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STARCH & GLUCOSE INDUSTRY
in
CANADA
1927

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Published by Authority of the Hon. James Malcolm, M.P.,
Minister of Trade and Commerce

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OTTAWA

1929

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DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS

CENSUS OF INDUSTRY
OTTAWA - CANADA

Dominion Statistician: R.H. Coats, B.A., F.S.S. (Hon), F.R.S.C.
Chief, Census of Industry: J.C. Macpherson

THE STARCH AND GLUCOSE INDUSTRY IN CANADA, 1927.

Ottawa, February, 1929. A report on the starch and glucose industry is herewith presented for the calendar year 1927. Returns were received from 4 individual factories, located by provinces as follows:- Prince Edward Island 2 and Ontario 2. Statistics of the industry are given for Canada only in this report to avoid the disclosure of the operations of individual plants.

Principal Statistics, 1927

A summary of the principal statistics relating to this industry is shown in Table 1. The total value of production decreased from \$4,988,860 in 1926 to \$4,936,025 in 1927, a decrease of \$52,835 over the two year period.

Table 1. Principal statistics of the starch and glucose industry, compared for 1926 and 1927.

Principal Statistics	CANADA	
	1927	1926
Establishments reporting	No. 4	3
Capital invested	\$ 5,121,901	4,964,775
Employees on salaries -		
Males	No. 40	37
Females	No. 19	28
Total salaries	\$ 155,769	152,566
Employees on wages, average -		
Males	No. 418	426
Females	No. 16	20
Total wages	\$ 456,124	485,842
Cost of fuel	\$ 249,822	245,179
Power equipment -		
Units	No. 230	203
Capacity	H.P. 4,465	2,936
Cost of materials	\$ 3,379,075	3,199,003
Gross value of products	\$ 4,936,025	4,988,860
Net value of products	\$ 1,556,950	1,789,857

Size of Establishments

Owing to the limited number of firms reporting in this industry, particulars relating to the size of establishments cannot be given without disclosing statistics of individual plants.

THE STARCH AND GLUCOSE INDUSTRY IN CANADA, 1927

Production Statistics

The quantity and selling value at the factory of the various products of this industry are shown in table 2 for Canada during the calendar years 1926 and 1927.

Table 2. Production in Canada, 1926 and 1927.

Classes of products	CANADA			
	1927		1926	
	Quantity	Selling Value \$	Quantity	Selling Value \$
Edible corn starch	lb. 17,802,434	919,333	18,251,791	973,459
Laundry starch (corn)	" 9,014,869	461,174	8,050,296	424,382
Potato starch	" 419,587	20,570	97,176	4,606
Glucose or dextrose	" 40,621,391	1,420,458	38,913,850	1,437,350
Grape sugar	" 4,831,359	154,784	4,821,308	161,665
Corn syrup	" 17,233,966	761,047	16,305,582	715,873
Corn oil (crude)	" 3,310,042	277,545	3,407,294	332,440
" " (refined)	" 1,843,068	281,805	1,834,233	284,490
Gluten	" 36,680,568	627,700	35,377,310	640,993
All other products	-	11,609	-	13,602
Total value	-	4,936,025	-	4,988,860

Capital Investment

The amount of capital invested in the industry during the calendar year 1927 is shown for Canada in table 3 divided as between fixed capital including land, buildings, machinery and tools and working capital including materials on hand, finished products on hand, fuel and miscellaneous supplies on hand and cash, trading and operating accounts, etc. Compared with 1926 there was an increase in total capital invested of \$157,126.

Table 3. Capital investment, compared for 1926 and 1927.

Items of capital	CANADA	
	1927 \$	1926 \$
Fixed capital -		
Land, buildings and fixtures, machinery and tools	2,922,966	2,898,673
Working capital -		
Materials and stocks on hand, fuel, etc.	1,022,807	947,670
Cash, trading and operating accounts, etc.	1,176,128	1,118,432
Total working capital	2,198,935	2,066,102
Grand total of capital	5,121,901	4,964,775

THE STARCH AND GLUCOSE INDUSTRY IN CANADA, 1927

Employment Statistics

Tables 4, 5 and 6 present statistics of employment under three heads. Table 4 shows the number of persons employed according to classes, sex and remuneration. Table 5 the number of wage-earners employed by months according to sex and table 6 the operating time of plants and employees.

Employees, salaries and wages: The number of persons employed in the industry in the Dominion in 1927 on salaries was 59 with salaries totalling \$155,769. Wage-earners totalled 434 in number and \$456,124 was paid for wages.

Table 4. Employees, salaries and wages, in Canada, 1926 and 1927.

	Salaried employees			Wage-earners			Total employees		
	Male	Female	Total Salaries	Male	Female	Total Wages	Male	Female	Total Salaries and Wages
	No.	No.	\$	No.	No.	\$	No.	No.	\$
Canada, 1927	40	19	155,769	418	16	456,124	458	35	611,893
Canada, 1926	37	28	152,566	426	20	485,842	463	48	638,405

Employment by months: The number of persons at employment by months is shown in table 5, for the Dominion. The month of highest employment was October with 430 and that of lowest employment December with 397. The average male employment throughout the year was 418 and female employment 16.

Table 5. Employment by months, 1927.

Months	Wage-earners		Months	Wage-earners	
	Male	Female		Male	Female
January	403	17	July	386	16
February	411	16	August	385	17
March	402	15	September	387	17
April	399	16	October	414	16
May	391	15	November	395	17
June	394	16	December	382	15
Total by months				4,749	193
Average monthly employment during year				418	16

Working time: Table 6 shows the totals and averages of the working time of plants and employees during the calendar year 1927. Owing to the seasonal nature of the plants making potato starch the average working time of plants is reduced.

Table 6. Working time of plants and employees, 1927.

Establishments in operation	4	
	Total	Average
Days in operation on full time	572	143.00
Days in operation on part time	27	6.75
Days idle	617	154.25
Hours worked per day or shift by wage-earners	4,517	9.84
Hours worked per week by wage-earners	218	54.50

THE STARCH AND GLUCOSE INDUSTRY IN CANADA, 1927.

Other Employment Statistics

The number and percentage of wage-earners in months of highest employment working specified hours per day is shown in table 6(a) for Canada and the provinces. For the Dominion, the number working specified hours was distributed between the classes, the percentage working 10 hours being highest. In Ontario over 44 per cent of the employees worked 10 hours per day, and in Prince Edward Island 100.00 per cent worked 9 hours. 21.35% of the wage-earners in the Dominion worked over 10 hours per day.

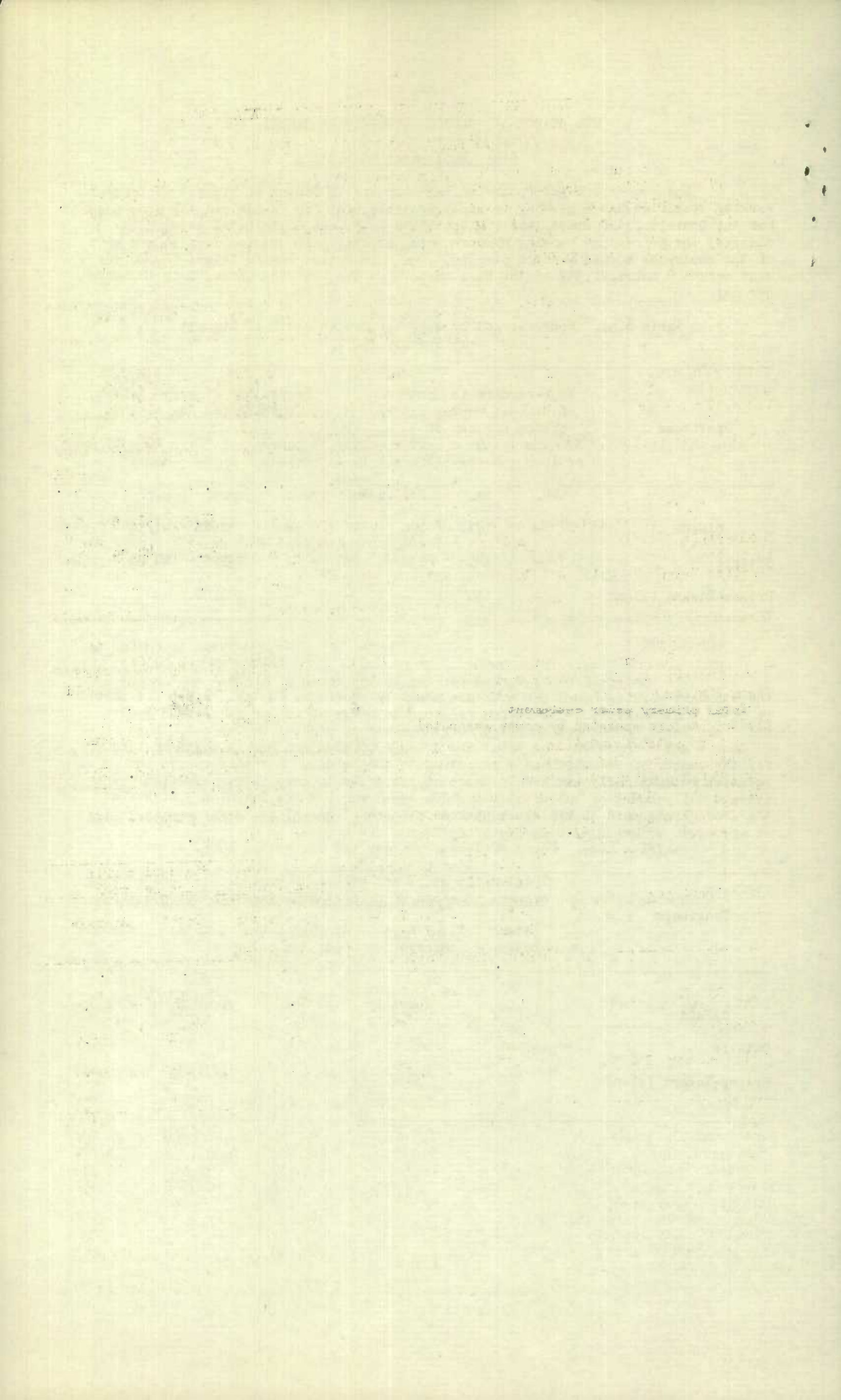
Table 6(a). Hours worked by wage-earners in month of highest employment, 1927.

Provinces	Wage-earners in month of highest employment working per day of				Percentage of wage-earners working per day of			
	8 hours or less	9 hours	10 hours	Over 10 hours	8 hours or less	9 hours	10 hours	Over 10 hours
	No.	No.	No.	No.	p. c.	p. c.	p. c.	p. c.
CANADA	-	171	190	98	4	37.26	41.39	21.35
Ontario	-	141	190	98	-	32.87	44.29	22.84
Prince-Edward Island	-	30	-	-	-	100.00	-	-

The number of hours worked per day in the month of highest employment and the standard working hours per week are shown by provinces in table 6(b). It should be noted that whilst the statistics relating to hours of labour in columns 1, 2 and 3 are based on figures compiled for the month of highest employment, those in columns 4 and 5 represent the total and average of standard weekly hours of labour for the number of establishments reporting to the Bureau. For this reason the relation between daily and weekly hours of labour is to some extent impaired. The average daily hours of labour on the above basis was for the Dominion 9.8, whilst the average standard weekly hours worked out at 54.5 per plant.

Table 6(b). Hours of labour per day and per week, 1927.

Provinces	Total daily hours and number of wage-earners in month of highest employment			Standard working hours per week	
	Total hours	Total Wage-earners	Average hours per day per wage-earner	Total	Average
	No.	No.	No.	No.	No.
CANADA	4,517	459	9.8	218	54.5
Ontario	4,247	429	9.9	110	55.0
Prince-Edward Island	270	30	9.0	108	54.0



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Fuel Consumption

The consumption of fuel is shown in table 7 by classes, quantity and cost value delivered at the factory. Coal of all kinds represented over 97 per cent of the cost of all fuel used during the year. The only other reported was fuel oil, to the value of \$6,310.

Table 7.- Fuel consumption, 1927.

Kinds of fuel	Unit of measure	Quantity	Cost Value \$
Bituminous coal	ton	41,533	238,285
Anthracite coal	ton	1,013	5,227
Fuel oil	gal.	65,950	6,310
Total cost of fuel used	-	-	249,822

Power Equipment

The power equipment employed in the starch and glucose industry in the Dominion in 1927 is shown in table 8, according to manufacturers' rating. There was an increase of 21 in the total number of motors operated by power owned and a decrease of 416 in rated horsepower as compared with 1926.

Table 8. Power equipment, 1927.

Description	Number of Units	Horse power according to manufacturers rating
Steam engines	6	1,945
Total primary power equipment	6	1,945
Electric motors operated by power generated by establishment	224	2,520
Total power installation	230	4,465

There were 17 boilers installed for steam heating and other purposes with an aggregate boiler h.p. capacity of 2,875.

Materials Used

The quantity and value of the principal materials used during the year 1927 is given in table 9.

Table 9. Materials used compared for 1927 and 1926.

Principal Materials	1927		1926	
	Quantity Lb.	Cost Value \$	Quantity Lb.	Cost Value \$
Corn	135,993,032	2,272,960	133,751,072	1,974,900
Corn starch	794	41	-	-
Potatoes	2,460,000	8,802	266,280	935
Sugar	123,700	8,180	131,700	8,140
Cane syrup for mixing	1,552,708	39,250	1,402,935	38,492
Crude corn oil	2,195,565	189,012	2,133,758	213,222
Boneblack (purchased)	250,137	15,116	459,922	23,183
Hydrochloric acid	489,603	7,072	559,310	7,932
Sulphuric acid 50°Be	11,396	342	9,384	328
Other chemicals, soda ash, etc.	-	24,737	-	22,903
Containers and labels	-	653,527	-	655,335
All other materials	-	160,036	-	253,633
Total	-	3,379,075	-	3,199,003

MEMORANDUM FOR THE RECORD

On 10/15/54, the following information was received from the [illegible] office regarding the [illegible] case.

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THE STARCH AND GLUCOSE INDUSTRY IN CANADA, 1927.

Imports and Exports

The quantity and value of starch and similar preparations are shown in Table 10 for imports and in Table 11 for exports. The total value of imports for consumption in Canada for the calendar year 1927 was \$703,648 as compared with \$614,585 in 1926. Exports of goods the produce of Canada were valued at \$38,266 in 1927 and \$59,527 in 1926.

Table 10. Imports by Classes, Countries, Quantity and Value, 1927.

Articles imported by countries	Quantity Lb.	Value \$
Starch, including corn starch and similar preparations -		
United Kingdom	154,433	10,638
United States	1,562,431	80,481
Other Countries	207,452	9,867
Total	1,924,316	100,986
Starch, potato and potato flour -		
United Kingdom	67,285	2,710
United States	1,144,220	76,048
Netherlands	3,108,155	110,016
Other countries	66,072	2,771
Total	4,385,732	191,545
British gum, dry sizing cream and enamel sizing -		
United Kingdom	159,489	6,287
United States	515,508	40,612
Total	674,997	46,899
Dextrine, dry -		
United Kingdom	19,537	987
United States	4,474,546	190,438
Netherlands	431,036	22,636
Total	4,925,119	214,061
Glucose or grape sugar, glucose syrup and corn syrup or any syrups containing admixtures thereof -		
United Kingdom	18,928	1,484
United States	4,137,355	148,665
Other Countries	110	8
Total	4,156,393	150,157

Table 11. Exports of Canadian Produce by Countries, Quantity and Value, 1927.

Articles Exported by Countries	Quantity Lb.	Value \$
Corn Starch -		
United States	500	27
New Zealand	778,780	37,984
Other Countries	2,659	124
Total	781,939	38,152
Potato starch -		
Other Countries	1,130	144

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APPENDIX

Starch and Glucose Manufacturers, 1927.

Canada Starch Co. Ltd., Cardinal, Ontario.

St. Lawrence Starch Co. Ltd., Port Credit, Ontario.

Geo. E. Fall & Son, Hunter River, P.E. Island.

St. Peter's Starch Co. Ltd., St. Peter's P. E. Island

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