

61-202

DOMINION BUREAU
OF STATISTICS
SEP 10 1942
PROPERTY OF THE
LIBRARY

C A N A D A
DOMINION BUREAU OF STATISTICS
GENERAL STATISTICS BRANCH

SURVEY
OF PRODUCTION IN CANADA
1920 AND LATER

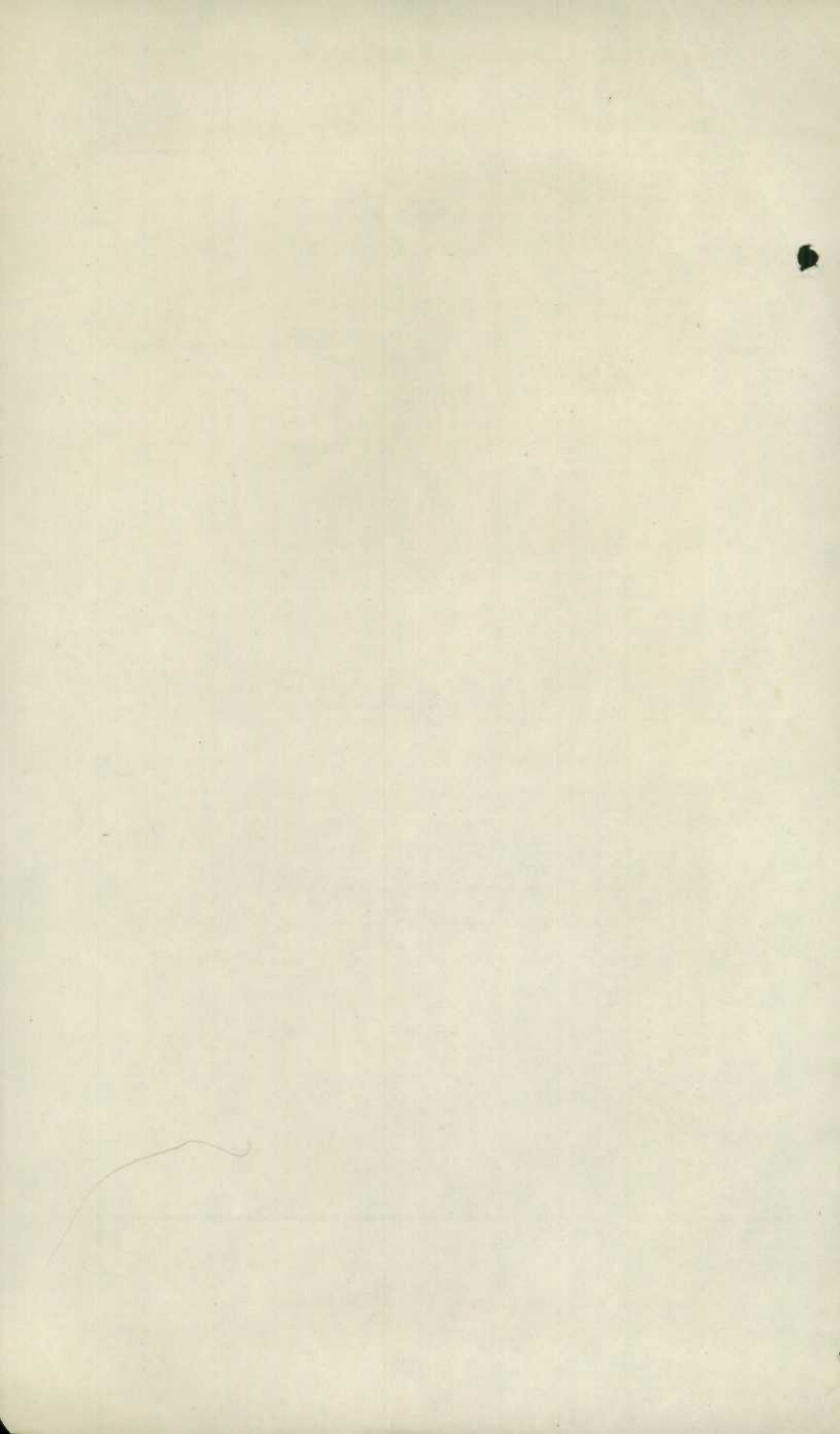


Published by Authority of the Hon. Thos. A. Low, M. P.,
Minister of Trade and Commerce.

+ + +

OTTAWA

1923



DOMINION BUREAU OF STATISTICS

GENERAL STATISTICS BRANCH

OTTAWA, CANADA.

SURVEY OF PRODUCTION IN CANADA, 1920 AND LATER.

Dominion Statistician - R.H. Coats, B.A., F.S.S., F.R.S.C.,
Chief, General Statistics - S.A. Cudmore, M.A., F.S.S.

There is frequent demand for a survey of production in Canada that will differentiate the more important branches and at the same time give a purview of the whole that is free from overlapping. This is somewhat difficult to accomplish with clearness, in view of the varying definitions that attach to industrial groups from different points of view. For example, brick, tile, and cement are frequently included in "mineral production" as being the first finished products of commercial value resulting from the production process; frequently, however, they are regarded as "manufactures" in view of the nature of the production process, - both allocations being correct according to point of view.

The accompanying tables give a comprehensive view of production in Canada, and also show various dispositions of the items falling under more than one category as above described, thus obviating mistakes in the use of these statistics for summary purposes. The tables show the total value of all commodities produced in Canada during the year 1920, with later data for particular items where those are available. The values given are as in the producers' hands. It is proposed to issue from time to time similar statements as the production figures for later years are prepared. The data for previous census years will also be included on a comparative basis in due course.

Definition of "Production". - The term "production" is used in this connection in its popular acceptation, i.e., as including such processes as the growing of crops, extraction of minerals, capture of fish, conversion of water power into electrical current, manufacturing, etc., - in economic phrase, the creation of "form utilities". It does not include various activities which are no less "productive" in a broad and strictly economic sense, such as (a) transportation, refrigeration, merchandising, etc., which add to commodities already worked up into form the further utilities of "place", "time" and "possession", and (b) personal and professional services, such as those of the teacher and doctor, which are not concerned with commodities at all, but are not on that account any less useful to a civilized society, - representing, in economic language, the creation of "service utilities".

As showing the importance of these latter activities, it may be pointed out, for comparison with the figures in the accompanying tables, that railway gross earnings in 1920 amounted to \$492,101,104, street railway gross earnings to \$47,047,246, and telephone and telegraph earnings to \$44,811,140, all of which from a broad point of view may be considered as "production". It may be further noted that of 2,723,634 persons of age ten years and over employed in 1911 in gainful occupations in Canada, 217,544 fell under the heading of transportation, 283,087 under trade and merchandising, 411,232 under domestic, personal and professional service, and civil and municipal government, - a total of 911,863 or one-third of the whole. In other words, only about two-thirds of usefully and gainfully employed persons are engaged in "production" according to the definition adopted in the present statement. We might add therefore one-half to the present total as a rough estimate of the total productive activity of the Canadian people

according to the economist's definition of production, which approximates to the concept of national income.

"Gross" and "Net" Production. - The value of products are shown under two headings, namely, "gross" and "net". "Gross" production represents the total value of all the individual commodities produced under a particular heading. "Net" production represents an attempt to eliminate the value of materials consumed in the production process. The "net" figures, it will be seen, appear chiefly in the case of secondary production or manufactures, though eliminations were also made in certain cases in the primary or extractive industries, as, for example, seed in the case of field crops, and feed in the case of farm animals. On the other hand, such items as fertilizers in the case of field crops and afforestation or reforestation in the case of forestry are disregarded as partaking of the nature of replacement. The cost of fuel is not deducted in the case of manufactures, deductions of this kind appearing to be germane rather to an inquiry into national incomes, in which case depreciation also would have to be taken into account. The deductions made herein are strictly those of materials which may be regarded as made over into the products recorded.

For purposes of ordinary economic discussion, the net figures should be used in preference to the gross, in view of the large amount of duplication which the latter includes because of the necessity of making the individual items self-contained.

Interpretation of Items.

The primary industries of agriculture, fishing, forestry, mining, etc., are separated in this statement from the secondary or manufacturing process. The close association between the two at points and the overlappings that are apt to occur have already been pointed out. As further explaining the procedure that has been followed in drawing up table 2, the following notes are appended:

Agriculture. - Dairy factories are itemized under animal husbandry. Farm dairy products (gross) include the milk consumed whole and sold to dairy factories, and butter, etc., made on the farm.

Forestry. - Under the head of "Forestry" an attempt is made to show the extent of operations in the woods, or the products of round or unmanufactured timber, as distinguished from the product of milling operations, the latter being limited to the making of first products such as lumber, lath, shingles, pulp and cooperage stock.

Fur Production. - It will be noted that the general item of fur production is limited to wild life production. To obtain a total of the peltries produced in Canada it will be necessary to add the wild life output to that of the production of pelts on fur farms.

Mineral Production. - Under mineral production all items are set out that might be allocated to "manufactures" so that the reader may note the exact extent of overlapping in current conceptions as between "mineral production" on the one hand and "manufactures" on the other. The Bureau presents the detailed statistics of these groups (the chief of which are smelters, brick, cement, lime, etc.) in its reports on mineral production, since their product as above stated is the first to which a commercial value is ordinarily assigned.

Total Manufactures. - The figure given for the heading is a comprehensive one, including the several items listed with the extractive industries above, though also frequently regarded as "manufactures", namely, dairy

factories, fish canning, and curing, sawmills, pulp mills, shipbuilding and certain mineral industries. The duplication of these items is eliminated from item "manufactures n.e.s." and therefore from the grand total.

Manufactures, n.e.s. - The figures given for manufactures, n.e.s., is exclusive of all items elsewhere displayed in table 3 that are frequently included under this heading; hence it is obvious that the grand total is equivalent to an amount obtained by adding the values for manufactures, n.e.s., and for the other eight divisions.

Analysis of Tables.

Referring to Table 1, it will be observed that manufactures outstripped agriculture as the chief wealth producing industry, the net output of manufactures in 1920 being nearly \$1,559,000,000 as contrasted with a total of \$1,520,000,000 for agriculture. When the cost of materials is added to the net output, the lead of manufacturing is obviously much greater, the ratio being \$3,676,000,000 to \$5,023,000,000. Confining the analysis to net production, forestry contributed 11 per cent of the total output of \$3,682,000,000 as compared with 41 per cent for agriculture. Mineral production followed with a value of about 5.8 per cent of the net output. (Table 5), Construction is credited with a net production of \$136,000,000 or 3.7 per cent. Other industries, each credited with less than 2 per cent of the national production, were the generation of electric power, custom and repair work, fisheries and trapping, which contributed to the value of production during 1920 in the order named.

Manufactures, construction and repair shops such as garages, blacksmithing and steam laundries are regarded as secondary production, which may be contrasted with the extractive or primary industries. Deducting the net value of the products made by manufacturing establishments closely associated with the primary industries, a value of about \$1,957,000,000 remains as the product of the strictly extractive processes. This compares with \$1,404,000,000 the net value of secondary production after all duplication has been eliminated. In other words, the combined extractive industries exceeded in net output the secondary industries by \$553,000,000.

The production of the primary industries during 1921 are shown in Table 1 for comparative purposes. Viewed from the standpoint of values, the extractive industries suffered a decline of about 28 per cent. The recession, however, was more apparent than real, being more than accounted for by the fall in the price level of raw or partly manufactured goods. The extent of the drop in prices was approximately 54.4 per cent. Regarding the data for 1920 as a base equalling 100, index numbers for the value of production and for wholesale prices were computed for 1921. The index number of the value of products in 1921 was 71.86 and the index number representing wholesale prices of raw or partly manufactured commodities was 35.56. If the former number is divided by the latter the resultant quotient is 109.6, or otherwise expressed, the volume of products in 1921 exceeded that in 1920 by 9.6 per cent.

With reference to the provincial statistics given in Tables 3, 4 and 5, the following analysis relates chiefly to the net production in 1920, the latest year for which complete data are available. The preeminence of Ontario as the most productive province is distinctly shown in Table 3. The comparison points to a production of about 38 per cent of the Canadian total of \$3,682,000,000. Quebec held second place with 26.2 per cent, and the three western provinces of Saskatchewan, Alberta and British Columbia followed with percentages of 7.3, 7.2 and 6.2 respectively. The well known agricultural resources of

Manitoba enabled the province to contribute 5.7 per cent of the net output for 1920.

A series of percentages designed to show the relative importance to each province of the several productive industries is given in Table 5. To facilitate comparison the percentage of the net output of manufactures to the net production of all industries has also been computed.

Nova Scotia was dependent almost equally on agriculture and manufacturing. The contribution of agriculture was 32.9 per cent as compared with a percentage of 23.3 for manufactures n.e.s. The percentage for the whole of the manufactured product was 31.9. The mining industry was also important with a production of 18.4 per cent. Agriculture, including fur-farming, contributed 81 per cent of the net output of Prince Edward Island. Farming was the chief industry of New Brunswick and lumbering was a close second, the respective contributions being 40.6 and 35.4 per cent. The place of the whole of manufactures was represented by a percentage of 31.4, while manufactures, n.e.s. was valued at 13.3 per cent. The income derived from manufacturing in Quebec was greater than that from any other industry. The portion aside from the output of establishments associated with the extractive industries was equivalent to 37.6 per cent, while the net output of the entire manufacturing process referred to the same base was 43.1 per cent. Farming held second place with a production of 36.9 per cent and forestry with an output of 14.4 per cent occupied third rank in this connection. A similar order obtained in the province of Ontario, the preeminence of manufacturing being more marked than in the sister province of Quebec. The percentage for agriculture and forestry were 30.7 and 8.1 respectively. Mining was credited with an output of 4.8 per cent and construction followed with a production of 3.7 per cent.

Nearly 87 per cent of the output of Saskatchewan is derived from farming, and the records of Manitoba and Alberta are 60 per cent and 72.5 per cent respectively. Manufacturing held second place in Manitoba and mining in Alberta, the mineral production of Alberta consisting chiefly of coal mining formed 12.7 per cent of the net output of the province.

Lumbering constituted the chief industry of British Columbia, although manufacturing, agriculture and mining were also of importance, indicating the versatility of the resources of the western province. Nearly 38 per cent was contributed by the lumber industry, while farming and mining contested for third place with percentages of 17.8 and 13.2 respectively.

The chief industry of the Yukon district was mining with an output of 48.5 per cent. The contribution of trapping entered as 44.1 per cent includes the output of the Northwest Territories.

Table I.6 Summary by Industries of the Value of Production in Canada during 1920 and 1921

Division of Industry	1 9 2 0		1 9 2 1	
	Gross \$	Net \$	Gross \$	Net \$
Agriculture.	2,099,209,494	1,519,842,776	1,485,109,796	1,092,422,570
Forestry	545,763,505	408,831,482	344,366,638	259,569,753
Fisheries.	63,588,428	49,241,339	43,456,342	34,931,935
Trapping	20,999,300	20,999,300	9,527,029	9,527,029
Mining.	227,859,665	213,041,595	171,923,342	162,926,722
Electric power	65,705,060	65,705,060	73,376,580	73,376,580
Total primary production.....	3,023,125,452	2,277,662,352	2,127,759,727	1,632,754,589
Construction	206,168,135	135,874,044		
Custom and repair.	102,266,442	63,962,896		
Manufactures (a)	3,675,980,988	1,558,544,194		
Total secondary production(a).	3,984,424,565	1,758,381,134		
GRAND TOTAL.....	6,352,856,119	3,681,948,905		

(a) The item "manufactures" includes dairy factories, sawmills, pulpmills, fish canning and curing, shipbuilding and certain mineral industries, which are also included in other headings above. This duplication amounting to a gross of \$654,693,898 and a net of \$354,093,521 is eliminated from the grand total.

Table 2.- Detailed Statement of the Value of Production in Canada during 1920, Including Definitions of Group Items.

Classification.	1 9 2 0	
	Gross \$	Net \$
Agriculture -		
Field crops	1,455,244,000	1,554,416,000
Fruits and vegetables	60,719,000	60,222,000
Maple products	8,100,000	8,100,000
Tobacco	5,893,000	5,893,000
Total field husbandry	1,529,956,000	1,428,631,000
Live stock	143,935,000	143,935,000
Wool	5,280,000	5,280,000
Dairy products -		
Dairy butter	56,250,000	56,250,000
Whole milk used as such	57,750,509	57,750,509
Milk sold to factories	113,550,718	113,550,718
Dairy factories	146,336,491	32,785,773
Poultry and eggs	45,000,000	45,000,000
Fur farming -		
Pelts	387,705	387,705
Animals	763,071	763,071
Total animal husbandry	569,253,494	91,211,776 (a)
Total Agricultural production	2,099,209,494	1,519,842,776
Forestry -		
Logs for lumber	91,527,134	91,527,134
Pulp Wood	61,183,060	61,183,060
Railway ties	13,405,473	13,405,473
All other forest products	45,849,787	45,849,787
Total forestry operations	211,965,454	211,965,454
Saw mill products	192,245,189	100,718,055
Pulp mill products	141,552,862	96,147,973
Total milling operations	333,798,051	196,866,028
Total forestry production	545,763,505	408,831,482
Fisheries -		
Fish sold fresh by fishermen	12,926,809	12,926,809
Sales to canning and curing establishments	14,347,089	14,347,089
Fish domestically cured	5,414,383	5,414,383
Fish canning and curing	30,900,147	16,553,058
Total fisheries production	63,588,428	49,241,339
Trapping -		
Fur production (wild life)	20,999,300	20,999,300

(a) Cost of feed is deducted from the gross for animal husbandry.

Table 2. - Detailed Statement of the Value of Production in Canada during 1920, Including Definitions of Group Items - (Con.)

Classification	1 9 2 0	
	Gross \$	Net \$
Mining -		
Pig iron from Canadian ore	2,066,9976	1,448,727
Non-ferrous smelters	49,800,000	35,600,000
Other metallics	26,072,633	26,072,633
Salt refining	1,544,724	1,544,724
Other non-metallics	106,483,223	106,483,223
Cement	18,594,276	18,594,276
Brick and tile	9,591,426	9,591,426
Fire brick and fire clay	1,150,870	1,150,870
Clay sewer pipe	1,467,847	1,467,847
Stoneware and pottery	1,284,214	1,284,214
Lime	3,333,159	3,333,159
Other structural materials and clay products	6,470,296	6,470,296
Total mineral production....	227,859,665	213,041,395
Electric light and power	65,705,060	65,705,060
Total primary production	3,023,125,452	2,277,661,352
Construction -		
Bridges iron and steel -	19,432,732	12,523,481
Electrical wiring	4,913,639	2,905,960
General construction	126,991,068	86,556,124
Shipbuilding	54,825,696	33,873,479
Total construction.....	206,168,135	135,874,044
Custom and repair	102,266,442	63,962,896
Manufactures -		
Vegetable products	775,928,042	235,709,433
Animal products	553,491,484	152,995,150
Textiles	455,679,952	192,984,741
Wood and paper	607,864,468	299,582,226
Iron and steel	715,115,753	365,473,097
Non-ferrous metals	151,091,290	83,447,173
Non-metallic minerals	165,571,985	91,371,578
Chemicals	127,827,820	65,133,212
Miscellaneous including ship- building	114,329,136	66,797,599
Total manufactures (a)	3,675,939,983	1,558,544,191
Total secondary production	3,934,424,565	1,758,381,134
GRAND TOTAL (a)	6,352,856,119	3,681,948,905
(a) The item "Total manufactures" includes the following industries which are also shown elsewhere -		
Dairy factories	146,336,491	32,785,775
Sawmills and pulp mills	333,793,051	196,866,023
Fish canning and curing	30,900,147	16,553,058
Shipbuilding	54,825,696	33,873,479
Mineral industries	38,833,513	74,015,243
Total	654,693,898	354,093,581
Manufactures, n.e.s.	3,021,296,090	1,204,450,613

The amount of duplication is deducted in making the computation of the grand total.

Table 3.- Summary by Provinces of the Value of Production of Canada, 1920.

Province	1 9 2 0		Percentages of Total Net Value
	Gross Value \$	Net Value \$	
Prince Edward Island.	33,648,064	24,399,552	.7
Nova Scotia	285,079,452	185,292,183	5.0
New Brunswick	185,862,194	115,305,489	3.1
Quebec	1,637,681,148	962,419,765	26.2
Ontario	2,723,153,265	1,399,556,657	38.0
Manitoba	347,461,153	210,699,661	5.7
Saskatchewan	384,684,146	287,312,910	7.8
Alberta	376,420,786	264,571,430	7.2
British Columbia	375,560,788	229,138,933	6.2
Yukon	3,325,123	3,252,325	.1
GRAND TOTAL	6,352,856,119	3,681,948,905	100.0

Table 4.- Value of Production in Canada during 1920 Distributed by Provinces and Industrial Divisions.

	Prince Edward Island		Nova Scotia	
	Gross \$	Net \$	Gross \$	Net \$
Agriculture	25,582,736	19,771,630	71,902,312	60,871,132
Forestry	1,159,268	1,023,728	21,531,218	16,101,769
Fisheries	2,389,672	1,708,723	17,700,260	12,742,659
Trapping	358,292	358,292	267,415	267,415
Mining	-	-	34,130,017	34,130,017
Electric power	85,889	85,889	1,903,465	1,903,465
Construction	174,521	107,187	18,543,686	13,296,671
Custom and repair	261,698	175,265	4,319,260	2,771,994
Manufactures (a)	6,545,734	2,265,845	145,363,647	59,103,691
GRAND TOTAL (a)	33,648,064	24,399,552	285,079,452	185,292,183

(a) The totals for manufactures involve the following duplicated amounts which were deducted in computing the grand total for each province.-

	Gross	Net
Prince Edward Island	\$ 2,909,796	1,097,007
Nova Scotia	30,581,628	15,896,630

The duplication arises from including in two places a number of industries which may be regarded either as extractive or as manufacturing processes. Shipbuilding has been included under construction as well as manufacturing.

Table 4.- Value of Production in Canada during 1920 distributed by Provinces and Industrial Divisions. (Con.)

	New Brunswick		Quebec	
	Gross \$	Net \$	Gross \$	Net \$
Agriculture	56,056,265	46,857,212	487,821,102	354,715,825
Forestry	54,951,330	40,737,888	179,472,356	139,043,080
Fisheries	5,525,905	4,423,745	3,166,735	2,592,382
Trapping	206,974	206,974	4,570,080	4,570,080
Mining	2,491,787	2,491,787	28,886,214	28,886,214
Electric power	1,107,467	1,107,467	18,049,968	18,049,968
Construction	3,260,481	2,568,087	58,246,796	39,234,759
Custom and repair	2,167,241	1,484,601	20,691,992	12,992,202
Manufactures (a)	97,561,248	36,224,585	1,019,808,549	463,205,265
GRAND TOTAL (a)	185,862,194	115,305,489	1,637,681,148	962,419,765

Table 4.- Value of Production in Canada during 1920 distributed by Provinces and Industrial Divisions. (Con.)

	Ontario		Manitoba	
	Gross \$	Net \$	Gross \$	Net \$
Agriculture	672,186,071	429,295,122	168,431,324	126,323,000
Forestry	150,345,407	112,836,892	5,591,739	4,316,263
Fisheries	3,336,412	3,336,412	1,264,409	1,240,607
Trapping	6,407,170	6,407,170	3,128,127	3,128,127
Mining	81,715,803	66,897,538	4,223,461	4,223,461
Electric power	30,303,221	30,303,221	2,715,725	2,715,725
Construction	78,554,904	51,666,001	11,942,116	7,445,783
Custom and repair	42,113,403	26,468,222	8,140,882	5,147,127
Manufactures (a)	1,904,243,165	806,018,233	154,736,343	62,466,693
GRAND TOTAL (a)	2,723,133,265	1,399,556,657	347,461,153	210,699,661

(a) The totals for manufactures involve the following duplication amounts which were deducted in computing the grand total for each province.

	Gross	Net
New Brunswick.....	\$ 37,466,504	\$ 20,846,857
Quebec.....	133,052,584	100,869,950
Ontario.....	246,072,296	133,672,154
Manitoba.....	12,712,973	6,316,125

The duplication arises from including in two places a number of industries which may be regarded either as extractive or as manufacturing processes. Shipbuilding has been included under construction as well as manufacturing.

Table 4. - Value of Production in Canada during 1920 Distributed by Provinces and Industrial Divisions (Con.)

	Saskatchewan		Alberta	
	Gross	Net	Gross	Net
	\$	\$	\$	\$
Agriculture	210,439,535	240,351,500	249,586,889	191,826,100
Forestry	5,575,102	4,656,843	3,069,778	3,202,726
Fisheries	296,472	296,472	529,078	529,078
Trapping	2,332,779	2,333,779	1,550,209	1,550,209
Mining	1,837,468	1,837,468	33,536,450	33,536,456
Electric power	2,044,668	2,044,668	2,653,537	2,653,537
Construction	5,435,552	3,158,024	4,446,609	2,711,192
Custom and Repair	7,166,318	4,655,263	6,295,569	4,012,232
Manufactures (a)	57,652,444	22,376,226	87,069,808	30,434,296
GRAND TOTAL (a)	384,624,146	237,312,910	376,420,780	264,571,430

Table 4. - Value of Production in Canada during 1920 Distributed by Provinces and Industrial Divisions. (Con.)

	British Columbia		Yukon	
	Gross	Net	Gross	Net
	\$	\$	\$	\$
Agriculture	57,203,320	40,831,255	-	-
Forestry	123,167,307	86,852,293	-	-
Fisheries	29,326,335	22,329,161	33,100	33,100
Trapping	737,526	737,526	1,434,728	1,434,728
Mining	39,411,728	39,411,728	1,576,726	1,576,726
Electric power	6,743,614	6,743,614	97,566	97,566
Construction	25,414,347	15,612,635	119,033	73,645
Custom and repair	11,045,609	6,219,425	63,970	36,530
Manufactures (a)	202,383,937	76,375,715	119,033	73,645
GRAND TOTAL (a)	375,560,738	229,133,933	3,325,123	3,252,525

(a) The totals for manufacturing involve the following duplicated amounts which were deducted in computing the grand total for each province and district:-

	Gross	Net
Saskatchewan.....	\$ 8,108,692	3,412,398
Alberta.....	13,267,177	5,934,396
British Columbia.....	120,403,015	65,974,419
Yukon.....	119,033	73,645

The duplication arises from including in two places a number of industries which may be regarded either as extractive or as manufacturing processes. Shipbuilding has been included under construction as well as manufacturing.

Table 5.- Percentages of the Value of the Net Production of each Province of Canada by Industries to the Total Net Output, 1920.

Industry	P.E. Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Canada
Agriculture.....	81.0	32.9	40.6	36.9	30.7	69.0	86.8	72.5	17.8	-	41.3
Forestry.....	4.2	8.7	35.4	14.4	8.1	2.0	1.6	1.2	37.9	-	11.1
Fisheries.....	7.0	6.9	3.8	.3	.2	.6	.1	.2	9.8	1.0	1.3
Trapping.....	1.5	.1	.2	.5	.4	1.5	.8	.6	.3	44.1 (a)	.8
Mining.....	-	13.4	2.2	3.0	4.8	2.0	.7	12.7	17.2	48.5	5.8
Electric power.....	.4	1.0	1.0	1.9	2.2	1.3	.7	1.	3.0	3.0	1.8
Construction.....	7.4	7.2	2.2	4.1	3.7	3.5	1.1	1.	6.8	2.3	3.7
Repair work.....	1.7	1.9	1.3	1.3	1.9	2.4	1.6	1.5	2.7	1.1	1.7
Manufactures, n.e.s....	4.8	23.3	13.3	37.6	48.0	26.7	6.6	9.3	4.5	-	32.7
GRAND TOTAL.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.00
Total manufactures (percentage to grand total of net pro- duction),.....	39.3	31.9	31.4	48.1	57.6	29.6	7.8	11.5	33.3	2.3	42.3

(a) Includes the trapping industry of the Northwest Territories.



1010544624

[Faint grid lines and illegible text are visible on the page, suggesting a table or ledger. The content is too light to transcribe accurately.]