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CANADA
DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
CENSUS OF INDUSTRY

REPORT
on the
BREAD & OTHER BAKERY PRODUCTS INDUSTRY
in
CANADA
1928

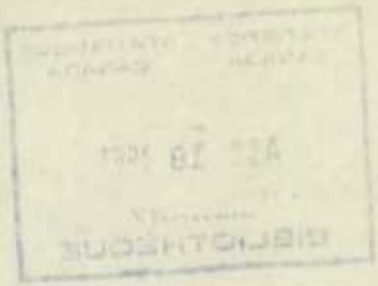


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Published by Authority of the Hon. James Malcolm, M.P.,
Minister of Trade and Commerce

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OTTAWA
1930



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NOTE.- The statistics published in the present statement include only the statistics of such manufacturing establishments as make Bread, Pastry etc., as their principal products. Statistics relating to specific products are therefore not to be regarded as comprehensive, as products like, bread, buns, pies, cakes and puddings are also found as secondary products of other industries such as Eiscuits and confectionery.

(See summary table, page 2.)

DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
CENSUS OF INDUSTRY

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

THE BREAD AND BAKERY PRODUCTS INDUSTRY IN CANADA, 1928.

Ottawa, February, 1930.— The annual report on the Baking Industry in Canada for the calendar year 1928 is herewith presented. This report is distinct from the Biscuit and Confectionery industry and yet similar items of production appear in both reports so that in order that a complete and comprehensive survey of the industry may be obtained a study of both reports will be found necessary. A subsequent paragraph under the head of "Production" deals specifically with this feature.

The number of individual establishments reporting to the Bureau during the year was 2,482, an increase of 39 over the previous year as will be seen from the following table showing the location of the various plants by provinces for the calendar years 1927 and 1928.

Location of Plants by Provinces, 1927 and 1928.

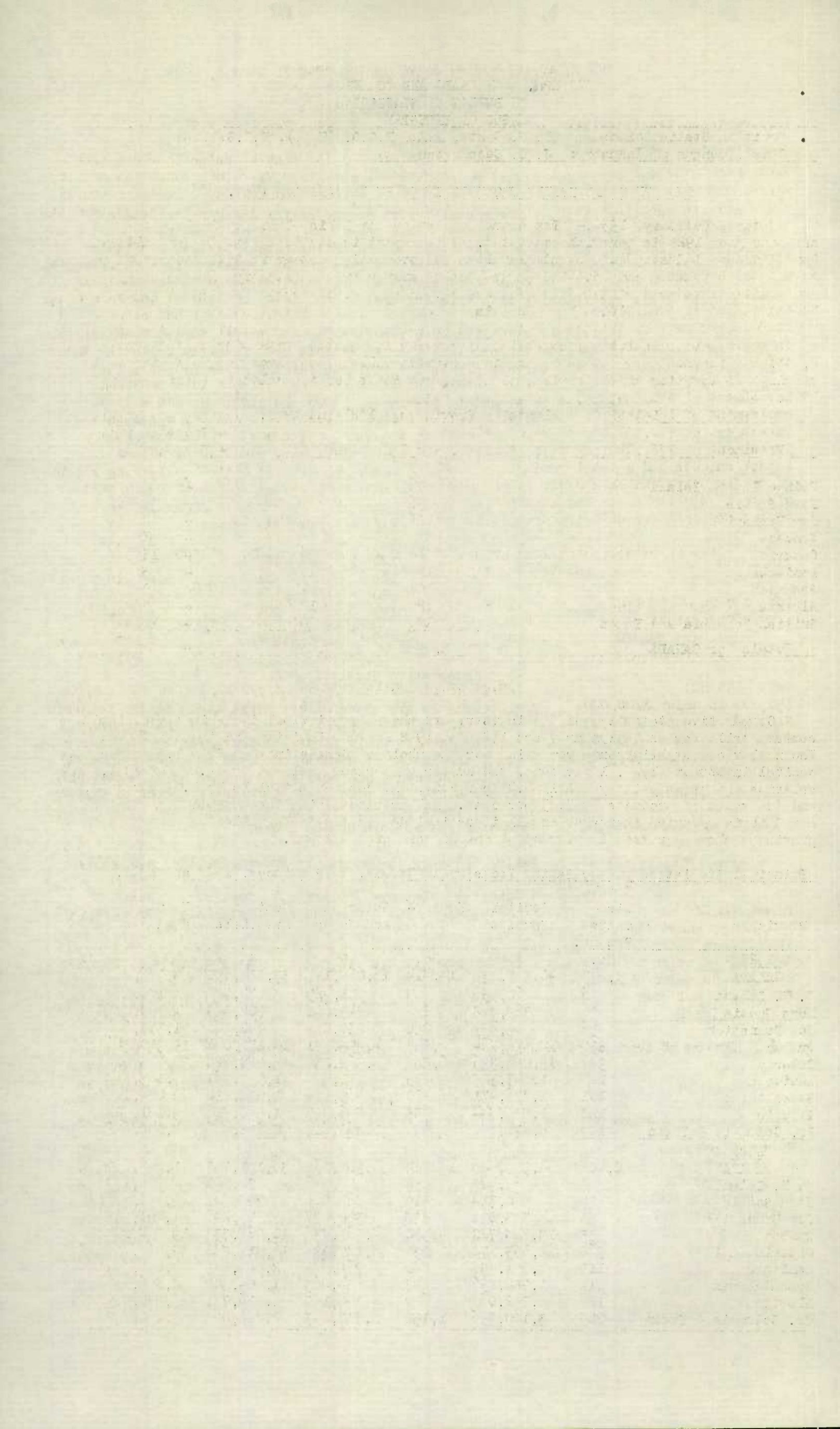
Province	1927	1928	+ Increase and - Decrease
Prince Edward Island	6	8	+ 2
Nova Scotia	56	58	+ 2
New Brunswick	56	58	+ 2
Quebec	838	835	- 3
Ontario	947	960	+ 13
Manitoba	120	115	- 5
Saskatchewan	101	111	+ 10
Alberta	120	128	+ 8
British Columbia and Yukon	199	209	+ 10
Totals for CANADA	2,443	2,482	+ 39

Comparative Statistics

Comparative statistics of the industry are shown by principal items in the following summary table for the calendar years 1927 and 1928 for the Dominion and the provinces. The number of establishments reporting for the whole of Canada increased by 1.59 per cent, capital investment by 9.41 per cent, the number of persons employed by 14.29 per cent, salaries and wages paid by nearly 5.01 per cent, the cost of materials by 1.04 per cent, and the value of products by 3.53 per cent. All provinces with the exception of Quebec and Ontario reported increases in all items included in the table while the above named provinces show decreases in respect of one or more of the items.

Principal Statistics of the Baking Industry in Canada, by Provinces, 1927 and 1928.

Provinces	Estab- lish- ments Report.	Capital Invested	Employ- ees	Salaries and Wages	Cost of Materials	Value of Products
<u>1927</u>	No.	\$	No.	\$	\$	\$
CANADA	2,443	40,559,259	14,414	16,068,147	35,779,690	68,726,262
P. E. Island	6	60,935	25	18,429	71,784	135,222
Nova Scotia	56	369,848	276	243,691	702,393	1,330,217
New Brunswick	56	545,499	252	237,284	742,500	1,318,620
Quebec	838	12,498,864	4,258	4,498,791	10,171,046	19,310,546
Ontario	947	19,056,396	6,882	7,962,239	16,880,622	32,745,604
Manitoba	120	1,943,325	799	881,393	1,953,961	3,809,554
Saskatchewan	101	1,276,471	407	469,114	1,035,212	2,052,142
Alberta	120	1,830,844	535	596,593	1,540,726	3,181,721
Br. Columbia & Yukon	199	2,977,077	930	1,160,613	2,681,446	4,842,636
CANADA	2,482	44,377,449	15,422	16,901,238	36,151,747	71,227,097
P. E. Island	8	69,787	33	24,576	82,247	156,183
Nova Scotia	58	760,314	319	265,959	790,541	1,490,780
New Brunswick	58	773,011	358	300,072	779,246	1,408,958
Quebec	835	13,233,720	4,380	4,569,736	10,067,733	19,514,222
Ontario	960	19,693,170	7,137	8,120,394	16,511,330	33,093,415
Manitoba	115	1,991,688	881	964,678	2,089,775	4,070,991
Saskatchewan	111	1,982,896	643	634,063	1,404,589	2,806,277
Alberta	128	2,752,067	620	704,107	1,736,721	3,520,789
Br. Columbia & Yukon	209	3,120,796	1,151	1,317,643	2,689,065	5,160,482



THE BREAD AND BAKERY PRODUCTS INDUSTRY IN CANADA, 1928.

Size of Establishments

In view of the tendency towards concentration in industrial enterprises a series of tables has been prepared presenting in a threefold way the size of establishments in the Baking industry measured by (a) capital investment, (b) gross value of production and (c) employment, all within certain specified groups or limitations for the calendar years 1927 and 1928. The tables further indicate the movement in capital, production and employment within the industry.

In 1928 the number of establishments reporting was 2,482 with a total capital investment of \$44,377,449, a total gross value of output or production of \$71,227,097, and a total employment of 15,422. Of the total number of establishments seventeen had a capital investment of \$12,969,578 or 29.25 per cent of the total investment and an average investment of \$762,916. In gross value of output fifteen establishments had \$14,870,562 or 20.9 per cent of the total output and an average output per establishment of \$991,371. In employment nineteen plants had 3,621 persons on the payrolls or 22.7 per cent of the total employment and an average employment of 191 per establishment.

In 1927 the number of establishments reporting was 2,443 with a total capital investment of \$40,559,259, a total gross value of output of \$68,726,262, and a total employment of 14,414. Of the total number of establishments thirteen had a capital investment of \$10,153,262 or 25.0 per cent of the total investment, with an average investment of \$781,020 per establishment. In gross value of production seventeen establishments had a total production of \$18,116,985 or 26.4 per cent of the total output of the industry and an average output per establishment of \$1,065,705. In employment nineteen establishments had a total payroll of 3,513 or 24.4 per cent of the total number employed and an average employment of 185 per establishment.

Size of establishments by groups of Capital investment, Value of Output, and Employment, 1927 and 1928.

(a) Groups of Capital Investment	1927			1928		
	Estab-lish-ments	Capital	Average Capital per estab-lishment	Estab-lish-ments	Capital	Average Capital per estab-lishment
Under \$50,000	No. 2,343	\$ 17,494,020	\$ 7,466	No. 2,390	\$ 20,558,487	\$ 8,602
\$50,000 to under \$100,000	41	2,865,388	69,888	33	2,198,909	66,634
\$100,000 to under \$200,000	29	3,997,147	137,833	22	3,101,390	140,972
\$200,000 to under \$500,000	17	6,049,442	355,850	20	5,549,085	277,454
\$500,000 to under \$1,000,000	9	5,853,038	650,338	15	10,721,742	714,783
\$1,000,000 and over	4	4,300,224	1,075,056	2	2,247,836	1,123,918
Total	2,443	40,559,259	16,602	2,482	44,377,449	17,879

(b) Groups of Values of Output	1927			1928		
	Estab-lish-ments	Value of Output	Average Output per estab-lishment	Estab-lish-ments	Value of Output	Average Output per estab-lishment
Under \$50,000	No. 2,240	\$ 27,351,892	\$ 12,211	No. 2,305	\$ 35,167,270	\$ 15,257
\$50,000 to under \$100,000	112	7,734,056	69,054	91	6,309,846	69,339
\$100,000 to under \$200,000	43	6,199,562	144,176	40	5,292,337	132,308
\$200,000 to under \$500,000	31	9,323,767	300,767	31	8,784,525	283,372
\$500,000 to under \$1,000,000	10	7,588,316	758,832	9	6,677,276	741,919
\$1,000,000 and over	7	10,528,559	1,504,095	6	8,193,286	1,365,548
Total	2,443	68,726,262	28,132	2,482	71,227,097	28,698

(c) Groups of Employment	1927			1928		
	Estab-lish-ments	Persons employed	Average persons employed per estab-lishment	Estab-lish-ments	Persons employed	Average persons employed per estab-lishment
Under 20 persons	No. 2,345	No. 7,766	No. 3.31	No. 2,391	No. 8,836	No. 3.70
20 to under 50	62	1,956	31.55	51	1,569	30.76
50 to under 100	17	1,179	69.35	21	1,396	66.48
100 to under 200	12	1,670	139.17	12	1,727	143.92
200 to under 500	7	1,843	263.29	7	1,894	270.57
500 and over	-	-	-	-	-	-
Total	2,443	14,414	5.90	2,482	15,422	6.21

THE BREAD AND BAKERY PRODUCTS INDUSTRY IN CANADA, 1928

Production Statistics

The statistics of production in Table I of this report refer only to the Baking Industry and are presented by items for Canada and the provinces during the calendar year 1928. The production of bread increased from 780,940,855 pounds worth \$54,043,072 in 1927 to 874,059,302 pounds worth \$54,948,637 in 1928, a decrease in the price of bread from 6.9 cents to 6.3 cents per pound. In the production of buns there was a decrease in value of \$305,969, whilst puddings show an increase of \$233,706 and pies, cakes and pastry \$1,102,245. Biscuits, plain and fancy, made in baking establishments increased from 340 tons worth \$127,256 in 1927 to 377 tons valued at \$139,577 in 1928, an increase in the quantity produced of 10.88 per cent and in value of 9.68 per cent. Confectionery made in baking establishments also shows a decrease in quantity and an increase in value of production, the former having fallen from 615,752 pounds in 1927 to 585,135 pounds in 1928, whilst the value rose from \$143,598 in 1927 to \$182,809 in 1928. Ice cream production shows a decrease of 27,471 gallons or 40.1 per cent and a decrease in value of \$26,783 or a little over 24.65 per cent. All other products rose from \$364,291 in 1927 to \$904,830 in 1928.

The following table shows the total production for the Baking, Biscuit and Confectionery industries for the calendar year 1928 for 8 of the principal items of production.

Items	Made in Bakeries		Made in biscuit and confectionery establishments		Total Production		
	Quantity	Value \$	Quantity	Value \$	Quantity	Value \$	
Bread	Lb.	874,059,302	54,948,637	4,885,076	356,687	878,949,378	55,305,324
Buns	-	-	2,160,021	-	70,340	-	2,230,361
Pies, cakes, etc.	-	-	12,542,676	-	814,348	-	13,357,024
Puddings	-	-	266,690	-	25,421	-	292,111
Biscuits plain, etc.	ton	377	139,577	49,003	17,391,482	49,380	17,531,059
Confectionery, all kinds	Lb.	585,135	182,809	117,757,077	30,921,398	118,342,212	31,104,207
Ice cream	gal.	41,031	81,857	2,130,554	2,978,723	2,171,585	3,060,580
All other products	-	-	904,830	-	7,845,824	-	8,750,654
Total Value	-	-	71,227,097	-	60,404,223	-	131,631,320

THE BREAD AND BAKERY PRODUCTS INDUSTRY IN CANADA, 1928.

Production Statistics - Cont'd.

The per capita consumption of "bakers bread" on an estimated population of 9,658,000 in 1928 was 91.0 pounds as compared with 82.5 pounds in 1927. A table showing the per capita consumption of biscuits, confectionery and ice cream is given in the report on that industry and is here repeated for the calendar years 1926, 1927 and 1928 by quantity and value.

Items	1926		1927		1928	
	Quantity	Value \$	Quantity	Value \$	Quantity	Value \$
Biscuits Lb.	9.27	1.60	10.94	1.77	10.46	1.84
Confectionery, all kinds Lb.	11.56	3.02	12.04	3.20	12.64	3.28
Ice cream gal.	.72	1.00	.78	1.08	.88	1.20

The weight of a loaf of bread throughout the Dominion is not standardized but is regulated by municipal by-laws in the various provinces, except in Ontario where under R.S.O. ch. 224 the standard weight of the loaf is fixed at 24 and 48 ounces, except that in the case of "small bread" the limit is fixed at 12 ounces. According to information collected by the Bureau of Statistics the average weight of a loaf in the provinces may be stated as follows:

P. E. Island, Nova Scotia and New Brunswick at $1\frac{1}{2}$ pounds or 24 oz.

Quebec, in certain municipalities at $1\frac{1}{2}$ pounds or 24 ounces, while in the remaining parts of the province it is variously stated at 4, 5 and 6 pounds.

Ontario at 24 and 48 ounces except in the case of "small bread".

Manitoba generally at 16 and 20 ounces except in outlying portions of the province where it is stated at 3 pounds.

Saskatchewan, Alberta and British Columbia report 16, 18 and 20 ounces as the average weight of the loaf which is regulated by municipal by-laws.

DEPARTMENT OF CHEMISTRY

REPORT OF THE COMMITTEE ON THE PROGRESS OF CHEMISTRY IN THE UNITED STATES

Year	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	
Number of Publications	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300
Number of Authors	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300

The following table shows the number of publications and authors in the field of chemistry in the United States from 1911 to 1930.

The data indicates a steady increase in the number of publications and authors over the period, reflecting the growth of the chemical sciences in the United States.

THE BREAD AND BAKERY PRODUCTS INDUSTRY IN CANADA, 1928

Table 1.- Production of Bread and Other Bakery Products by Provinces, 1928.

		CANADA		Prince Edward Island		Nova Scotia		New Brunswick		Quebec	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Bread 1/	lb.	874,059,302	54,948,637	1,722,284	125,297	16,510,306	1,118,202	15,781,665	1,103,736	281,792,781	16,294,959
Buns 1/	-	-	2,160,021	-	18,408	-	29,336	-	33,646	-	230,456
Pies, cakes, etc. 1/	-	-	12,542,676	-	8,764	-	292,551	-	269,576	-	2,835,066
Puddings 1/	-	-	266,690	-	14	-	14	-	2,000	-	1,750
Biscuits, plain, etc. 1/	ton	377	139,577	-	-	-	-	-	-	235	95,000
Chocolate confectionery 1/	lb.	152,534	61,743	-	-	-	-	-	-	20,923	10,264
Sugar confectionery 1/	lb.	432,601	121,066	-	-	300	45	-	-	42,954	15,120
Ice Cream 1/	gal.	41,031	81,857	-	-	175	427	-	-	4,908	9,352
All other products	-	-	904,830	-	3,700	-	50,205	-	-	-	22,255
Total Value	-	-	71,227,097	-	156,183	-	1,490,780	-	1,408,958	-	19,514,222
		Ontario		Manitoba		Saskatchewan		Alberta		British Columbia	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Bread 1/	lb.	370,929,519	24,137,778	57,640,841	3,421,815	33,796,989	2,281,391	41,349,073	2,879,508	54,535,764	3,585,951
Buns 1/	-	-	1,273,793	-	129,435	-	95,107	-	144,783	-	205,057
Pies, cakes, etc. 1/	-	-	6,448,499	-	462,081	-	413,071	-	472,869	-	1,340,199
Puddings 1/	-	-	199,363	-	51,633	-	1,318	-	1,484	-	9,114
Biscuits, plain, etc. 1/	ton	142	44,577	-	-	-	-	-	-	-	-
Chocolate confectionery 1/	lb.	88,451	36,625	5,625	2,764	36,300	11,650	735	220	500	220
Sugar confectionery 1/	lb.	323,995	85,407	2,415	805	5,200	1,950	56,112	16,969	1,625	770
Ice Cream 1/	gal.	28,959	61,926	2,037	2,448	1,085	1,490	2,550	3,986	1,317	2,228
All other products	-	-	810,447	-	10	-	300	-	970	-	16,943
Total Value	-	-	33,098,415	-	4,070,991	-	2,806,277	-	3,520,789	-	5,160,482

1/ Data here given does not necessarily represent the total Canadian production of these commodities since they are also produced in other industries.

THE BREAD AND BAKERY PRODUCTS INDUSTRY IN CANADA, 1928.

Capital Invested

Capital invested in the baking industry is shown in Table 2 by items and provinces for the calendar year 1928. A further division shows fixed capital as distinct from working capital. Fixed capital comprising land, buildings, fixtures, machinery and tools totalled \$35,709,872 in 1928 as against \$32,509,770 in 1927, an increase over the preceding year of \$3,200,102 or 9.84 per cent. Working capital made up of materials, supplies and stocks on hand together with cash, trading and operating accounts, etc. totalled \$8,667,577 as against \$8,049,489 the previous year, an increase of \$618,088 or 7.6 per cent.

Apportioned by provinces Ontario leads in invested capital with 44.4 per cent of the total, Quebec being second with 29.8 per cent and the remaining provinces following in the order named: British Columbia 7.03, Alberta 6.2, Manitoba 4.49, Saskatchewan 4.47 and the Maritime Provinces 3.61 per cent.

Table 2.- Capital invested in the Baking Industry by items and provinces, 1928.

Provinces	Fixed Capital		Working Capital		Total Capital
	Land, buildings, fixtures, machinery		Materials, supplies, and stocks on hand	Cash, trading and operating accounts, etc.	
	\$		\$	\$	\$
CANADA	35,709,872		3,588,563	5,079,014	44,377,449
P. E. Island	50,107		14,006	5,674	69,787
Nova Scotia	567,864		89,520	102,930	760,314
New Brunswick	565,366		84,546	123,099	773,011
Quebec	10,731,987		1,107,503	1,394,230	12,233,720
Ontario	16,383,679		1,460,129	1,849,362	19,693,170
Manitoba	1,500,817		153,716	337,155	1,991,688
Saskatchewan	1,324,783		167,951	490,162	1,982,896
Alberta	2,167,553		228,776	355,738	2,752,067
Br. Columbia & Yukon	2,417,716		282,416	420,664	3,120,796

Employment Statistics

Statistics relating to employment during the calendar year 1928 are presented in Table 3, 4 and 5. Table 3 gives the number of persons employed during the year by sex and remuneration for the Dominion and for each of the provinces. The total amount paid for salaries in 1928 shows an increase of \$176,507, whilst wages increased by \$656,584 making a net increase in the payments for salaries and wages over 1927 of \$833,091 or 5.42 per cent. The number of persons employed whether on salaries or wages increased by 1,008 during the period, whilst the average payment per employee which fell from \$1,133 in 1924 to \$1,116 in 1925 and to \$1,100 in 1926 rose again in 1927 to \$1,115 but dropped again to \$1,096 in 1928. Ontario and Quebec gave employment to 74.7 per cent of all persons engaged in the industry and also accounted for 75.1 per cent of the total payments for salaries and wages.

Table 3.- Employees, Salaries and Wages by Provinces, 1928.

Provinces	Number of Salaried Employees			Number of Wage-earners			Total Employees		
	Male	Female	Salaries Paid	Male	Female	Wages Paid	Male	Female	Salaries and Wages
CANADA	659	322	1,518,595	12,495	1,946	15,382,643	13,154	2,268	16,901,238
P.E. Island	2	1	2,233	26	4	22,343	28	5	24,576
Nova Scotia	12	12	22,934	243	52	243,035	255	64	265,969
New Brunswick	11	6	17,239	265	76	282,833	276	82	300,072
Quebec	106	41	241,173	3,925	308	4,328,563	4,031	349	4,569,736
Ontario	235	123	602,348	5,774	1,005	7,518,046	6,009	1,128	8,120,394
Manitoba	142	37	250,740	618	84	713,938	760	121	964,678
Saskatchewan	31	15	80,295	433	64	553,768	464	79	634,063
Alberta	28	11	72,480	473	108	631,627	501	119	704,107
Br. Columbia and Yukon	92	76	229,153	738	245	1,088,490	830	321	1,317,643

Dear Sir,
I have the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the above matter.

The same has been referred to the proper authorities for their consideration and they will advise you in due season.

I am, Sir, very respectfully,
Your obedient servant,
J. H. [Name]

[Address]

[Address]

[Address]

[Address]

[Address]

[Address]

THE BREAD AND BAKERY PRODUCTS INDUSTRY IN CANADA, 1928.

Employment Statistics - Con.

Table 4 presents statistics of employment by months and by sex for the Dominion in 1928. Employment was fairly constant throughout the year, the maximum being reached in October with a total of 14,508 of whom 12,571 were males and 1,937 females, whilst the minimum employment was attained in February with 11,726 males and 1,797 females or a total of 13,523. The average employment during the year totalled 14,441 of whom 12,495 were males and 1,946 were females.

The average employment by months in the tables of this report is the sum of the averages of individual plants based on the number of months that each plant was in actual operation and not the average for the calendar year.

Table 4.- Employment by Months and Sex, 1928.

Months	Male No.	Female No.	Months	Male No.	Female No.
January	11,797	1,792	July	12,512	1,950
February	11,726	1,797	August	12,541	1,951
March	11,849	1,823	September	12,554	1,947
April	11,914	1,838	October	12,571	1,937
May	12,124	1,859	November	12,548	1,927
June	12,304	1,909	December	12,523	1,920
Total employment in year				146,963	22,650
Average employment during year				12,495	1,946

Working time of plants and employees in the baking industry is presented in tables 5(a), (b) and (c) for the calendar year 1928, by provinces. Full time operations were 94.60 per cent of the total possible working time, estimated for census purposes at 313 days per year, part time .97 per cent and the time plants were idle 4.43 per cent. The provinces exceeding the average of full time operations in the Dominion were in order, Prince Edward Island, Nova Scotia, Manitoba, Quebec and British Columbia, whilst those below the average for the Dominion were Saskatchewan, Alberta, New Brunswick and Ontario. Part time operations were highest in New Brunswick, while in Prince Edward Island no part time operations were reported. Idle time was also highest in Saskatchewan with Alberta, New Brunswick, Ontario, Manitoba, Nova Scotia, Quebec and British Columbia following in order.

Table 5(a).- Working time of plants by provinces, 1928.

Provinces	Plants in operation	Days in operation			Average days worked per plant		
		On full time	On part time	Idle	On full time	On part time	Idle
	No.	No.	No.	No.	No.	No.	No.
CANADA	2,482	734,907	7,567	34,392	296.09	3.05	13.86
P. E. Island	8	2,468	-	36	308.50	-	4.50
Nova Scotia	58	17,205	250	699	296.64	4.31	12.05
New Brunswick	58	16,522	577	1,055	284.86	9.95	18.19
Quebec	835	250,442	1,816	9,097	299.93	2.18	10.89
Ontario	960	283,953	2,297	14,230	295.79	2.39	14.82
Manitoba	115	34,341	79	1,575	298.62	.69	13.69
Saskatchewan	111	29,433	2,389	2,921	265.16	21.52	26.32
Alberta	128	37,370	55	2,639	291.95	.43	20.62
Br. Columbia & Yukon	209	63,173	104	2,140	302.26	.50	10.24

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
RESEARCH REPORT

Submitted by: [Name]
Date: [Date]

Run No.	Temp. (°C)	Pressure (mm Hg)	Yield (%)	Boiling Point (°C)
1	100	760	85	110
2	120	760	75	115
3	140	760	65	120
4	160	760	55	125
5	180	760	45	130
6	200	760	35	135
7	220	760	25	140
8	240	760	15	145
9	260	760	10	150
10	280	760	5	155

Discussion: The results show a clear trend of decreasing yield and increasing boiling point as the temperature increases. This suggests that the reaction is reversible and that higher temperatures favor the reactants. The boiling point increases linearly with temperature, indicating a consistent change in the physical properties of the product.

Conclusion: The study demonstrates the effect of temperature on the yield and boiling point of the product. The yield decreases significantly as the temperature increases, while the boiling point increases linearly. Further studies should be conducted to determine the optimal temperature for maximizing yield.

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Employment Statistics - Con.

The number and percentage of wage-earners in month of highest employment working specified hours per day is shown in table 5(b), for Canada and the provinces. From a study of the table it will be seen that an eight-hour day is prevalent in Alberta, British Columbia and Nova Scotia, and a nine-hour day in Manitoba, Ontario, Quebec, Saskatchewan and New Brunswick. In the Dominion as a whole the highest percentage falls in the group working 9 hours per day, being 51.46 as compared with 25.94 per cent in the 8 hour group, 19.75 per cent in the 10 hour group, whilst but 2.85 per cent was in the group working more than 10 hours a day.

Table 5(b).- Hours worked by wage-earners in month of highest employment, 1928.

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	3,936	7,809	2,998	433	25.94	51.46	19.75	2.85
P. E. Island	12	4	15	-	38.71	12.90	48.39	-
Nova Scotia	170	86	67	2	52.31	26.46	20.61	.62
New Brunswick	125	230	25	-	32.89	60.53	6.58	-
Quebec	560	1,959	1,560	283	12.84	44.91	35.76	6.49
Ontario	1,529	4,455	1,040	129	21.38	62.28	14.54	1.80
Manitoba	154	471	105	1	21.07	64.44	14.36	.13
Saskatchewan	181	238	101	6	34.41	45.25	19.20	1.14
Alberta	346	219	41	11	56.08	35.50	6.64	1.78
Br. Columbia & Yukon	859	147	44	1	81.73	13.99	4.19	.09

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 5(c). 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 8.98 whilst the average standard weekly hours worked out at 54.43 per plant.

Table 5(c).- Hours of Labour per day and per week, 1928.

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	136,296	15,176	8.98	135,105	54.43
P. E. Island	282	31	9.10	433	54.12
Nova Scotia	2,825	325	8.70	3,091	53.29
New Brunswick	3,320	380	8.74	2,946	50.80
Quebec	40,683	4,362	9.32	47,702	57.13
Ontario	64,081	7,153	8.96	51,692	53.85
Manitoba	6,532	731	8.93	5,993	52.11
Saskatchewan	4,663	526	8.86	6,042	54.43
Alberta	5,264	617	8.53	6,695	52.30
Br. Columbia & Yukon	8,646	1,051	8.23	10,511	50.29

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Fuel Consumption

The quantity and cost value delivered at the factory or works of the classes of fuel consumed by the baking industry in 1928 is shown in table 6. By comparison on the basis of cost, wood was the principal fuel used, being 26.11 per cent of the total, followed in order by artificial and natural gas with 21.04 per cent, coke 19.31 per cent, bituminous coal 10.95 per cent, anthracite coal 9.54 per cent and lignite coal 6.35 per cent! The total cost of all fuel rose from \$1,518,293 in 1927 to \$1,588,646 in 1928 or 4.63 per cent. The total cost of electricity purchased was \$329,201 equivalent to 1.99 cents per k.w.h. for the 16,541,082 kilowatt hours reported.

Table 6.- Fuel consumed by classes, 1928.

Classes of fuel	Unit of measure	Quantity	Cost value at the factory or works \$
Coal, bituminous	Short ton	19,723	173,901
Coal, anthracite	" "	10,956	151,545
Coal, lignite	" "	8,736	100,782
Coke	" "	27,977	306,820
Gasoline	Imp. gal.	117,891	33,172
Fuel oil	" "	675,378	70,246
Wood	cord	78,404	414,793
Gas, artificial or natural	M.c.ft.	557,716	334,263
Other fuel	-	-	3,124
Total cost of fuel	-	-	1,588,646

Power Equipment

The classes of power employed in the industry are shown in table 7 by (a) the number of units in each class and (b) the indicated horse-power according to manufacturers' rating. Of the power employed in the industry 86 per cent was developed by electric motors, 12 per cent by internal combustion engines and the remaining 2 per cent by steam engines. The cost of electricity purchased was \$329,201 or an average of \$30.64 per horse-power purchased. The number of boilers installed for any purpose whatever is reported in the table but does not form any part of the power installation.

Table 7.- Power employed by classes, 1928.

Classes of power	Number of units	Total Horse-Power according to manufacturers' rating
Steam engines and turbines	16	224
Oil, gas and gasoline engines	424	1,498
Hydraulic turbines or water wheels	-	-
Total Primary Power	440	1,722
Electric motors operated by purchased power	2,637	10,745
Total power for manufacturing purposes	3,077	12,467
Electric motors operated by power generated by establishments	-	-
Total motor installation	2,637	10,745
Boilers installed for any purpose	137	3,018

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Materials Used

The quantity and cost value of all materials used in the baking industry in 1928 is shown in table 8 for the Dominion. The total cost, which in 1927 was \$35,779,690 rose in 1928 to \$36,151,747, an increase of \$372,057 or approximately 1 per cent. The single item of flour constituted more than 64.2 per cent of the total cost of all materials used. Yeast, sugar, shortening and eggs each with a cost exceeding a million dollars were next in order. Containers of all kinds and labels cost \$761,083 or about one per cent of the selling value of the products of the entire industry.

Table 8.- Materials Used by Quantity and Cost Value, 1928.

Classes of materials	Unit of measure	Quantity	Cost Value \$
Flour	barrel	3,305,743	23,202,746
Hops	pound	26,585	3,968
Malt	"	3,892,161	442,356
Yeast	"	7,416,334	1,839,516
Salt	barrel	40,443	140,948
Sugar	pound	26,044,702	1,623,841
Butter	"	1,239,421	460,800
Cooking oils	"	618,731	88,003
Lard	"	4,256,018	630,022
Shortening	"	11,790,954	1,711,045
Cream	gallon	99,216	216,988
Milk, fresh and skim	"	413,220	133,974
Milk, condensed	pound	5,395,121	358,072
Milk, dried or powdered	"	2,056,408	243,421
Eggs	dozen	4,125,887	1,367,745
Fruits	pound	6,558,030	885,491
Nuts	"	423,814	164,001
Glucose	"	276,980	15,359
Chocolate	"	234,791	53,501
Cocoanut	"	534,152	89,224
Syrups	gallon	68,259	38,541
Extracts, essences, etc. (value only)	-	-	63,934
All other materials (value only)	-	-	1,617,168
Boxes, cases, tins, labels, etc. (value only)	-	-	761,083
Total cost of Materials	-	-	36,151,747

Imports and Exports

The imports of manufactured commodities in the baking industry are not of sufficient importance to have a separate import classification but are included in imports under the item "flavoring powders, custard powders, jelly powders, sweetened breads, pies, cakes and puddings". One item only is shown separately that of Passover bread - which in the calendar year 1928 was valued at \$133,408, of which 91.7 per cent came from the United States.

Exports similarly are combined in the export classification under the head of "biscuits and bread" so that it is not possible to give separate information regarding the export of either commodity.

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