are not interested from a wheat handling point of view in the method of grading wheat; they are, however, very much interested in anything that affects the welfare of the farmer because naturally their own prosperity is bound up with the prosperity of the farmer. For the purpose of studying this question we made certain surveys, one of them being a survey to learn how much Garnet wheat was being produced; another one was a survey to show the experience of farmers with Reward wheat as compared with Marquis and Garnet; another one was a study of the spreads, and the causes of spreads between 1, 2 and 3 Northern together with the spreads between Vancouver and the eastern ports; another was a study of the overseas buyers' opinions as to whether they were discontented with the content of Garnet in the wheat that was going over there and whether they would care for a separate grade of Garnet wheat or not. In addition to that we arranged for a series of meetings with farmers in northern Alberta and Saskatchewan. We held thirty meetings which I addressed in order to get the ideas of the farmers as to the question of Garnet wheat in particular, whether they were satisfied with it, and how they would view separate grading; and it is the results of these various studies that I have put into written form. I will read now from my memorandum:—

GARNET WHEAT AND ITS PROPOSED NEW GRADING

1. *Quality of Garnet Wheat.*

The inferiority of Garnet wheat, in comparison with Marquis and Reward, has been extensively advertised throughout the World by Canadian Institutions and Cereal Chemists. (See Scientific Agriculture, August, 1931).

2. *The Price of Garnet Wheat.*

Because of (1) there is no question but that buyers would refuse to pay the same price for Garnet, separately graded, as they would for the higher quality "Manitobas" Garnet having been admitted by Canada to be inferior.

3. *The Reputation of Canadian Wheat.*

This reputation has been built upon the brand name "Manitobas." It is questionable whether this high reputation may not be harmed if an additional and inferior brand "Garnet" is offered for sale with "Manitobas." The suggestion is made that this may result in confusion and suspicion in the minds of the buyers. Certainly at least one large importer indicates there are already quite enough grades (See letter from Earle Stoddard, March 11, 1932) and also suggests that Garnet should *not* be graded separately.

Dr. D. A. MacGibbon, Member of the Board of Grain Commissioners, in his recently published book entitled "The Canadian Grain Trade" on page 191 draws attention to the great value of the Trade or Brand name "Manitobas" as the official name of Western Canadian Hard Red Spring Wheat, and of how easily misconceptions in the mind of the buyers can arise. His complete statement is worthy of study. The following words are an extract:—

It is a fact that any change made in an old established trade name is likely to react unfavourably for some time upon the price offered for the commodity. The recognition of the possibility has caused the word—"Mantoba" to be retained as the official name of Western Canadian Hard Red Spring wheat.

There would seem to be no question that the addition of the Garnet grades in the minds of the buyers certainly would be making a change in the old established trade name "Manitobas."

4. *Quality of Present Mixtures Garnet and Manitobas in No. 2.*

Millions of bushels have been purchased by Overseas Millers in the last two years of No. 2 Northern which has contained mixtures of Garnet. Any dissatisfaction by the buyers would immediately show itself in a reduction of the price offered or at least in strenuous complaints against this grade. No reduction in price has taken place of No. 2 relative to No. 1 grade that has not been warranted by other factors and conditions, and very few complaints apparently have come from Overseas buyers during the last two years. (See Chart of Spreads.) Anyone familiar with merchandizing knows that if buyers, particularly skilled buyers as are the overseas grain merchants and millers, continue for two years not only to purchase a certain grade of a commodity but in addition pay a relatively higher price for it, that it can only be assumed the buyer is quite satisfied with the quality of his purchase.

5. *Price Level of Canadian Wheats Compared with Competing Wheats.*

At this date, April 13, No. 2 Manitobas via Vancouver ports command a premium on the Liverpool market of $8\frac{7}{8}$ cents over Argentine Baril, of 4 cents over Australian and $3\frac{1}{4}$ over U.S.A. No. 1 Hard Red Winters. Via Atlantic ports for a particular reason which has apparently nothing to do with Garnet wheat there is an additional premium of $3\frac{1}{4}$ cents a bushel above those already mentioned. The premium therefore, at this date, via Atlantic ports, for No. 2 Manitobas, is $12\frac{1}{8}$ cents over Argentine, $7\frac{1}{4}$ cents over Australian and $6\frac{1}{2}$ over U.S.A. No. 1 Hard Red Winters.

The average spread prevailing from July, 1930, to July, 1931, was 9.5 cents between No. 2 Northern Atlantic shipment and Argentine, and 2.5 cents between No. 2 Northern and Australian, or an increased premium now over last year of $2\frac{5}{8}$ cents over Argentine and $4\frac{3}{4}$ cents over Australian.

Thus it will be seen that even though there has been in this last crop year to date a greater percentage of Garnet wheat in the No. 2 than there was in 1930-31, yet the premium paid for Canadian wheat over and above Argentine and Australian wheat has been greater this year even with the extra content of Garnet, than it was last year. Apparently, therefore, it is hardly logical to state that the extra content of Garnet wheat this year has in any shape or form depreciated the quality of Canadian wheat on the World's market.

6. *The Prime Spread Between No. 1 and No. 2 Northern Wheats.*

Had No. 2 been degraded this year in comparison with No. 1 on account of the larger percentage of Garnet, this could only have shown itself by a spread between the two grades that could not have been accounted for by other economic conditions or factors. No widening of the spread that could be attributed to Garnet can be found. The spread between 1 and 2 this year, as in most years, seems to be very definitely in relationship to the quantity of No. 1 Northern available, or in other words, had Garnet never appeared in the picture at all the spread that has prevailed during the eight months of this crop season is exactly what would be expected in accordance with the bushels of No. 1 Northern available. A chart is attached showing the spreads for each year since 1920 to date, and the relationship of these spreads to the amount of No. 1 Northern. It will be seen that there is a close relationship between these two factors each and every year. (At this date, April 24, the spread is only $3\frac{7}{8}$ cents.)

7. *Price Spread at Liverpool between Vancouver and Atlantic No. 2.*

At this date, April 13, there is a difference on the Liverpool market on Manitobas No. 2 out of Vancouver and via Atlantic ports respectively, of $3\frac{1}{4}$ cents. Some have attributed this to the greater content of Garnet in Vancouver shipments. A study of freight rates and charges, however, from Edmonton to Liverpool via Vancouver and via Montreal respectively, shows that there is a difference in favour of the Vancouver rate at this date, April 13, of just over 3 cents a bushel. This unquestionably explains the reason why Vancouver wheat is cheaper on the Liverpool market than Atlantic wheat. The well-known economic law coming into play that on a "buyer's" market, such as is the International wheat market to-day, reductions in freight rates and other charges frequently react to the benefit

of the buyer and not to the producer such as occurs on a "seller's" market only. It is perhaps because of this relatively cheaper price that so much wheat is flowing via Vancouver.

(Spread April 25, 2 cents.)

(Spread April 27, 1 $\frac{5}{8}$ cents.)

8. *Complaints Regarding Garnet Wheat.*

Very few, if any, of the millers testing the trial shipment in 1929 seems to have definitely objected to mixtures of Garnet with other wheats. Most of them on the contrary stated that they had no difficulty with the mixture. The Trent Institute, for instance, considered that a 50-50 mixture of Garnet and Marquis was better. While some expressed a desire to have Garnet in a pure state, may they not have been referring only to a few million bushels, at the most for, perhaps, a special purpose and did not conceive of anything like 50 or 60 million bushels or so. Could that much pure Garnet be sold for any special purpose? (See p. 15, Bulletin 134.) Nowhere suggested all crop graded separately.

Whilst objections have been made since this date by Canadian and American millers chiefly, no serious, if any, complaints seem to have been made by Overseas Buyers or Millers who in the last two years have been milling millions of bushels of these mixtures. The Searle Grain Company requested one large wheat importing Company—Messrs. Earle, Stoddart and Clayton, of Liverpool and London, to investigate as to whether British millers were complaining regarding the content of Garnet in Canadian wheat. The replies from these gentlemen on December 8 and 11, and March 11, state definitely that they cannot find any millers objecting to the Garnet, that they consider that it would be folly to raise the question of grading, that it would be a mistake to have the Garnet graded separately and that they considered there were quite enough grades already. (See letters from Earle, Stoddart Co.)

Mr. N. Leach, Vice-President of the Searle Grain Co., spent some time early this year in England, France and Germany, and met a number of representatives of the grain trade. The matter of Garnet wheat in Manitoba was not mentioned by any of these persons to him. (See letter from Mr. Leach to Committee.) My personal opinion is that far too much importance has been attached to the 6,000 bushels tested in 1929, and not enough to the many millions used since overseas.

This letter, gentlemen, is a covering letter from the agent in Winnipeg of Earle, Stoddart & Clayton Ltd.,

The Searle Grain Co., Ltd.,
378 Grain Exchange, City.
Attention Major Strange.

DEAR SIRS:

We understand that you are getting up some data in connection with Garnet wheat. We therefore feel that the enclosed extract from our Liverpool office will be of some interest to you, expressing as it probably does the opinion of many importers in the Liverpool market.

We feel that it would be unfortunate if the government decided to create separate grades for Garnet wheat and make them applicable on the option, and we are firmly of the opinion that the fewer grades that are tenderable the better it is for our export market.

We also feel that by creating separate grades for Garnet we would only be emphasizing to the European millers that this wheat is inferior to Marquis and they would naturally be averse to buying it except at very big discounts under our Hard Spring wheat.

We are further of the opinion that every effort should be made to discourage the farmer from growing this type of wheat.

Yours very truly,

K. B. STODDART & Co., LTD.

Extract from letter under date of December 15, from Messrs. Earle, Stoddart & Clayton, Ltd., Liverpool:—

Regarding the Garnet wheat which Winnipeg cabled us about, we think as there is no outcry about it yet it would be folly to raise the question of grading. It seems to work all right in the small percentage in which it is used, though of course, it is an inferior wheat to the old type, but millers are not buying lots of it because of the quality but because of the very high price it is held at.

Now, I have here a letter in exactly the same language as the previous covering letter with an extract from another letter from Messrs. Earle, Stoddart and Clayton, London, and I will read the extract:—

Extract from letter under date of December 11, from Messrs. Earle, Stoddart & Clayton, Ltd., London:—

GARNET WHEAT

With regard to Garnet wheat, we have scarcely ever heard of any millers objecting to the Garnet in the Canadian wheat, and we can only suppose that they are quite content with it and can mix it in with the many other kinds of wheat which they use. We presume that the Canadian millers are not in this happy position and therefore the Garnet does not suit their purpose like the Marquis wheat and other original Manitoba wheats.

We do sometimes find millers preferring Atlantic to Vancouvers and it may be partly because of the Garnet, but usually we think it is because the Vancouver is not such a strong wheat as Atlantic Manitoba and contains a lot of yellow berries.

We should think that, from an export point of view, it would be a mistake to have the Garnet graded separately and, after all, Canada grows the majority of her wheat for export. We think that if they started grading Garnet separately it would draw attention to the fact that Garnet was being discriminated against and it would draw the attention of the European millers to the matter and they might start objecting to mill the Garnet also and demand the best.

This is a letter from our Vice President, Mr. Norman Leach to myself for the purpose of presentation to this committee:—

For the information of the committee on Agriculture in its investigation of the question of Garnet wheat grading, beg to confirm my verbal advice to you that while in Berlin, Paris, London and Liverpool, during January of this year, the writer met some 35 dealers in grain, all interested in the importation of Canadian wheat. While during our interviews or conversations we did not make specific enquiries of all of these members or representatives of Grain Importing firms relating to Garnet wheat, we on the other hand, recall no instance where any one of these men asked

us anything about Garnet wheat or introduced the subject for discussion. In our opinion this circumstance would indicate a general lack of interest, or apathy in this question on the part of at least the United Kingdom and Continental grain dealers.

Those to whom we introduced the subject displayed little, if any, interest in the problem, and one prominent Importer advised us that in his opinion no change should be made in the present basis of grading and that there were already a sufficient number of grades without introducing more.

We are citing our experience on this trip to indicate that if there are general complaints and decided general dissatisfaction in overseas Grain markets over the presence of Garnet wheat in our existing No. 2 shipments, it would have been quite natural for it to be drawn to our attention or for us to have heard more directly about Garnet wheat sometime during this contact with so many of those interested in the handling of Canadian grain.

(Signed) N. L. LEACH,
Vice-President.

Then there is another letter dated March 11, 1932, from Earle, Stoddart & Clayton, Ltd., to Mr. Leach after his return to Winnipeg, as follows:—

It was very good of you to write me on your return to Winnipeg, and I was interested to see your comments on the market. I am rather glad to see that the question of making new grades for Garnet wheat has been shelved. I think there are certainly quite enough grades already.

9. *The Quality of No. 2 of the Present Crop.*

It is possible that investigation might show that the present crop of No. 2 wheat is of lower quality than No. 2 may have been in some years past. It is possible that this may be accounted for in the fact that probably never before has such a big percentage of No. 2 come from the North country where soil and climatic conditions in very good seasons such as the last, sometimes make rather a lower quality wheat than do conditions in the south where there is but very little crop this year.

The suggestion is made that it is possible that No. 2 Northern this year, with the large content of bright red Garnet berries looked so good that usual buyers of No. 1 may have been tempted to economize by using No. 2 instead.

Messrs. Earle, Stoddart and Clayton, in their letter from London of December 11, state as follows:—

We do sometimes find Millers preferring Atlantic to Vancouver and it may be partly because of the Garnet, but usually we think it is because the Vancouver is not such a strong wheat as Atlantic Manitoba and contains a lot of yellow berries.

If there is one thing to be said in favour of Garnet it certainly is that it does not produce these yellow berries but that on the contrary most other varieties grown in the north, with the exception of Reward, do produce yellow berries or what we in Canada term "piebald" or "starchy wheat". The suggestion made here is that a difference in quality of the No. 2 grade this year, if there is any difference (which does not seem to be very evident) may be accounted for from the fact that it is mainly Northern grown wheat and not because it contains a content of Garnet.

Indeed it may be that the No. 2 from the north this year is of higher quality than in past years because Garnet has certainly displaced in certain districts many inferior milling varieties such as Huron, Preston, Stanley, Ladoga, etc., that are favourites in the north on account of earliness.

After all, seasons vary so greatly in affecting the quality of Canadian wheats, and the quality of the world wheats with which Canadian wheats are blended that perhaps too much importance should not be placed upon the tests and results, whatever they may be, of any one year.

We must also remember that wheat is not a dead inert substance like lead or silver or even gold, but is pulsing with life until slaughtered by the miller. Handling and marketing and milling wheat is a matter of biology as well as of economics. Wheat both in the plant and the berry under differing conditions of time, place and climate can behave almost with all the idiosyncrasies of a prima donna.

10. *Benefits of Garnet Wheat to the Producer.*

Garnet wheat has certainly brought substantial sums of money to thousands of farmers in Northern Alberta, and Saskatchewan due to its earliness, high yield and clear kernel, which easily fits it into the No. 2 grade. It is quite certain that these additional sums of money would not be obtained by the producer had they been obliged to continue with Marquis.

IDENTIFICATION OF GARNET

Garnet grown in certain districts in certain years is without question very difficult to distinguish from Marquis and other varieties, at least by the country elevator agent who in practice grades the bulk of the crop. While theoretically all the grading can be done by the Inspection Department, yet actually in practice it would certainly be found to be impossible to carry this out. The main function at present of the Inspection Department, as far at least as concerns the buying and selling of grain between the producer and the elevator agent, is to act more as an arbitrator in cases of dispute—certainly not officially to grade every load of wheat being sold. If every load hauled to every country elevator had to wait, before it could be handled and purchased, for a sample to be forwarded to Winnipeg, graded and returned, it would certainly mean that the flow of wheat to market, to say the least, would be greatly interfered with, in addition to which endless disputes and friction would occur between the producer and the elevator agent, between the elevator agent and his head office and between his head office and the Inspection Department. It would seem that in practice that identifications cannot be required which are more difficult than the average elevator agent can satisfactorily make. It would seem to be questionable whether the thousands of elevator agents will ever be able satisfactorily to distinguish between Garnet and the other varieties to the high degree of perfection demanded by proposed amendments to the "Canada Grain Act."

10A. *Confusion in Regard to Variety Grown.*

The Lacombe Experimental Farm who grew 715 samples of individual farmer lots of wheat collected by the Searle Grain Elevator Agents, in their studied analysis of all these plots on page 2 of their official report state, in part, as follows:—

It was found that some pure plots of Garnet wheat were submitted under the name of Marquis, Kitchener, Club, Ruby, Red Bobs, Reward and Red Fife. Marquis was submitted under the name of Red Bobs and Garnet Red Bobs was submitted under the name of Marquis, Ruby and Garnet; while Reward was called Kitchener and Garnet. This summary refers only to lots which were pure enough to use for seed and does not include those which carried over 10 per cent admixtures of other varieties, or the 67 lots which were submitted without a name. Apparently there are many farmers who have but little knowledge of wheat varieties, or of what variety of wheat they are growing. It is easy to understand the unpopularity of good varieties with poor varieties under the name of one of our better wheats. It is also easy to understand why millers find it difficult to make good flour from certain cars of grain originating in certain districts where unsuitable varieties of wheat are being grown under the pseudonym of a good variety. In some cases there was no connection whatever between the grain grown and the name it was marketed under

Garnet does not find favour among the Canadian millers who prefer Marquis or Reward. While it is not the purpose of this project to discuss varietal differences from a milling standpoint, it would seem reasonable that Garnet wheat carrying less than 10 per cent admixture of other varieties would be preferable to Marquis carrying 20 to 30 per cent of Huron or other unsuitable varieties, and that it would be much preferred to varieties such as Huron, Stanley, Club, etc. The Garnet samples submitted were much purer than many of the lots submitted under the name of Marquis

Huron appeared to be the most common impurity. This can be explained when it is understood that Huron has a larger kernel, commonly grown in the district, hence any operation which cleans the seed by eliminating the small kernels would tend to increase the proportion of a larger seeded variety

The unpopularity of our good wheat varieties can be understood by referring to the Bruce elevator which submitted twelve samples, none of which were pure enough for seed. All samples but one were called Marquis—Garnet was the purest sample submitted but contained 16 per cent of other varieties. Bonnyville also submitted twelve samples, all of which were discarded for different reasons.

11. *Psychological Effect on Elevator Agents and Inspection Department.*

Admitting that it is difficult, excepting to a highly experienced expert, to distinguish Garnet at all times to a fine degree, the result almost certainly would be that the elevator agent and perhaps also the many members of the Inspection force would be a continual state of mental apprehension, almost fear, that they might be making some errors. In order to protect themselves it would seem that human nature would unconsciously sway them to grade on that safe side, that is to say to put No. 1 Manitobas into Garnet grades rather than risk putting Garnet into the Manitobas, so bringing a loss to the producer of No. 1.

12. *Possible Effect on Reputation of Canadian Certificate Final.*

At the present moment the Canadian Certificate Final based on Schedule 1 of the Statutory grades of Western grain in the "Canada Grain Act" does not guarantee the content or absence of any definitely stated variety—only in general terms, "varieties equal to"—which can be a matter of opinion.

But separate grading of Garnet would set an entirely new precedent. It is proposed for the first time that the Canadian Certificate Final shall in fact guarantee that No. 1 Manitoba does not contain more than 1 per cent Garnet, and that Garnet No. 1 does not contain more than 5 per cent of varieties other than Garnet.

Now suppose a cargo does contain more—and suppose a Research Institute in England should grow some samples and suppose these samples show a greater content of other varieties than the regulations of the Canada Grain Act allow, what then happens to confidence in the Canadian Certificate Final?

At the present moment adulteration of harmful different varieties in Canadian Grades is a matter of opinion, even after growing tests, but under the separate grading of Garnet adulteration of Garnet in Manitobas or of other varieties in Garnet would not be a matter of opinion but simply of mathematical fact and would probably afford a basis for the buyer by arbitration to demand compensation.

It would seem that the Inspection Department would be in a continual state of apprehension and worry to say the least.

13. *Percentage of Garnet that would go into the Proposed Garnet Grades.*

According to the proposed new Garnet grades, not more than 5 per cent of other varieties are to be allowed in No. 1, 12 per cent in No. 2, and 49 per cent in No. 3.

During the fall and winter of 1930, the Searle Grain Company, in co-operation with the Dominion Experimental Farms, collected 12 samples of wheat from individual farmers' loads at each of their 330 elevators, mainly in Alberta and Saskatchewan. These samples were grown at the various Dominion Experimental Farms, the varieties carefully identified and tabulated.

The Experimental Farms' Records of these tests show that a number of farmers did not know which variety they were growing and that numbers were growing mixtures of varieties.

The results of the growing tests at the Lacombe Experimental Farm show that out of 283 individual farmers' lots of Garnet, 152 or 54 per cent would grade into the proposed Garnet No. 1 grades, 58 or 21 per cent into No. 2 and 49 or 17 per cent into No. 3, and 23 or 8 per cent into No. 4.

The Rosthern Experimental Farm results show that out of 217 samples of Garnet, 82 samples or 38 per cent would grade No. 1 Garnet, 40 samples or 18 per cent into No. 2, 56 samples or 26 per cent would go into 3, and 39 or 15 per cent would go into 4. These various gradings being made, not on the basis of the appearance of the grain but purely and simply on the content of other varieties with the Garnet.

It can safely be assumed that the bulk of these Garnet samples to-day are getting into No. 2 Manitobas. It would seem, therefore, that even though the No. 1 Garnet would command less money than the present No. 2, that at least 50 per cent of the Garnet grown would

have to take even a bigger discount, as it would not even get into the proposed No. 1 Garnet grade. The survey showed, not only with Garnet but with other varieties as well, the mixtures that are being grown by the farmers in Northern Alberta and Saskatchewan of old-fashioned out-of-date low-milling varieties, compared with some of which Garnet can only be regarded as a high grade wheat.

14. *Reaction of the Farmer to the Separate Grading of Garnet.*

The writer addressed some 30 meetings of farmers in Northern Alberta and Saskatchewan in January, and February, dealing particularly with the question of Garnet, Reward and Marquis wheats. Farmers were very much concerned about the proposed new grades and seemed to fear that Garnet would go to a lower price if separately graded. They considered that no definite evidence from the Overseas Millers had been presented to warrant such a drastic change at this time. They seemed to feel that it would be only fair to them that definite evidence from Overseas Millers should be obtained before any change is made. They recognize fully that it may not be in the best interests of the Canadian Millers or the American Millers to have Garnet mixed with Manitobas but they seem to feel that the viewpoint of the Overseas Millers is of far more importance than that of the Canadian and American Miller.

It is the writer's firm conviction that if a Committee would proceed Overseas and would obtain the miller's opinions as to his experience with Canadian wheat of the last two years, which has contained a large quantity of Garnet, that any pronouncement made by such committee, whatever it might be, would be received without complaint by the farmers. They would undoubtedly ask, however, that any changes suggested should be made gradually over a term of years so that the producer could accommodate himself without too great a loss of money.

The Searle Grain Company recently made a survey, the purpose of which was to try and determine the amount of each variety of wheat that was being produced. Each of their elevator agents asked as many farmers as he could to state the variety of wheat the farmer was growing. This survey showed on calculation that in Alberta, north of Red Deer, approximately 36 per cent of the wheat grown was Garnet, which amounted to about 36 million bushels. In Saskatchewan, north of Biggar, 39 per cent, approximately, of the wheat grown was Garnet, amounting to about 31 million bushels. In Alberta, south of Red Deer, 21 per cent approximately was Garnet, amounting to about 10 million bushels. That in Saskatchewan, south of Biggar, approximately 7 per cent was Garnet, amounting to about 3 million bushels, or a total of Garnet of approximately 29 per cent of the wheat in Alberta and Saskatchewan amounting to some 81 million bushels.

It will thus be seen that any proposed change in Garnet grading would adversely affect a very large number of farmers. On a basis of 60 million bushels of Garnet marketed, separate grading had it been put in, I estimate, would have cost our Garnet producers some 4 million dollars this year.

I would like to say that it is not pretended that this estimate is statistically correct, but it is a method of approximating the percentages of varieties which we have found in our crop surveys to be more accurate than would appear at first sight.

15. *The Real Decision to be Made.*

It would seem that the real decision to be made is not whether Garnet wheat should be graded separately or not (because it would seem that such a step might have had future results, unforeseen at this time, and might not even bring about the results desired) but rather should its production be continued or should it be decreased or perhaps practically eliminated. If the latter is to be decided upon, then there would seem to be some merit in degrading Garnet one grade per year until its production virtually ceases. The writer has asked hundreds of farmers whether such a course would meet with their approval and has not found a single farmer who would complain if Garnet were reduced in this fashion if it were found definitely desirable to do so after full and proper investigation.

16. *The Problem May Settle Itself if Left Alone.*

Attention is drawn to the fact that the production of Garnet has become so widespread for the reason that it was the first early variety that enabled the farmer to overcome the money losses from which he was suffering in the Northern country from piebald and starchy wheat and from damage from frost. No other early variety was available at that time excepting Garnet. Since then, however, several new promising varieties have become available—Red Bobs 222, which has recently been much improved by the University of Alberta—Supreme, a product of Doctor Seager Wheeler, and Reward wheat, of the Dominion Experimental Farms. Reward wheat, particularly, in the opinion of the writer will make great strides forward in becoming free from loose smut and in developing higher yielding capacity.

The Searle Grain Company recently made a survey asking (through its 330 Agents) large numbers of farmers to state their experiences with Reward, as compared with Marquis or Garnet. It is surprising to find the number of farmers who are satisfied with Reward, and the numbers who are experimenting with Reward with the idea of ultimately using it in place of Garnet.

A pamphlet on Reward wheat recently published by the Searle Grain Co., for instance, has already attained a distribution of 60,000 copies and more are being requested every day.

There is another important factor that bears consideration. Reward wheat is now registered with the Canadian Seed Growers' Association, which means that increasingly better quality seed, free from disease and selected for higher yields, will be available each year. It will receive a good deal of advertising. Garnet, on the other hand, is not and probably never will be registered. Therefore, it will become increasingly difficult for farmers to secure good or even reasonably good Garnet seed. If the Minister of Agriculture, for instance, were to instruct the Seed Branch to cease certifying fields of Garnet, the use of this variety would quickly decline, because a growing number of farmers are becoming aware of the necessity of using true to variety seed. If fields were not certified, true to variety Garnet would not be available to any extent.

Numbers of producers of Marquis replaced this variety with Garnet because the latter is earlier and so escapes frost better but the use of the new types of fertilizers makes Marquis several days earlier in maturing. Quite a number of farmers are now going back to Marquis, using fertilizer for better earliness; more and more will do this as time goes on.

Considering all this, it would certainly seem that even though no change at all is made in the grades of Garnet wheat, that a substantial decrease in the production of this variety can be looked for, particularly, if aggressive educational methods are continued and if the production of good Reward seed is encouraged and its distribution to Garnet growers facilitated.

17. *The Reputation of Canadian Wheat versus Profit to the Producer.*

While the reputation of Canadian wheat is unquestionably most important, it should not be forgotten also that the welfare of such a large number of producers, as are now growing Garnet, is also important. It would seem therefore, that whatever steps are taken, that the producers' interest must continually be kept in view. It is important to grow high quality wheat but it is more important that farmers shall be able to stay in business and at least grow some wheat even though not of the very highest quality. It is the reasoned opinion of the Searle Grain Company, based upon the investigation and study it has been able to make of this question, that insufficient evidence at the moment is at hand from overseas buyers to warrant grading Garnet separately, particularly in view of the fact that the many producers of Garnet would suffer substantial losses of money.

18. *Should Garnet be Separately Graded No. 1 Might be in Danger.*

The price of Garnet would be substantially less than No. 1 Northern Manitobas, there would therefore be, much more than exists at present, an incentive for producers to attempt to get Garnet into our No. 1 Manitoba grade. Persistent efforts of this kind would no doubt lead to some success, hence our No. 1 grade would probably be in much greater danger of lack of quality than it is to-day.

Should a separate grade of pure Garnet find a place overseas at a lower price than Manitobas and should the lower price oblige our growers gradually to cease producing Garnet, would not the special trade built up, at the expense of Manitobas, be disgusted and annoyed at Canadian wheat—buyers are very touchy these days.

19. *An Alternative Suggestion to Separate Grading if Some Change is Absolutely Necessary.*

Analysis of the growing tests of samples of Garnet wheat collected by the Searle Grain Co., and conducted at the Lacombe and Rosthern Experimental Farms shows that the average Garnet produced to-day would certainly not grade higher than the proposed No. 2 New Garnet grades. I think it would be fair to assume that the proposed No. 1 Garnet grade would fetch a price of not more than 8 cents below No. 1 Northern and that the No. 2 Garnet grade would probably be about 3 cents under this or 11 cents under No. 1 Northern.

The suggestion is made that if it should be found, after investigation, absolutely desirable to decrease substantially the amount of Garnet being grown, that dropping it into the No. 3 Manitobas grade would bring about this result and meet with the approval of present Garnet producers better than separate grading. Now the present spread between No. 1 and No. 3 Northern is only 7½ cents so that Garnet growers who could get their wheat into No. 3 Northern Manitobas (and that would be the average, without doubt), would receive more money for their grain than the average Garnet pro-

ducers probably would under the new proposed grading, that is assuming that the average Garnet would obtain a No. 2 Garnet grade which seems reasonable to expect. It is also probable that mixtures of Garnet into certain kinds of No. 3 Manitobas would help that grade. This method of clearing No. 1 and 2 Northern of Garnet would also, no doubt, mainly solve the problem of the Canadian millers and such overseas buyers who might like No. 2 Manitobas comparatively free from Garnet.

This method of decreasing the quantity of Garnet would also avoid the certain complications and difficulties in the Inspection Department that separate grading, with all its additional grades and its difficulties of identification, would bring about.

20. *Some Garnet Producers would take very Low Garnet Grades.*

A brief but not exhaustive examination of the plot results at Lacombe and Rosthern show definitely that there are a number of Garnet producers who are now enjoying the No. 2 Northern grade who, because of percentage of adulteration of other varieties alone would have to take No. 3 or lower Garnet grades. This, of course, would bring them a very substantial reduction in price.

21. *A Method of Testing Out Relative Prices Pure Garnet, Pure Manitobas and Present Mixtures in No. 2.*

If it should be decided to make further overseas tests of Garnet, the Searle Grain Co. suggest for consideration the following method of testing out the overseas buyers' opinion as to the relative values of Pure Garnet, Pure Manitobas and the present Mixtures of the two in No. 2 Northern—

- (a) That the Inspection Department should grade several cargo lots, respectively, of No. 2 Garnet, of the newly proposed No. 2 Manitobas (which would be relatively free from Garnet) and of the present average No. 2 Manitobas, consisting of a mixture of Garnet and Marquis.
- (b) That these lots, under careful supervision, should be shipped to foreign markets and offered for bids after time had been allowed for sample testing by interested purchasers.
- (c) That the lots might, after this, be followed up and the experiences of the millers with these large quantities checked up.
- (d) That after this further lots of the same nature should again be offered; the second bids would demonstrate the satisfaction or otherwise, of the trade with any one of the different grades and a relationship in price would be established, then the price problem would not be as problematical as it is at the present time should any change in the future be decided upon.

22. *The Canadian Millers' Problem with Garnet.*

The Searle Garnet survey indicated that in Alberta, south of Red Deer, only 21 per cent of the wheat grown was Garnet and in Saskatchewan, south of Biggar, only 7 per cent was Garnet. Under these circumstances it would not seem that, in normal years, the Canadian millers should have much difficulty in securing from the southern parts of Alberta and Saskatchewan sufficient No. 2 wheat comparatively free from Garnet to fill their demands—No. 1, of course, should be always comparatively free. This might be an

inconvenience to the Canadian millers, admittedly but probably less costly to the country than the diminished price the Garnet growers would have to take from overseas sales if Garnet were graded separately.

As Garnet becomes replaced with Reward and other varieties as even now to some extent, is happening, the Canadian millers' problem will become easier and may be entirely solved.

23. *Unsettled Conditions Might Make Proposed Change Hazardous to Canadian Wheat.*

World-wide economic conditions, to say the least, are unsettled. This applies to grain marketing as well as to other phases of business activities. It is questioned whether, considering this troublesome period, the present is the proper time to make any changes in the methods of marketing Canadian grain. Might it not be well, all things considered, to leave things alone, at least for the time being.

The largest areas of Western Canada that produce the very best quality of hard red spring wheat, for two years have suffered abnormal conditions. Is it not questionable as to whether there would have been any demand for separate grading or any problem with Garnet wheat had southern Alberta and Saskatchewan produced their normal crops of normal quality. Northern grown wheat and the No. 2 grade particularly, has this year, because of the above conditions, had to carry the entire load of quality. Normal crops (apparently at hand this year) would certainly correct much of the trouble.

The question might be asked, is it worth while disturbing, perhaps disorganizing, an important Canadian trade that has taken years to build up, for the sake of attempting to overcome a temporary condition that, in part at least, is correcting itself before our very eyes. If separate grading is set up should we not be magnifying a temporary situation into a permanent weakness and advertising it to the whole world to the lasting impairment of Canadian Hard Red Spring Wheat now marketed under the brand name "Manitobas".

COMPARISON OF PRICES CANADIAN No. 2 NORTHERN WITH ARGENTINE ROSA FE AND AUSTRALIAN WHEATS, SEASON 1930-31

From Wheat Studies, Stanford University, Page 196, Dec. 1931 issue

Months	*Atlantic shipment Canadian No. 2	Spread between Canadian and Argentine	Argentine Rosa Fe	Spread between Canadian and Australian	Australian F.A.Q.
1930					
July.....	110½	7½	103	—	111
August.....	109½	3½	106	—	113
September.....	94	1	93	—	96
October.....	88	6½	82	—	87
November.....	82	7½	75	—	86
December.....	80	14½	66	—	80
1931					
January.....	73	12½	61	—	70
February.....	75	12½	63	—	67
March.....	74	13½	61	—	64
April.....	75	12½	63	—	68
May.....	76	11	65	—	72
June.....	72	10	62	—	69
July.....	68	12	56	—	64
		124			
Average spread per month.....		9.5			
				32½	
Average spread per month.....				2.5	
1932					
April Vancouver.....	76½	8½	67½	4	72½
April Atlantic.....	79	12½	67½	7½	72½

*In "Wheat Studies" prices of Manitoba No. 1 and Manitoba 3 only are given; the prices of Manitoba 2 in this column are calculated, erring on the side of making the spread wider if anything on the 1930-31 crop for the comparison with 1931-32.

FREIGHT AND CHARGES PER BUSHEL OF WHEAT FROM EDMONTON, ALTA. VIA VANCOUVER PACIFIC PORT

MONTREAL ATLANTIC PORT

<i>Via Vancouver—</i>		Cents
Freight Edmonton to Vancouver 20c. per cwt.....		12.00
Inspection and weighing.....		.20
Ocean freight Vancouver to Liverpool 23/6 long ton.....		13.18
Cargo insurance and superintending.....		.63
Outward elevation.....		1.25
Outward inspection and weighing.....		.20
Total (Cents).....		27.46
<i>Via Montreal—</i>		Cents
Freight Edmonton to Fort William.....		15.60
Inspection and weighing.....		.20
Outward elevation and miscellaneous charges.....		1.50
Lake freight Fort William to Montreal.....		7.50
Lake insurance.....		.144
Fobbing charges at Montreal.....		.50
Ocean freight to Liverpool 1/9 per quarter.....		4.50
Marine and outward insurance and superintendence.....		1.00
Total (Cents).....		30.944

COMPETITIVE EXPORT PRICES

LIVERPOOL, April 13.—(By the Canadian Press.)—The following wheat quotations were supplied today by Broomhall, Liverpool. All prices are c.i.f. (cost, insurance and freight), Liverpool.

	Per Bushel Canadian Money	
	Wednesday	Tuesday
No. 1 Manitoba Northern, Vancouver, shipment April.....	Unquoted	
No. 2 Manitoba Northern, Atlantic, shipment April.....	79 ³ / ₈	78 ³ / ₄
No. 2 Manitoba Northern, Vancouver, shipment April.....	76 ¹ / ₈	75 ¹ / ₂
No. 3 Manitoba Northern, Atlantic, shipment April.....	76 ¹ / ₈	74 ¹ / ₂
No. 3 Manitoba Northern, Vancouver, shipment April.....	73 ³ / ₈	72 ¹ / ₂
Argentine (Baril, 64 ¹ / ₂ pounds), afloat.....	67 ¹ / ₂	66 ¹ / ₂
Argentine (Rosa fe, 64 pounds), shipment April.....	67	65 ³ / ₈
Australian wheat, shipment April.....	72 ¹ / ₈	72 ¹ / ₂
U.S. No. 1 Hard Winters, Atlantic, shipment April.....	72 ¹ / ₈	71 ¹ / ₂
U.S. White Pacific wheat, shipment April.....	Unquoted	
South Russian wheat, shipment April.....	Unquoted	

NOTE.—The above quotations were converted by Broomhall on a seven-day sterling exchange rate of \$3.78, and reconverted into Canadian currency at \$4.20, Wednesday's approximate exchange rate between banks.

(Certified Correct.)

ANALYSIS OF GARNET SAMPLES GROWN AT DOMINION EXPERIMENTAL FARMS

Percentage of Samples that would fall into proposed new Garnet Grades

ROSTERN

Two Hundred and Seventeen Samples of Garnet

GARNET

Grade	Number of Samples	Percentage
		p. c.
No. 1.....	82	38
No. 2.....	40	18
No. 3.....	56	26 ¹ / ₂
No. 4.....	39	18
	217	100

LACOMBE

Two Hundred and Eighty-Three Samples of Garnet

No. 1.....	152	54
No. 2.....	58	21
No. 3.....	49	17 ¹ / ₂
No. 4.....	23	8
	283	100

The figures supporting a number of these statements, the price spreads and the percentages of Garnet and the spreads between Canadian, Australian, and other wheats are attached.

By the Chairman:

Q. Major Strange, in this one letter from the Stoddart company signed by Mr. Reece, the secretary, the final paragraph says:—

We are further of the opinion that every effort should be made to discourage the farmer from growing this type of wheat.

During the reading of your brief you discussed several methods by which it should be discouraged. Are you of the opinion that it should be discouraged and eventually done away with?—A. I would not say done away with. I do say this, that a part of the trade—I would not say the most important part of the trade—but a part of the trade which purchases Canadian wheats have expressed dissatisfaction with the content of Garnet. It would seem to be only good business sense to try to modify the situation to some extent and to help that as much as possible; but to do away with Garnet entirely, I certainly do not hold that view, and I do not think anybody who has travelled through the northern country and who has seen the large number of farmers who are growing Garnet would either, especially where farmers possibly will not be able economically to replace Garnet with other varieties.

Q. You mentioned Reward as being a probable substitute. Do you think that Reward wheat can take the place of Garnet eventually?—A. I wonder if I might read one or two expressions of opinion of farmers on the whole question? This is the survey that we made when we asked as many farmers as our 330 agents could find who were growing Reward their opinions about Reward. Some farmers thought Reward good and some bad, and the astonishing thing to me was to find that notwithstanding the criticism that has been made of Reward that because of loose smut and very low yield it could not compete with Garnet, that such a large percentage of farmers seemed to be satisfied with Reward and some in certain districts were able to get as high a yield from Reward as they did from Garnet. I think if Reward could be produced—and I believe it will be produced presently through the work of the Dominion Experimental Farms—to be better in yield than it is at present there will be no question that to a very great extent Reward will replace Garnet because Reward will have a chance of getting a better grade.

Champion.—Yields two bushels more than Marquis. More Reward will be sown next year.

Blackie.—Reward very satisfactory—will be increased next season. Very dry season. Yield only 12 bushels, practically free from smut. Better colour and weight than Marquis. South west of here Garnet leads.

Brant.—Yield less than Garnet or Marquis. Yield as high as Garnet if seed two bushels. Very little smut. Marquis coming back. Red Bobs 222 grown here.

Vulcan.—Ninety-nine per cent. Farmers opposed to Reward. One per cent favourable. Very smutty. Lower yield than Marquis. Very little Garnet here—Marquis will displace Reward.

ZONE No. 5

Craigmyle.—Expects to be fairly popular next year.

ZONE No. 6

Arrowood.—Bad drought here. Reward gave the best grade. Weighed 63 pounds to the bushel. Yield slightly smaller than Marquis and Early Triumph which are favoured here.

Three Hills.—No Reward grown this district. Fair amount of Garnet.

ZONE No. 7

Alliance.—Reward not popular here. Five to 10 bushels less than Garnet. Grade No. 2.

Compeer.—Two farmers growing Reward. Yield the same as Marquis. No. 1 grade. Sixty-six pounds. Odd smut balls. Twenty-two bushels to the acre. More Reward next year. Garnet not satisfactory here. Poor sample. Marquis suitable here.

Fabyan.—Loose and Stinking Smut—Reward will increase here. But 75 per cent of all wheat now Garnet.

Halkirk.—No Reward grown here.

Rosyth.—Not pleased with Reward. Less grade than Marquis. Less yield, loose smut. Will not be used.

ZONE No. 8

Clive.—Reward 31 bushels—Garnet 40 bushels, but some farmers satisfied with Reward both for yield and grade. All wheat per cent of frost. No Stinking Smut—Reward or Garnet. Very little loose smut. Reward growing more popular but will not replace Garnet. Satisfied with Reward.

Erwick.—Not too pleased with Reward. Low yield loose smut. Garnet wheat the best in the whole district for yield and grade.

Hilliard.—Very little Reward here but reports just as good as Marquis. Mr. John Hreherchuk supplies following. Reward 40 bushels to the acre breaking. Old land 30 bushels. Garnet 22 bushels to the acre on adjoining field. Reward stood up well. Thoroughly satisfied with Reward.

Islay.—Well satisfied. Forty bushels per acre. Loose smut, stinking smut. Would grow Garnet if 3 Northern.

Kingman.—Two farmers growing Reward. Quite satisfied. Twenty-five bushels per acre. Grade 2 and 3. Garnet wheat most popular. Most of it No. 2. Marquis grades 3. Many will grow Garnet next year in place of Marquis. Seventy per cent is Garnet. Twenty per cent Marquis. Balance Red Bobs. Red Bobs grades 4.

Minburn.—Reward liked here but yield 6 to 10 bushels less than Red Bobs 222 or Garnet. Seeding 3 pecks to 1 bushel to the acre. Low yield perhaps due to thin seeding.

I may say, gentlemen, that I have found from a number of farmers who have had high yield with Reward that in most cases it seems to be due to the fact that they have seeded a half bushel more of Reward to the acre than was done with Garnet or Marquis, and there is some evidence of bringing up the yield of Reward by doing that.

Warwick.—Only two or three growing Reward here and are well satisfied with it both as to yield and grade. Most going No. 1. Farmers claim yield as high as Marquis, Garnett or 222, but Reward hard to thresh. Consider Reward will be the most popular wheat in this district. Many farmers will seed some Reward this next spring.

ZONE No. 11

Duffield.—Garnet produced six bushels more per acre than Reward. Garnet lodged—Reward did not. Both graded No. 2—trace of loose smut. Somewhat starchy. Marquis wheat too starchy to use. If Garnet stays in contract grades will never be replaced by Reward. Only Ruby and Garnet do not starch in this district.

Edmonton.—Northwest of city Reward good. No. 1 Hard. One farmer claimed yield 64 bushels. First time high grade wheat. On the whole Garnet outyields Reward although many yields 40 to 50 bushels for Reward wheat. One farmer claims Reward 25 bushels, Garnet 47 bushels. Some Reward shows green immature colour on kernels.

Elk Island.—Good results yield slightly better on some farms than other varieties. Mostly grade one better. Not much grown, practically all being sold to neighbours for seed. All equal to 1 Nor. No more smut than in other varieties. Garnet and Reward sown together. Garnet yields 42 bushels. Reward in the same field 47 bushels. Reward will take the place of Garnet here.

Gunn.—Believes Reward will replace Garnet next year or two. One farmer Reward and Garnet side by side—both yielded 38 bushels per acre. Garnet lodged badly. Reward stood up. Reward graded 1, Garnet 2. No smut. No Reward in this district showed any smut but all say a little loose smut. In general yield Reward slightly less than Marquis or Garnet, otherwise all farmers would grow Reward because of its high quality.

Q. These are really all northern tests?—A. Oh, no, I have gone through the whole area from the south to the north. There are several pages more, but what I have quoted is a fair average. The point I would like to make is that it is astonishing to find in every district some farmers who because of good management and perhaps heavier seeding or of getting a better kind of Reward seed are able to produce as high a yield of Reward as of Garnet, and that is the reason why I think that Reward, because of its high quality, is gradually going to displace a good deal of Garnet.

Q. You made a suggestion that Garnet should be demoted to grade 3 instead of having separate grades. Would that not net the farmers much less, as is anticipated?—A. No. I stated in this memorandum that in my opinion it would bring the farmer 3 or 4 cents more if the spreads between 1 and 3 do not become greater. For instance, the average Garnet now would not go into the new Garnet 1 but into Garnet 2 which would be 11 cents under 1 Northern, according to the price spreads that have been estimated, but 3 Northern to-day is only 7½ cents under No. 1. So that if all the Garnet to-day went into 3 Northern, the farmer would get 3½ cents more per bushel than he would get if it went into No. 2 of the new Garnet grades.

By Hon. Mr. Motherwell:

Q. What makes you think that if a separate grade of Garnet were introduced the general run would go into No. 2 instead of No. 1?—A. That is a mathematical fact, not based on appearance but based according to Mr. Ramsay's statistical figures that he gave as to the amount of other varieties that would be allowed in Garnet. If you have more than 5 per cent of other varieties in No. 1 Garnet it goes into No. 2. I am calculating on the results of the Lacombe experiment which showed the percentage of other varieties in Garnet.

Q. It does not mean that the present run of Garnet is not as high a grade as it ever was?—A. No. This is only the content of other varieties. There is a lot of Garnet which would be eligible for No. 1 Garnet on its appearance which would have to go into Nos. 2 and 3 because it contained more than 5 or more than 12 per cent of other varieties.

Q. That would depend upon the percentage allowed?—A. I am taking the percentages that Mr. Ramsay suggested were about to be set up, 5 per cent in No. 1 and 12 per cent in No. 2.

By Mr. Campbell:

Q. How do you estimate the spreads that you assume the farmer would get under new grades for Garnet?—A. I am figuring on the spreads that Mr. Ramsay mentioned that the Winnipeg Grain Exchange estimated would be the spreads. For instance, the grain buyer has to buy wheat from the farmer often one year before the miller gets it, and one can estimate that for at least a year some one must carry that grain.

Q. You said that Canada has admitted Garnet to be inferior. Do you think you are quite right in making a general statement?—A. I will give you a specific statement.

Q. You did make that general statement that Canada has admitted Garnet to be inferior?—A. Yes. This is a copy of Scientific Agriculture of August 31st. I may say that this goes to every scientific institution in the world and is probably on the table of every miller in the world. Here is a very exhaustive article on the results of a study of Dr. Larmour of the Department of Chemistry of the University of Saskatchewan, Saskatoon. It was No. 20 of the Associate Committee of Grain Research of the National Research Council of Canada and was read at the convention of the Canadian Society of Agronomists December 28, 1930. The conclusion reads as follows:

Milling and baking tests were made on samples of Marquis and Garnet grown on adjacent plots in the years 1927, 1928 and 1929. It was found that generally, the Garnet was lower in protein and in baking quality than the corresponding Marquis sample. The difference in protein content seemed to be more pronounced when weather conditions were favourable to high yield and low protein. When grown under dry conditions, there was little average difference in protein of the two varieties.

A study of a large number of samples of the 1929 crop on the basis of protein content lead to the conclusion that in general Marquis and Reward are decidedly superior to Garnet of the same protein content. In respect to blending value as shown by the blend-bromate formula, Marquis and Reward are nearly equal, and both are very much superior to Garnet of the same protein content. It was concluded therefore that in respect to protein there exists a real qualitative difference between Garnet and the other two varieties.

Now, the point I am making is that every miller, if you grade this variety Garnet separately, will say that it is not as good as Manitobas, and so how can you expect the millers to pay as high a price. These are psychological factors that have a great deal to do with the amount of money the buyer will pay for any product.

By Mr. Brown:

Q. Do not the authorities know we have already admitted it by putting it into No. 2 grade?—A. Yes, I think so.

Q. You emphasized to some extent the difficulty that country elevator men might have if they were up against separate grading. Would that difficulty be any greater than it is to-day in keeping the higher grades of Garnet out of our 1 Northern?—A. It would be more difficult because of this: That the Inspection Department would have to be much more rigid if you have separate grades because you are setting up a definite percentage of the other varieties that are allowed which percentage, at the present time, is very elastic. For instance, I think Mr. Fraser said that they were allowing now 7 per cent of Garnet into No. 1. So that the whole matter to-day is very much more elastic than it would be under separate grading. Our Certificate Final now does not tag you down to a definite mathematical quantity or amount as it would under separate Garnet grading which would bind you to these definite percentages. If you say, for instance, that Garnet shall not contain more than 5 per cent of other varieties it means that any school boy can grow a sample and count the other varieties and say, "Mr. Canada, your Certificate Final says not more than 5 per cent; this contains 10 per cent of other varieties." At the present moment even after growing tests, nobody could be very dissatisfied because Mr. Fraser would say, "the other varieties which you have found in our opinion are equal

to Marquis and they are allowed under the Canada Grain Act," because "equal to Marquis" is a matter of opinion.

By Hon. Mr. Motherwell:

Q. Which would the farmers prefer? After all, they are a factor in this matter?—A. Garnet beyond question.

Q. Which would they prefer—to have it degraded to No. 3 and just go out as No. 3 Northern or have it the way it is?—A. I state in this memorandum most definitely the results of those meetings which I attended with farmers, numbering 30 meetings with an average attendance of 160 farmers, varying from 45 to 250—I asked this particular question at each meeting: Is there a Garnet grower in this room who would object, if it were conclusively shown that Garnet was degrading Canadian wheat, to have it put down to No. 3? The answer was invariably that they would not object provided they were given one year's notice in order to enable them to obtain more seed of Reward and other suitable varieties to take the place of Garnet. I am sure that one reason why more Reward has not been grown in the place of Garnet up to now is because of the great difficulty of obtaining good Reward seed; there is not very much good Reward seed available. It will become increasingly more available from now on, however, because it is now registered.

By the Chairman:

Q. Did you ask the farmers if they would be satisfied with the separate grades if the same conditions prevailed?—A. Yes, but they did not seem to like the unknown drop in price with separate grading. They seemed more willing to take the known drop in price that would come from the No. 3 Northern. One farmer said, "if it is put down to No. 3 Northern and we know that we cannot stand that low price then we shall have to go into Reward or some other variety." But the man who has a farm where, because of soil conditions or climatic conditions, no other variety excepting Garnet would do well would no doubt say, "it will pay me better to stay with Garnet at No. 3 grade than to change to some other variety."

HON. MR. MOTHERWELL: Is it not a fact that every time there is a discussion on this question and dispatches go out stating that Garnet is going to be graded separately somebody always is dropping out?

THE WITNESS: Yes. I did not mention it before, but I would like to state now that as the result of the fear of separate grading, or that some change is going to happen to Garnet, that thousands of farmers who are now growing Garnet have endeavoured to obtain a few bushels of Reward or Red Bobs 222 or Supreme and are growing these few bushels so that they will have a larger supply of seed for next year's seeding.

MR. BROWN: If the farmers are doing that I presume that naturally that fact would emphasize the tendency?

THE WITNESS: I think the consideration given to the separate grading of Garnet is causing a great deal of turmoil and trouble, and I know that hardly anybody knows where they are at.

By Mr. Carmichael:

Q. I understood you to say that if there had been separate grading of Garnet in the last crop year the prospective loss would have been about \$4,000,000 to Garnet growers?—A. Yes.

Q. Have you any statistics or have you made any investigations to show what the actual loss is to those Marquis wheat growers out on the open plains because of the fact that so much Garnet gets into the higher grades?—A. I think

I presented that before. I would ask: How could dissatisfaction with a commodity express itself excepting in price? There has been more Garnet in our wheat this year than last year. I think you can confirm that from the Inspection Department. I think anybody who knows the north country will say that that is so. Therefore you should find that if Garnet is a degrading factor that the price for Canadian wheat must have been lower this year than last year on the world's market in relation to Argentine and Australian wheats. Instead of finding that, the study I have already presented shows to me at least quite conclusively that the world is paying a greater premium for Canadian wheat this year in relationship to Australian and Argentine wheats than it did last year. So that it does not seem as though the reputation of Canadian wheat has been impaired or that the price being paid for it is less; it is in fact more than last year.

Hon. Mr. STEVENS: The spread between No. 1 and No. 2 is uniformly greater this year than usual.

The WITNESS: I have this chart, but I have not explained it excepting to touch on it briefly in evidence; but to my mind it shows quite clearly that Garnet wheat plays not the slightest factor in the spreads; the spreads are in very strict relationship to the number of bushels of No. 1 available each year.

Mr. LUCAS: Have you any information to show as to the quality of Argentine and Australian wheats this year as compared with other years?

The WITNESS: No, and of course, that is a factor. I do not pretend that the amount of No. 1 is the whole factor, but it bears a close relationship. If you will turn to the blue page entitled "Some factors which influence the spread in price between No. 1 and 2 Northern Canadian wheat", you will find the following headings:—

1. The total quantity and quality of No. 1 Northern in the crop.
2. The position along the route to market in which the No. 1 is stored.
3. The quantity and quality of No. 2 Northern in the crop.
4. The quantity and quality of American Hard Red Winter Wheat.
5. The quantity and quality of Argentine, Russian, Australian and other foreign and home grown wheats that the Overseas Miller uses to mix with Canadian wheat.
6. The amount and kind of the tariffs and quotas against imported wheats.

All these have some effect upon the spread between 1 and 2.

"Of all the above factors, however, it would seem that the quantity of No. 1 in the crop (not the percentage) is the prime factor that mainly appears to influence the spread between No. 1 and 2.

"The accompanying chart shows the spreads between No. 1 and 2 Northern each year from 1930 to date. It also shows the number of cars of No. 1 Northern inspected each year.

"A study of the chart reveals that there is apparently a distinct relationship between the quantity of No. 1 Northern inspected each year and the spread between 1 and 2. For instance, in the crop year 1927-28, when the least amount of No. 1 was available, the price spread was the widest. In 1922-23 when the largest amount of No. 1 was available, the spread was the narrowest. The average spread for the present crop year (8 months) is $4\frac{1}{2}$ cents and the number of cars of No. 1 inspected has been 34,500. In 1924-25 the number of cars inspected was 31,700, or roughly the same amount, and again the spread was $4\frac{1}{2}$ cents.

"In 1920-21 the spread was 3 cents and the number of cars of No. 1 Northern was 57,000. In 1929-30 the number inspected was 62,000, or slightly more, and the spread was $2\frac{7}{8}$ cents, or slightly less.

"Some consider that the spread this year has been caused by Garnet wheat. This spread so far this year has averaged $4\frac{1}{2}$ cents. In 1921-22, 1924-25, 1925-26, 1926-27, 1927-28, it was practically $4\frac{1}{2}$ or more, and yet in all these latter years no Garnet wheat was grown.

"In 1930-31 there was more Garnet in the crop than in 1929-30 and yet the spread in 1930-31 was less than in 1929-30. Had the increasing amount of Garnet had the effect of depreciating the quality of No. 2, it would seem that the spread should certainly have been greater instead of less.

"Apparently, therefore, it would appear that one can safely conclude that the variations in spreads are due to factors which have nothing whatever to do with the content of Garnet wheat, and that the quantity of No. 1 is the dominating influence."

I think if you study the chart particularly in view of the above comments you will see a very clear relationship between the spread and the amount of 1 Northern available.

The CHAIRMAN: Suppose Garnet were placed in the 3 Northern grade, do you think it would have the effect of reducing or increasing the spread?

The WITNESS: That is something which would be difficult to answer. It may be possible that Garnet would strengthen the No. 3 grade. Now, I have here a set of Canadian grade samples representing the average standard samples going through Winnipeg of 1, 2, 3, 4, 5 and 6 grades and then the components that make up the various grades. That is to say, here we have No. 3 standard, No. 3 going through Winnipeg, No. 3 because of pink and No. 3 because of starch and No. 3 because of green kernels and No. 3 because of dark kernels. I am of the opinion—and this is based on contact with a number of cereal chemists during the last few years—that Garnet wheat if put into some of the classes that make up No. 3 might make the No. 3 a better grade than it is to-day. I venture this as a suggestion. I am sure that if you asked Dr. Birchard, for instance, or any of the cereal chemists of this country, or Mr. Newman of the Experimental Farm that that point could be very easily determined—as to whether Garnet might not assist rather than degrade the No. 3.

Mr. CARMICHAEL: If a definite percentage were in. The trouble now is that the percentage might run from 1 or 2 per cent up to 78 per cent?

The WITNESS: Yes, that is true. I would even be prepared to say that if you had 100 per cent it might make it better than the present No. 3. It would never be 100 per cent, however, because there is always a large amount of No. 3 of the Marquis variety coming up from the south in the normal years. But contrast Garnet with No. 3 starchy—I do not say you are going to get whole carloads of No. 3 starchy—but I have asked several cereal chemists, as to whether they would rather have a loaf of bread of 3 starchy or of Garnet and there was no hesitation in their reply at all, they prefer the Garnet. Their opinion to me of course was not official.

By Hon. Mr. Motherwell:

Q. Suppose you degraded Garnet to No. 3, would not that increase the tendency of mixing at the terminals?—A. There is no mixing allowed now at the terminals.

Q. I know that the law says that, but the temptation would be there?—A. I visited the terminals some time ago, and the idea I came away with was, that no operator could tamper with mixing, the inspectors I thought are extraordinarily efficient in controlling terminal operations.

Q. I am glad to hear that; but the greater temptation would be in the interior?—A. At the country elevators?

Q. Yes. A large amount of it now goes into No. 1 in the local elevators and they take their chance on catching their grades?—A. There was evidence of that, of course, brought up by Mr. Newman, of the pool elevators in Alberta and Saskatchewan having 30 or 40 per cent Garnet in No. 1 bins.

Q. Not that much; 13 per cent was the largest according to the growing test?—A. My opinion is that from what I have seen and from what I know of Garnet and other varieties, after rubbing out year after year heads of Garnet and looking at the kernels and doing the same with Marquis and Reward and looking at the kernels, that it is impossible for anybody under all circumstances to identify them apart and I feel that whatever you do in the way of grading that as long as Garnet is grown you will have some percentage of Garnet in all the grades. Whether the percentage would be sufficient to do harm is of course a question. The point I would like to make is that if you grade Garnet separately you are establishing a method by which the grower can detect adulteration because you would say in the Canada Grain Act, "Garnet shall not contain more than 5 per cent of other varieties," and any school boy can grow a sample and count the other varieties if they are present.

Hon. Mr. STEVENS: There is no such thing in this Grain Act regarding Garnet.

The WITNESS: That is what it appears to be.

Hon. Mr. STEVENS: No Bill has ever been prepared on the matter.

The WITNESS: Mr. Ramsay has submitted—

Hon. Mr. STEVENS: I think you are in error there. The law, of course, describes the grades of 1 and 2 Northern and so forth and states the content, there is nothing in the Act, and we have never prepared a Bill or considered the preparation of a Bill.

The WITNESS: Did not Mr. Ramsay in his evidence say or suggest that it should be as follows—

Hon. Mr. STEVENS: He may have.

The WITNESS: I copied that out and it is on that statement that I have based all these assumptions—that Mr. Ramsay says that No. 1 Garnet shall not contain more than 5 per cent of other varieties, No. 2 Garnet more than 12 per cent—

Mr. BROWN: We might decide it is not wise to do that. We might deem it advisable to allow a much larger percentage of Marquis in Garnet than we can allow of Garnet in Marquis, because I think the testimony is that that could be done without affecting the grade of Garnet as seriously as the grade of Marquis would be affected by the inclusion of Garnet.

The WITNESS: That is correct. The point is, however, that no matter how much you allow you still have the line to be drawn somewhere which can be detected. The buyer otherwise would say, "What is the use of setting up a separate Garnet grade if you permit an unknown quantity of other varieties?" You might say you would allow 20 per cent in No. 1, but suppose you find 30 per cent on growing it?

Mr. BROWN: Suppose we put it into Marquis grades. Marquis will not affect the quality of Garnet.

The WITNESS: What is the use of a Garnet grade if you are going to say that Marquis is equal to Garnet?

Mr. LOUCKS: You are putting an inferior wheat with a superior wheat.

The WITNESS: Has it ever been assumed that Garnet is an inferior wheat to Marquis, or has it not rather been assumed that it is different; and if the difficulty which the Canadian miller has is caused by the fact that it is different for milling purposes, then the admixture of Marquis in Garnet would be just as bad as that of Garnet in Marquis.

Mr. LUCAS: Did you not prove by the evidence in your review that Garnet was inferior?

The WITNESS: Without question. There is no doubt about that. But have you not also been satisfied from a lot of the evidence produced that it is also different and requires different tempering in the milling? If that is the case, and if it is the mixture of the two which makes the trouble, as well, perhaps, as being inferior—if you admit that—would not mixing Marquis with Garnet be just as bad as mixing Garnet with Marquis?

Mr. BROWN: We have already got that in No. 2 Northern to a degree which some people think is alarming.

The WITNESS: The Canadian mills are taking alarm but apparently not the overseas buyers.

By Hon. Mr. Motherwell:

Q. Garnet wheat had just two years start on Reward. Garnet wheat came out in 1926 and Reward in 1928. If Reward had not had predisposition to loose smut would they not be equal?—A. Yes.

Q. That loose smut is disappearing?—A. Very much.

Q. In a couple of years they will be nearly equal?—A. Yes. The only criticism I have ever found or that I have ever heard regarding Reward from farmers is the presence of loose smut and the low yield. Now, loose smut is rapidly being cleared up.

Q. Does the loose smut cause the low yield to some extent?—A. I would hardly go to that extent. I think the low yield is more a characteristic of the variety.

Q. The locality has something to do with it, has it not?—A. Yes. I think that the farmers are finding that by seeding half a bushel to the acre more of Reward than usual that they are substantially increasing the yield of Reward wheat, and if Reward wheat should ever yield as high as Garnet and be free from loose smut you would have an almost wholesale change-over from Garnet to Reward, excepting in those odd places where the soil and climatic conditions are such that Garnet would still be better than any other variety for the producer.

Q. You know, of course, that there are some strains of Reward now being developed which are better?—A. Yes.

Q. Have you grown them yourself?—A. I am familiar with them. That is why I state that I am of the opinion that great strides are about to take place in the improvement of Reward, and I think that had really good Reward seed been available this last year many more farmers would have changed from Garnet to Reward. But they could not obtain good Reward seed. I venture to say that ever since good inspected Reward seed has been available, that the inspectors of the Seed Branch have been bombarded by requests from Garnet growers asking, "Where can I get some good Reward seed?" It was not available in sufficient quantity, but it will be available in increasing amounts.

Mr. CAMPBELL: What would be your opinion with regard to the separate grading of Garnet wheat with regard to hedging?

The WITNESS: That is a highly technical question. I would not like to give an opinion on that. I would just venture this: that before one absolutely decides on the matter of hedging that it would be wise to consult also the miller who is going to buy the Garnet wheat and who would naturally do his hedging of Garnet in our market. I do not think the opinion of our own people alone is sufficient, you should also consult the man who actually will take possession of the wheat. He is going to do some hedging too.

By Hon. Mr. Stevens:

Q. I have found what you base your statement on, and in a large measure you are correct, but I think you are over-straining it. Mr. Ramsay did say this:—

Substantially the proposal is that there will be three grades of Garnet wheat, 1, 2 and 3 C.W. Garnet. The standard for No. 1 Garnet is practically the same as for No. 1 Northern. That is to say, it shall weigh 60 pounds to the bushel and contain 65 per cent of red hard vitreous kernels and shall be well matured and shall be free from damaged kernels, shall be free from matter other than cereal grain and practically free from cereal grain, practically free wheat and will include wheats of other classes not exceeding 5 per cent. No. 2 Garnet shall weigh 58 pounds to the bushel, shall contain 55 per cent of hard red vitreous kernels, 1 per cent of Durum and 12 per cent of other wheats. No. 3 Garnet shall weigh 57 pounds to the bushel, shall contain 25 per cent of hard red vitreous kernels, 3 per cent of Durum shall be allowed in it and 49 per cent of other spring wheats. Now, that will take care of, I am satisfied, about 97 per cent of Garnet wheat, and it will not discriminate because of the admixture to any serious extent.

Now, the point I am getting at is that you are leaving the impression, I think, with the committee that it would be impossible to grade Garnet separately because of this; but that is being done in connection with 1 Northern and 2 Northern now, which provide for just similar provisions?—A. May I correct that? I do not want to leave the impression that it cannot be graded by the Inspection Department. The impression I want to leave is that the grading of the Inspection Department can be absolutely detected to a mathematical certainty by the buyer with separate Garnet grades whereas at the present time it cannot be; because, now, you say “varieties equal to Marquis.” I think that if somebody in England found that you had now 10 per cent of Huron in No. 1 Northern and objected that Mr. Fraser could well say in my opinion, Huron is equal to Marquis and that would end it.

Q. The point I am making is that this was only on outline by Mr. Ramsay, and when the Act is drawn it will be similar to the present terms of spring wheat standards, so that the wording will be no different and the law will be no different and the practice will be no different from present grades?—A. I would like to make this suggestion. I think that when you sit down and start to draw these grades you would find yourself up against the exact difficulty I have mentioned. Why for instance are you setting up different grades of Garnet? Why are you purging Manitobas of Garnet? To stop a harmful percentage of Garnet getting into the Northern grades. You have to define then what is a harmful percentage, then if you say, “The Garnet grade No. 1 shall not contain more than such a percentage of other varieties” than can be definitely determined and proved because anybody can detect other varieties from Garnet upon growing. I am only suggesting that whatever figure you use—whether you say 5 per cent or 10 per cent or 15 per cent—that percentage can always be determined and so will not the worry of the Inspection Department be very much more than it is to-day, because at the present moment the certificate final does not guarantee absence of definite varieties.

Q. I cannot see that it would be a bit more difficult than it is under present conditions?—A. See the elasticity you have at present. At the present moment the Act says, “No. 1 shall not contain more than 1 per cent of wheat of other classes.” Obviously we have stated that Garnet is not a wheat equal to Marquis, but yet we are to-day allowing 7 per cent of Garnet in Marquis.

Q. Quite true; but as Mr. Fraser very properly pointed out, there might be occasions where it goes up to seven. He said that generally the exceptions were that if the sample were a good clean one and obviously of a high grade then if the percentage happened to be 4 or 5 or even, he said, up to 7 per cent they would not leave it out. That is only common sense. An inspector cannot apply the exact, precise terms of the law on every sample he inspects. Obviously that is impossible. There has got to be a certain degree of common sense, and it would apply to the inspection of Garnet as well as it does to the present grading?—A. Of course, there is now a certain amount of elasticity. I am only pointing out that under the present schedule you do protect the inspector against that because the Canada Grain Act does not guarantee definite varieties. Although it is common knowledge that Garnet is not equal to Marquis, you do now propose to say that in the Act.

Q. The Board on grain standards, which is clothed with full authority by the Act, has said so?—A. Yes, but not in your grade schedules. Would it not be definitely in your grade schedules if you grade Garnet separately?

Q. Not necessarily. The point is this—I think we should clear the point up—if we are going to grade Garnet separately, which means an amendment to the Act, we would simply in the wording of that Act set up a grade just as we have for winter wheat or spring wheat or in various other grades; we would set up a standard of grades which the Inspection Department could follow just the same as they follow and administer these others?—A. Well, then, supposing a buyer in England were to say, “you have now purged Garnet from Manitobas; now, I would like to inquire from the Inspection Department what is the utmost limit of Garnet that you allow in Manitobas?” Would you give him your schedule, or would you tell him something else other than the schedule?

Q. That is done now. We purge No. 1, although Mr. Newman pointed out that it is alleged—I do not think it is proven—that a cargo went over with 13 per cent—

Hon. Mr. MOTHERWELL: It was absolutely proven.

Hon. Mr. STEVENS: It was not proven; it was alleged.

Hon. Mr. MOTHERWELL: Why?

Hon. Mr. STEVENS: Because it was not proven; no proof was brought forward regarding the way it was sampled.

Hon. Mr. MOTHERWELL: You were not here.

Hon. Mr. STEVENS: Yes, I was here. The mere statement of a thing is not proof.

Hon. Mr. MOTHERWELL: I do not know how you are going to prove it. You cannot prove it by ignoring it.

Hon. Mr. STEVENS: There was a statement to the effect that the amount was $2\frac{1}{2}$ or 3 per cent, and one or two went up to 5 per cent of the cargoes. The trade will take no objection to that as long as the general standard of the sample is right. In practice there is no objection to be taken to it.

WITNESS: If you give the Inspection Department some elasticity in the new Garnet grades. You will have to give the country elevator operators.

Mr. BROWN: They would have it the same as in No. 1.

Hon. Mr. STEVENS: They would have exactly the same as No. 1 and No. 2 in the other grades. There is no difficulty in wording an Act or an amendment to the Act for the grading of Garnet any more than there was in fixing the grade for 1 Northern and 2 Northern and so forth.

WITNESS: Excepting, would you not agree, sir, that if you are definitely purging a brand of an inferior variety—and that is the only reason for which you would purge it—would not the buyer be interested in knowing the precise maximum of that inferior variety that can be included?

Hon. Mr. STEVENS: Not necessarily precise, but generally. The evidence we have heard—I am speaking of the scientific evidence based upon actual investigations—show a certain proportion, 4, 5, 6, 7 or even 9 per cent, which has not interfered with the milling qualities of the wheat. That has been demonstrated. Therefore, there is more or less elasticity. The Act says not as far as No. 1 is concerned, but in practice we know that a small percentage does not interfere with the merit of the grade, and I think the same thing would apply to Garnet. The presence of a small percentage of Marquis with other varieties would not necessarily interfere with the grade as long as they were not there in large quantities. The trouble at present is that with our No. 2 grade, some of it has 50 or 60 or 70 per cent of Garnet and it offers a problem. I think the evidence before us makes that clear. May I ask this question, Major Strange, do you think it is desirable to maintain the well-known standards of the first two grades of northern Manitoba?

WITNESS: I would say without question that the maintenance of at least the first two grades is vitally necessary to the welfare of western Canada. I say this that if it could be demonstrated that Garnet wheat from evidence overseas is degrading our 1 and 2 then those grades should be purged of Garnet; but I must say, from the evidence I at least have been able to get, that I have not been able to find any definite evidence from overseas that they are dissatisfied with our No. 2 grade or with the content of Garnet which it in it. I think if a committee were to go over there and make a definite investigation, asking them, not, what do you think about pure Garnet, but what has been your experience in the last two years with the millions of bushels of No. 2 which you have ground which have contained large amounts of Garnet, that you might get somewhere.

By Hon. Mr. Stevens:

Q. Does not your own letter that you presented indicate that while they do not pass judgment, I notice all this correspondence runs along the same line, they do not give a definite opinion, but here is Mr. Reece, the representative, who says, "we are further of the opinion that every effort should be made to discourage the farmer from growing this type of wheat." He was agreeing with your view, or the view you have been representing to-day, that possibly it would be inadvisable to set Garnet into a separate grade; but he tells us very clearly in the same letter that the farmers should be discouraged from growing it. Now, take that and take Mr. Sword's letter. Did you read it? Did you read his letter to Mr. Newman, the letter from the Saskatchewan Co-Operative, and one of the biggest buyers of wheat?—A. No, I have not.

Q. I think you should read it. It is a long letter, and I will not read it, but I think you will agree from that letter that it offers very strong evidence of the apprehension of the British buyer?—A. Of course, sir, don't you think that this is a fair assumption, that neither the Scottish Co-operative—and I suppose they are the only ones who have complained except the Swedish people—now the latter attribute the trouble positively to Garnet, and may it not be possible that it is due to the fact that a large amount of our wheat comes this year from the northern country which usually is of lower quality than the south.

Q. Do you think, after reading that letter which came unexpectedly as a complaint through our Trade Commissioners and from the Norwegian buyer, and Mr. Sword's letter—does that leave any question in one's mind that it is Garnet?—A. Oh, I think so. I question that very much indeed. The only way you can tell is by growing it. I can see that we could easily have attributed it to Garnet had it not been for the factor of the conditions of last year and the year before where we had no large amounts of high grade wheat grown in the southern country.

Q. Here is what the Swedish letter says:—

We have tried to find out the cause of this and are now of the opinion that the delivered Manitoba parcels, which have shown such bad gluten quality, have consisted of wheat of the Garnet type. As per our statements Manitoba No. 2 must not contain more than 15 per cent Garnet wheat, whereas the delivered parcels seem to consist of Garnet wheat only.

That is definite enough?—A. How do they know?

Q. How do they know what; that it was Garnet?—A. Yes.

Q. They are thus described by our Trade Commissioner in Sweden that this is one of the largest flour mills in Sweden and they themselves by analyzing the wheat, the percentage of protein in general, found it to be rather good, but by baking it gave a very bad result, and so on. They are an up-to-date, outstanding milling concern, and surely they would know?—A. I grant that, but I say it might be quite possible to get Manitobas free from Garnet that might behave in the same way as Garnet, provided the Manitobas came from the north country.

Q. Why go into what might be in the face of a fact?—A. Might I quote another fact that I think will offset that? I refer to the letters from Mr. Stoddart of London which expresses no opinion about decreasing Garnet:—

With regard to Garnet wheat, we have scarcely ever heard of any millers objecting to the Garnet in the Canadian wheat, and we can only suppose that they are quite content with it and can mix it in with the many other kinds of wheat which they use. We presume that the Canadian millers are not in this happy position and therefore the Garnet does not suit their purpose like the Marquis wheat and other original Manitoba wheats.

We do sometimes find millers preferring Atlantic to Vancouvers and it may be partly because of the Garnet, but usually we think it is because the Vancouver is not such a strong wheat as Atlantic Manitoba and contains a lot of yellow berries.

That is just one indication of that northern country wheat sometimes having a little lower quality, and the other letter is about the same. I think the evidence of Mr. Leach, a man who buys and sells millions of bushels of wheat is important because he is vitally interested in the proper sale of that wheat. He came in contact with 35 grain men overseas and not one raised the question of Garnet wheat or any question of deterioration of No. 2.

Mr. BROWN: We cannot prove a thing by a negative. That does not disprove the statements that have been brought forward by Mr. Stevens in that letter he has read. There is a specific case. We must believe that the men who wrote that letter were competent men, and when they assert that that is their belief that that inferior variety was almost altogether Garnet I do not see that we can do anything else than take that statement of fact.

Hon. Mr. MOTHERWELL: How is he so well posted on it that he knows it was Garnet?

Hon. Mr. STEVENS: Mr. Motherwell put a question the other day and he makes an insinuation now. I would like to make this clear that either you accept my word or you do not. The inference is that this man was tipped off. There is no suggestion—

Mr. BROWN: I do not think so.

Hon. Mr. STEVENS: This complaint was made to the Trade Commissioner, Mr. Palmer, in Sweden, without any correspondence previously from myself or

anyone else whatsoever and it came to my office as a complete surprise to me and without my knowledge. Now, are you going to accept it or not?

Hon. Mr. MOTHERWELL: I am not disputing that at all. I would like to know how all these millers in Sweden have knowledge of the facts to be able to come to the conclusion that it was Garnet that was the trouble.

Hon. Mr. STEVENS: I presume he knows his business.

Hon. Mr. MOTHERWELL: He is the only one who has suggested it; even the Scottish Co-operative did not do that.

Mr. BROWN: If we are going to come to a proper decision I do not think we can discard the opinion of men who are well acquainted with the milling business. That may be a particular case. That shipment may have been worse. But we cannot throw it aside as evidence of no value.

Hon. Mr. MOTHERWELL: Mr. Stevens has been throwing aside growing tests made right here in Canada within a few rods of us and saying they are not proven when his own inspector says the best and only way is the growing test.

Hon. Mr. STEVENS: I have made no such statement. I said certain things had not been proven. We were referring to the cargoes that were shipped to Liverpool, and I say that the 13 per cent had not been proven because we had no evidence whatever. But, as a matter of fact, I had wires from Liverpool that the samples were not official samples; that they were simply little courtesies done to Mr. Newman by Mr. Urquhart and he has not any recollection of how he took them. The same is true with regard to Mr. Wilson. There was no official sample taken of those cargoes. That is my point. Anyone who knows anything about the grain business knows perfectly well that you cannot take a fair sample of a cargo by just going in and picking up a sample; the sample has got to be taken either by a systematic probe or by a running sample taken as the wheat is running out of the hold, otherwise you might get all of one variety in one handful and almost another variety in another, unless the cargo is well put together.

The CHAIRMAN: I think we are getting away from our witness.

By Hon. Mr. Motherwell:

Q. You have made one or two tentative suggestions; one was to degrade Garnet from 2 to 3?—A. Yes.

Q. And let it go that way. The other was to let it ride the way it is and everybody get out and boost for a larger production of Reward?—A. Yes.

Q. Are those the two suggestions that we could boil your remarks down to?—A. Yes, and of my preference for the latter. That is, I think the situation will certainly correct itself with normal crops in the south and if everybody boosts for Reward. If those that have good Reward seed are identified and if Garnet growers are assisted in getting some of that Reward then I think you would have a substantial decrease in the amount of Garnet produced.

Q. You think that remedy is on the way now?—A. Oh, yes; it is visible to the eye.

By Mr. Loucks:

Q. You have suggested that in preference to putting Garnet in a class by itself?—A. Yes.

Q. And for the purpose of discouraging the growing of Garnet?—A. Yes.

Q. Will you explain why you prefer putting Garnet in three than putting it in a grade by itself?—A. I would say that the trouble and the annoyance and the complications of putting it into three would be very much less from the standpoint of the trade, the farmer and the Inspection Department than by setting up separate grades. Furthermore, is there nothing in the suggestion I have made of the danger disturbing our brand name "Manitobas" by introducing

an inferior name Garnet alongside of it? For fifty years we have been selling Manitobas. Our hard red spring wheat has been going all over the world under the name of Manitobas. Now, we have an inferior wheat named Garnet as well. Some of the new buyers in the Orient for instance may be confused by this. They may not know the technical difference between the two, and one or another of the new buyers might attribute the faults of Garnet to Manitoba wheat.

Mr. BROWN: You take the position that the situation is correcting itself at the present time. Now, fear has been expressed that instead of the situation correcting itself there would be a tendency to increase the proportion of Garnet in our wheat now?

The WITNESS: Yes, I know it has. I would say this, that you have a letter from the Scottish Co-Operative, and if their trouble is really due to Garnet, and if you could prove it, and I am sure you could by corresponding with them, and if you could discover some more objections of the same nature then you certainly should do something in the way of decreasing substantially the amount of Garnet. But I think that if we proceed on a single complaint we might needlessly upset the whole business of the grading of grain in Canada. The first step I suggest should be to inquire whether the situation is as inferred, whether the complainants may not have been getting the odd poor cargo. I pointed out that the millers in England for the last two years have been milling millions of bushels with a high content of Garnet. Why is it that the buyers abroad are paying us more money this year for our wheat, relative to Australian and Argentine, than last year when there was less Garnet in it? The buyer does not usually pay more money for an article with which he is not satisfied.

By the Chairman:

Q. You are prepared to admit that it is wise to discourage the growth of Garnet. Now, you made two suggestions as to how it can be done. The other alternative is that of the Grain Standards Board that there should be separate grades. Now, you made another statement to the effect that you did not think the farmers would object if they had sufficient notice of any change that was brought about?—A. Yes.

Q. Suppose these grades were established for the 1933 crop or suppose Garnet was demoted to No. 3 in the 1933 crop, would that be sufficient notice?—A. Well, the exigencies of the situation might demand that you might have to decide to do it sooner than that. All things being equal I would say you should give the farmers one crop's clear notice in order to allow them to accumulate seed of another variety.

Q. You realize that this Committee has passed a resolution sanctioned by parliament that there would be no change this year. Now, the alternative is to do it next year or later. If we put it into effect for the 1933 crop would that be sufficient notice?—A. Yes. That would be ample if you give a good deal of notice beforehand, give farmers this fall to accumulate seed of other varieties to replace Garnet. I think no farmer would complain of that. My impression is they would prefer to have it go as No. 3 rather than to have separate grading. There may be lots of evidence to the contrary; but preferable to doing either of those things, as far as my own opinion is concerned, I suggest to do nothing and just leave the situation as it is.

By Mr. Lucas:

Q. I understand Major Strange to say that if Garnet wheat was demoted to No. 3 it would have the tendency to raise the standard of No. 3?—A. No. I offered it as a suggestion; I did not say that it would happen. I have not sufficient technical knowledge; but it may have that effect.

Q. I am inclined to believe that with all this high grade wheat of No. 2 containing Garnet, going into No. 3, it would have a tendency to raise No. 3.—
 A. I think that No. 3 to-day if you look at the make-up is a grade into which we can put a lot of poor wheat, and compared with some of it I think Garnet is a superior wheat even from a milling and baking point of view. I am not speaking as a technical expert. My general impression is that because of some of the sub-grades that are now going into No. 3 it would be substantially better by having a larger amount of Garnet going into it. I would not like my own word to be taken; that could be easily checked up. If one consulted Dr. Birchard of the Board of Grain Commissioners or Mr. Newman or any of the cerealists of the universities. Of course, there would be this difficulty to be thought of, that if you very much increased the amount of No. 3, from the mere factor of supply and demand you might widen the spread. This year with normal quality crops in the south you may have a scarcity of No. 3 from this area. If you will look at this blue sheet it shows clearly that. This year you have only 14,000 cars of No. 3 as against 46,000 cars of No. 2 and as against 32,000 cars of No. 1. This year No. 3 is a scarce article.

The CHAIRMAN: Before we close, Mr. Newman is here and I think he has something he wants to say to us.

Mr. NEWMAN, recalled.

The WITNESS: There are one or two points I would like to bring up, one being a letter from Dr. Humphries which I will not read, and the other is a letter from Spillers Limited. This is rather important and I would like to read it:

DEAR SIR: We have to acknowledge receipt of your letter of November 30th with regard to the proposal for making Garnet wheat deliverable on Futures contracts on your Exchange. Although this company has made tests of samples of this wheat, we have not had the opportunity of milling any quantity on a commercial scale, and our view is that until we have been able to avail ourselves of such an opportunity it is almost impossible to give you any useful views as to the relative value of the wheat for grading purposes.

In these circumstances we are asked to suggest that Garnet wheat should be offered as such on sample, when this company would no doubt be prepared to purchase a trial shipment, and as soon as possible thereafter, would be in a position to advise you their views as to its monetary value compared with Manitoba wheats. Until this has been done we would not feel prepared to agree to the suggestion that Garnet wheat should be made deliverable against the Winnipeg option.

We regret that we are unable to be of greater assistance to you on this matter at the moment, and remain.

(Signed) SPILLERS LIMITED,
 Board Executive Dept.

Mr. LUCAS: I would like to know if Mr. Newman has any evidence to show that Reward is going to replace Garnet?

The WITNESS: I think I can say all I have to say in a word. We have, of course, recognized Reward wheat as a rather outstanding wheat for a number of years. We have done a considerable amount of work. We have selected hundreds and hundreds of types out of Reward. These have been under investigation for a number of years. Everything has been tested at Ottawa and at our experimental farms in the west this year. Tests have also been made for smut resistance. There is considerable indication that at least some of these strains are significantly more productive than the average run of

Reward. We appreciate the value of this wheat to the country, and we are doing everything we can in the Department with the co-operation of our branch farms to push along this work as rapidly as possible. I do feel that these strains will play an important part, and we are already multiplying some of the most prominent of these strains under isolation. When we do make our choice we will have a good supply of seed for the farmers when the change takes place.

Mr. BROWN: Are you changing the type?

The WITNESS: No, the type is the same.

Hon. Mr. MOTHERWELL: How many years will it take until it is ready for distribution among the farmers, the same as it was in 1928?

The WITNESS: No. In quantity it will take three years, but it will go quickly once it starts.

The Committee adjourned to the call of the Chair.

SESSION 1932

HOUSE OF COMMONS

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

MINUTES OF PROCEEDINGS AND REPORT

THURSDAY, MAY 19, 1932

No. 9

Reference,—Garnet Wheat Grading.

MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,

TUESDAY, May 3, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11 o'clock in the forenoon.

Mr. Senn, the Chairman, presiding.

Members present: Messieurs Blair, Bowen, Brown, Campbell, Carmichael, Cayley, Coote, Loucks, Lucas, McMillan (Huron South), Motherwell, Myers, Perley (Qu'Appelle), Mullins, Pickel, Sproule, Totzke, Tummon, Weese, Young.—(20).

The Chairman informed the Committee that the Minister of Trade and Commerce, Hon. H. H. Stevens, had left for the coast and could not be present. Also that the Minister of Agriculture could not be present at this meeting of the Committee. The Committee then agreed that the presenting of the draft report prepared by the Sub-committee be deferred until both Ministers could be present.

The Committee then adjourned to the call of the Chair.

A. A. FRASER,
Clerk of the Committee.

HOUSE OF COMMONS,

TUESDAY, May 17, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 11.30 o'clock in the forenoon.

Mr. Senn, the Chairman, presiding.

Members present: Messieurs Barber, Blair, Bowen, Boys, Brown, Burns, Carmichael, Cayley, Coote, Donnelly, Duguay, Elliott, Loucks, Lucas, McGillis, McKenzie (Assiniboia), Motherwell, Mullins, Myers, Perley (Qu'Appelle), Pickel, Porteous, Rowe, Senn, Shaver, Simpson (Simcoe North), Smith (Victoria-Carleton), Sproule, Stirling, Swanston, Taylor, Thompson (Lanark), Totzke, Vallance, Weese, Weir (Melfort), Weir (Macdonald)—(38).

In attendance: Hon. H. H. Stevens (Minister of Trade and Commerce).

Mr. Perley (Qu'Appelle) presented the draft report of the Sub-committee for the consideration of the Committee.

DRAFT REPORT

Your Committee has had under consideration the following Order of Reference, dated Tuesday, March 15, 1932.

TUESDAY, March 15, 1932.

Ordered,—That the Report of the Committee on Grain Standards for the crop year 1931-32, in so far as it relates to Garnet Wheat be referred to the said Committee, with instructions that the whole subject be inquired into carefully and that the said Committee shall have power to call for witnesses, papers and documents and to report to the House its findings.

Attest.

ARTHUR BEAUCHESNE,
Clerk of the House.

Your Committee in view of the evidence presented before them, a printed copy of which is herewith presented to the House, present the following recommendations.

Your Committee recommend that the Canada Grain Act be amended to make, operative for the crop year 1933-34, the recommendation of the Western Grain Standards Board, in so far as it relates to the grading of Garnet Wheat as contained in the Annual Report of the Board of Grain Commissioners for Canada for the year 1931. Provided that the said amendment shall have force and effect for the crop year 1933-34, unless the said Board shall, after giving due consideration to the evidence given before your Committee and conditions then existing, establish standards for the grading of Garnet Wheat for the said crop year, different from the standards recommended by the said Report of 1931.

Your Committee further recommend that one thousand copies of this Report and the evidence on which it is based be printed in Blue Book form for distribution to the Growers of Garnet Wheat so that they may be more fully advised of the intended change in the Canada Grain Act.

Moved by Mr. Perley, that the draft report be the report of the Committee.

Moved by Hon. Robert Weir, in amendment thereto, that the Sub-committee be enlarged by adding the following members: Messieurs Motherwell, Swanston, Vallance, Burns, and that the draft report be reconsidered by them, said Committee to report back not later than Thursday next, the 19th instant.

Amendment negatived.

Hon. Mr. Motherwell then moved a further amendment, and it then being one o'clock, consideration of this was deferred until the next sitting of the Committee.

The Committee then adjourned until Thursday next at 10 o'clock in the forenoon.

A. A. FRASER,
Clerk of the Committee.

THURSDAY, May 19, 1932.

The Select Standing Committee on Agriculture and Colonization met this day at 10 o'clock in the forenoon, the Chairman, Mr. Senn, presiding.

Members present: Messieurs Barber, Blair, Bowen, Brown, Burns, Campbell, Carmichael, Cayley, Coote, Donnelly, Elliott, Gobeil, Loucks, Lucas, McGillis, McKenzie (Assiniboia), McMillan (Huron South), Motherwell, Mullins, Myers, Perley (Qu'Appelle), Pickel, Porteous, Rowe, Senn, Shaver, Simp-

son (Simcoe North), Smith (Victoria-Carleton), Spotton, Sproule, Stirling, Swanston, Taylor, Thompson (Lanark), Totzke, Tummon, Weese, Weir (Macdonald), Young—(41).

The Chairman called the Committee to order and it proceeded to the consideration of the motion of Mr. Perley (Qu'Appelle) that the Draft Report presented to the Committee be the report to the House. (For draft report see minutes of proceedings of May 17, 1932.) And the amendment thereto as moved by Hon. Mr. Motherwell, viz:—

Moved in amendment by W. R. Motherwell:—

Whereas the evidence taken before the Committee on Agriculture and Colonization sheweth that—

- (a) Many No. 2 Pacific wheat cargoes during the past two crop seasons contain a very high percentage of Garnet wheat, as indicated by carefully conducted growing tests from equally carefully secured official samples;
- (b) Pacific number two wheat during recent many months was apparently the best selling Canadian wheat on the British market, at prices therefor well up in relation to corresponding sample of wheat from either Australia or the Argentine on this or previous seasons;
- (c) Said No. 2's Pacific also well preserved their price relationship with similar Atlantic grades and with no larger spreads between ones and twos (Pacific) during the past two years, since Garnet, in No. 2, began to move freely to the world market, than what prevailed between the same grades prior to the introduction of Garnet wheat;
- (d) Up to the time that the grading of Garnet wheat was referred to the Committee on Agriculture, not one valid complaint against Canadian wheat had been received by either the Chief Grain Inspector, Board of Grain Commissioners or Minister of Trade and Commerce;
- (e) Notwithstanding this last preceding paragraph, the President of the National Millers' Association of Canada did apparently, in September, 1930, communicate with the Minister of Trade and Commerce with the view to making certain changes in the grading of Garnet wheat and that the said Minister then transferred the Millers' suggestion to the President of the National Research Council, who, in turn, through his sub-committee on grain research, came to certain findings, some similar and others quite contrary to those of Dr. Newman and Dr. Birchard.
- (f) The great majority of both home and overseas millers were in favour of grading Garnet separately, but much substantial evidence produced indicated that, however desirable this might be from the millers' standpoint, it was in practice quite difficult if not impracticable to attain and, if attained, would doubtless result, at the outset at least, in great financial loss to the growers.
- (g) Inasmuch as during the entire sittings of the Committee only one unofficial complaint and one official complaint was brought to the attention of the Committee respecting Canadian wheat and that, in the opinion of several expert witnesses, time, and the return to normal seasons and normal crops in good areas but with no crops during the last two or three years, even these minor and extraordinarily few complaints would automatically disappear, particularly if a prolific strain of Reward seed wheat is speedily made available in the meantime.

Therefore be it resolved that, in the opinion of this Committee, no change in the grading of Garnet wheat has been shown to be either desirable or advisable at the present time, particularly in the interest of stability of grades and grade names in world markets, so long as quality is preserved, and also in the best interests of many already over-disturbed and hard-pressed producers even in high-production areas.

Amendment negatived.

The main motion was then put and carried in the affirmative.

Mr. Coote moves, that this Committee request the Government to take the necessary steps this year to arrange to have shipments of Garnet wheat sent to some of the large millers in the importing countries, in order to secure information as to the spread in price which may naturally be expected to arise between Garnet wheat and Manitoba Northern wheat under separate grading.

HOUSE OF COMMONS

May 19, 1932.

The Select Standing Committee on Agriculture and Colonization beg leave to present the following as its

FIFTH REPORT

Your Committee has had under consideration the following Order of Reference, dated Tuesday, March 15, 1932.

TUESDAY, March 15, 1932.

Ordered, that the Report of the Committee on Grain Standards for the crop year 1931-32, in so far as it relates to Garnet Wheat be referred to the said Committee, with instructions that the whole subject be inquired into carefully and that the said Committee shall have power to call for witnesses, papers and documents and to report to the House its findings.

Attest.

ARTHUR BEAUCHESNE,
Clerk of the House.

Your Committee, in view of the evidence presented before them, a printed copy of which is herewith presented to the House, present the following recommendations.

Your Committee recommend that the Canada Grain Act be amended to make, operative for the crop year 1933-34, the recommendation of the Western Grain Standards Board, in so far as it relates to the grading of Garnet Wheat as contained in the Annual Report of the Board of Grain Commissioners for Canada for the year 1931. Provided that the said amendment shall have force and effect for the crop year 1933-34, unless the said Board shall, after giving due consideration to the evidence given before your Committee and conditions then existing, establish standards for the grading of Garnet Wheat for the said crop year, different from the standards recommended by the said Report of 1931.

Your Committee further recommend that one thousand copies of this Report and the evidence on which it is based be printed in Blue Book form for distribution to the Growers of Garnet Wheat so that they may be more fully advised of the intended change in the Canada Grain Act.

All of which is respectfully submitted.

Chairman.

