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REPORT

on the

STARCH & GLUCOSE INDUSTRY

in CANADA 1924

Published by Authority of the Hon. J. A. Robb, M. P., Acting Minister of Trade and Commerce.

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OTTAWA 1925

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DEPARTMENT OF TRADE AND COMMERCE

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CENSUS OF INDUSTRY

OTTAWA - CANADA

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

1924 THE STARCH GLUCCSE INDUSTRY IN CANADA, AND

Ottawa, November 20th. A report on the Starch and Glucose Industry is Tore ith presented for the calendar year 1924. Returns were received from 7 individual factories, located by provinces as follows :- Prince Edward Island 4, Ontario 2 and Quebec 1. Statistics of the industry for Cntario and Quebec have been combined throughout this report in order to avoid the disclosure of the operation of individual plants.

Principal Statistics, by Provinces, 1924.

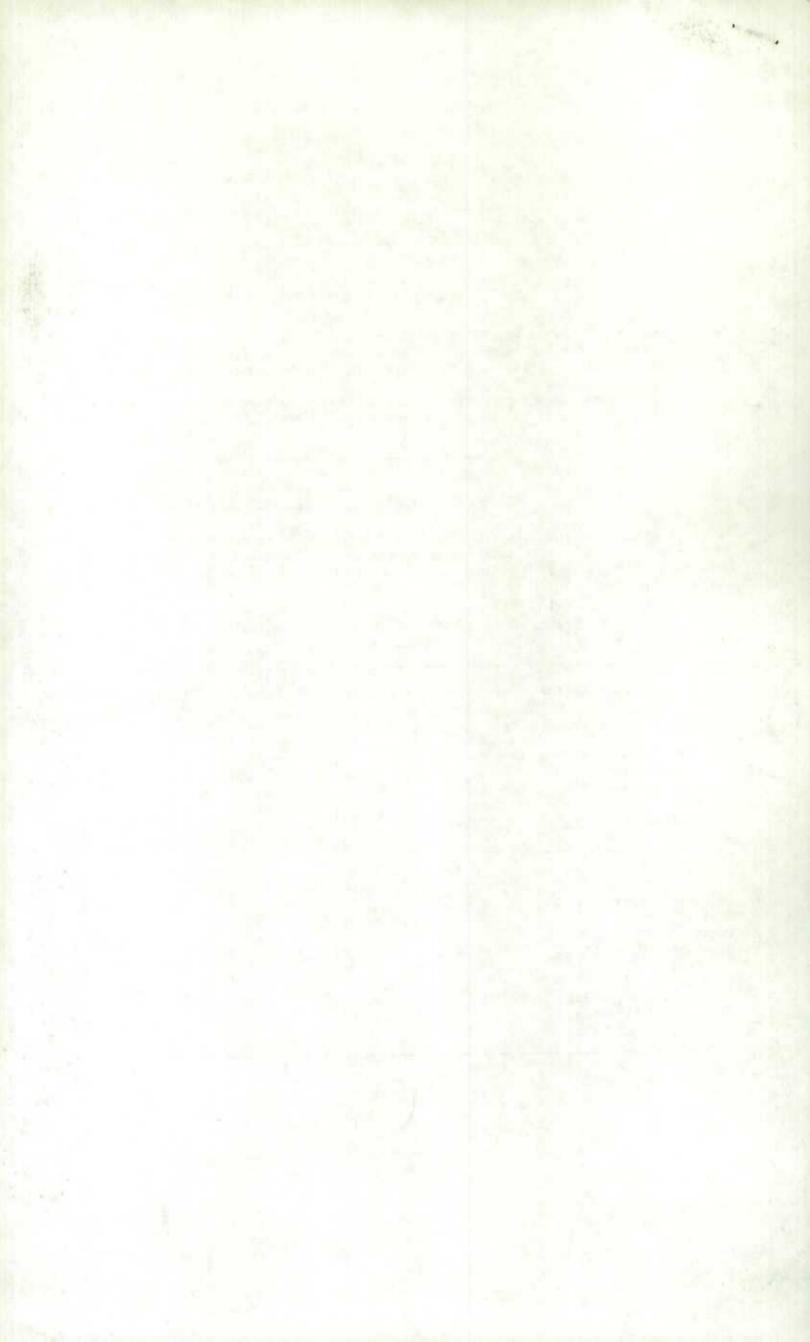
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A summary of the principal statistics relating to this industry is shown by provinces in Table 1. The total value of production increased from \$5,135,103 in. 1923 to \$5,182,291 in 1924 notwithstanding a decrease of one in the number of operating plants. 1. 1. 1

Table 1. Principal Statistics of the Starch and Glucoce Industry, by Provinces, 1924. 1200

| Principal Statistics | Y-1 (191) | Canado | P. E. Island | Ontario & Quebec |
|---|------------|---------------------------------------|---|------------------|
| | Clean g | | | |
| Establishments reporting | No. | 7 | -4 | |
| Capital invested | \$ | 4,803,122 | 72,657 | |
| Employees on salaries | and and | | | Transfer an Cl |
| Males | No. | 42 | 2. | 40 |
| Females | No. | | | . 26 |
| Total salaries | \$. | ,144,879 | . 650 | 144,229 |
| Employees on wages, Average | | · · · · · · · · · · · · · · · · · · · | | |
| . Males | No. | 461 | 10 | 451 |
| Females | No. | 27 | 1 | 26. |
| Total wages | \$ | 505,101 | 4,507 | 500,594 |
| Cost of fuel | \$ | 227,650 | 2,983 | 224,667 |
| Power equipment | 37 | 1 | | đ |
| Units | No. | 13 | 5 120 | 1,935 |
| Capacity Cost of materials | Н.Р. \$ | 2,055 | 5 87 | 3,627,163 |
| Gross value of products " | · k | 1:5,241:908- | | 5,182,291 |
| Net value of products | \$ | 1,576,558 | 21,430 | 1,555,128 |
| Act value of products | | -, , , 0,))0 | | |
| Self-self-self-self-self-self-self-self-s | | | A STATE AND | · · |



THE STARCH AND GLUCOSE INDUSTRY IN CANADA, 1924.

Production Statistics

The quantity and selling valu at the factory of the various products of this industry are shown in table 2 by provinces. Increases in the quantity of production will be noted in each of the following commodities: edible corn starck (4,651,277 lb.), potato starch (832,726 lb.), corn syrup (895,191 lb), and corn oil (115,172 lb), whilst decreases appear in laundry starch (4,248,095 lb.). glucose (1,484,486 lb.), grape sugar (30,511 lb.) and gluten (443,628 lb.). In value of production increases will be noted in edible corn starch (3239,737), potato starch (334.969), glucose (397,694), grape sugar (35,112), gluten (\$12,151) and all other products (\$23,605), whilst decreases appear in the value of laundry starch (\$243,184)corn syrup (\$28,222), and corn oil (\$34,559), the net increase in the total value of products being \$106,805.

| | 7.614 | DIG C. FLOC | raceron. Di | browince: | s, 1964. | | |
|---------------------|-------|--------------|-------------|-----------|------------------|------------|-----------|
| | Cane | da | F.E. Isla | nd | Ontario & Quebec | | |
| Classes of Froduct | S | | Selling | | Selling | | Selling |
| | | Quantity | Value | Quantity | Value | Quantity | Value |
| | | 15. HH 7. 10 | \$ | | \$ | | \$ |
| Edible corn starch | 1b. | 16,261,799 | . 916.756 | - | _ | 16,261,799 | 916.756 |
| Laundry starch | 11 | 8,607,252 | | | - | 8.607.252 | 483.564 |
| Fotato starch | 17 | 1.322.600 | | 1,322,600 | 59.617 | - | - |
| Glucose or dextrose | ° n - | 40,830,576 | 1.706.674 | | - | 40.830.576 | 1.706.674 |
| Grape sugar | Ħ | 2.015.921 | 77.935 | | - | 2,015,921 | 77,935 |
| Corn syrup | 11 | 16.073,581 | 804,966 | | - | 16.073.581 | 804,965 |
| Corn oil | 11 | 4,706,852 | 542.756 | 1361 _ | - | 4,706,852 | 542.756 |
| Gluten | TF . | 32,948,156 | 571.446 | | - | 32,948,156 | 571,446 |
| All. other products | - | | 78,194 | 1 | -an | 1 | 78,194 |
| - | | | | | | | |
| Total Value | 1 | | 5,241,908 | - | 59, 617 | - | 5,182,191 |

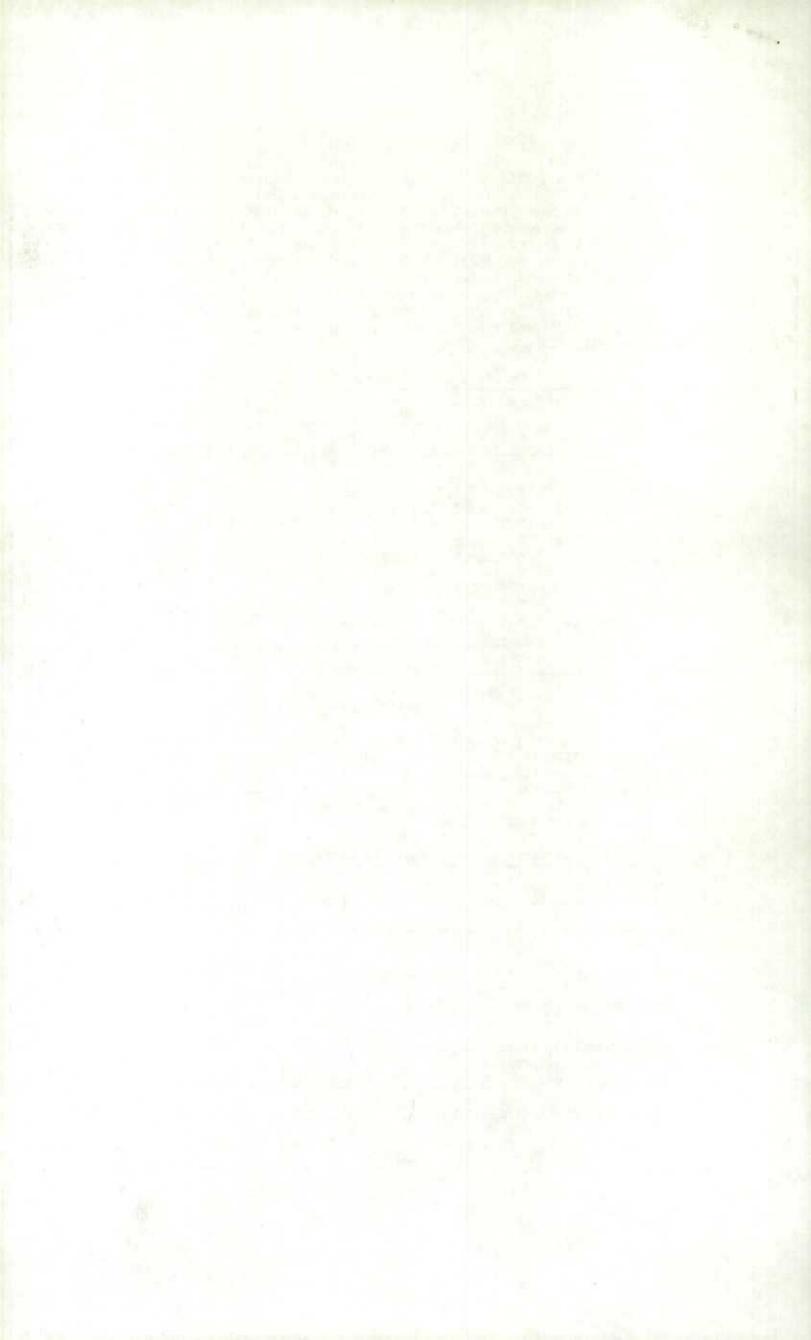
Table 2. Production, by provinces, 1924.

Capital Investment.

The amount of capital invested in the industry during the calendar year 1904 is shown by provinces 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 1923 there was an increase in total capital invested of \$422,943.

| Items of Capital | Canada | Frince Edward Island | Ontario and Quebec | |
|---|-----------|-------------------------|-----------------------|--|
| Fixed capital - Land, buildings and firtures, machinery and tools 1 total fixed | 2,783,652 | 33,800 | 2,749,852 | |
| Working capital - Materials and atcoke on hand, fuel, etc. Gash trading and operating accounts, etc. | 1,244,231 | 26,200 12,657 | 1,218,031 | |
| Total working capital | 2,019,470 | 38,857 | 1,980,613 | |
| Grand total of capital | 4,803,122 | 72,657 | 4,730,465 | |

Table 3. Capital Investment, by Provinces, 1924.



THE STARCE AND GLUCOSE INDUSTRY -IN CANADA, 1924

Employment Statistics

Table 4, 5 and 6 present statistics of employment under three heads. Taile 4 shows the number of persons employed according to classes, sex and remuneration by provinces, table 5 the number of wage-earners employed by month 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 1924 on salaries was 68 with salaries totalling \$144,879. Wageearners totalled 488 in number and \$505,101 for wages. Employment was highest in Outarie and Quebec and lowest in Prince Edward Island, the industry in that province being a seaschal one.

Table 4. Employees, Salaries and Wages, by Frovinces, 1924.

| Salariod (| | employees | Wage-earners | | | Total employees | | |
|------------|------------------------|--|---|---|---|--|--|--|
| | | Tetal | | | Tetal | | | Total salaries |
| Liale | Female | | liale | Female | | ila 1e | Fenele | and wages |
| · Nc. | No. | 1e = 🌐 🗆 | No. | No. | 14. | No. | No. | Ģ |
| 42 | 26 | 144,879 | 461 | 2.7 | 505,101 | 503 | 53 | 649,980 |
| 2 | 1 | 650 | 16 | 1 1 | 4,507 | 1 12 | 1 | 5,157 |
| 42 | 26 | 144,229 | 451 | 26 | 500,594 | 491 | 52 | 644,823 |
| | Male Nc. 42 2 | Male Female Nc. No. 42 26 2 - | Male Female Salarios Nc. No. 42 26 144,879 2 - 650 | Male Female Sularies Male Nc. No. No. 42 26 144,879 461 2 - 650 10 | Male Female Tetal Male Female Nc. No. No. No. No. No. 42 2£ 144,879 461 27 2 650 10 1 | Male Female Tetal Tetal Male Female Salaries Male Female Mages Nc. No. No. No. No. No. 42 2f 144,879 461 27 505,101 2 650 10 1 4,507 | Imale Tetal Tetal Male Female Salaries Male Female Jages Male Nc. Nc. Nc. Nc. Nc. No. No. No. 42 26 144,879 461 27 505,101 503 2 - 650 10 1 4,507 12 | Male Fenale Tetal Tetal Tetal Fenale Male Male Fenale Male Fenale Male Fenale Male Male Fenale Male Fenale Male Fenale Male Fenale |

Employment by months: - The number of persons at employment by months is shown in Table 5, for the Dominion. The months of highest employment were from September to November and those of lowerst employment June and July. The average male employment throughout the year was 461 and female employment 27.

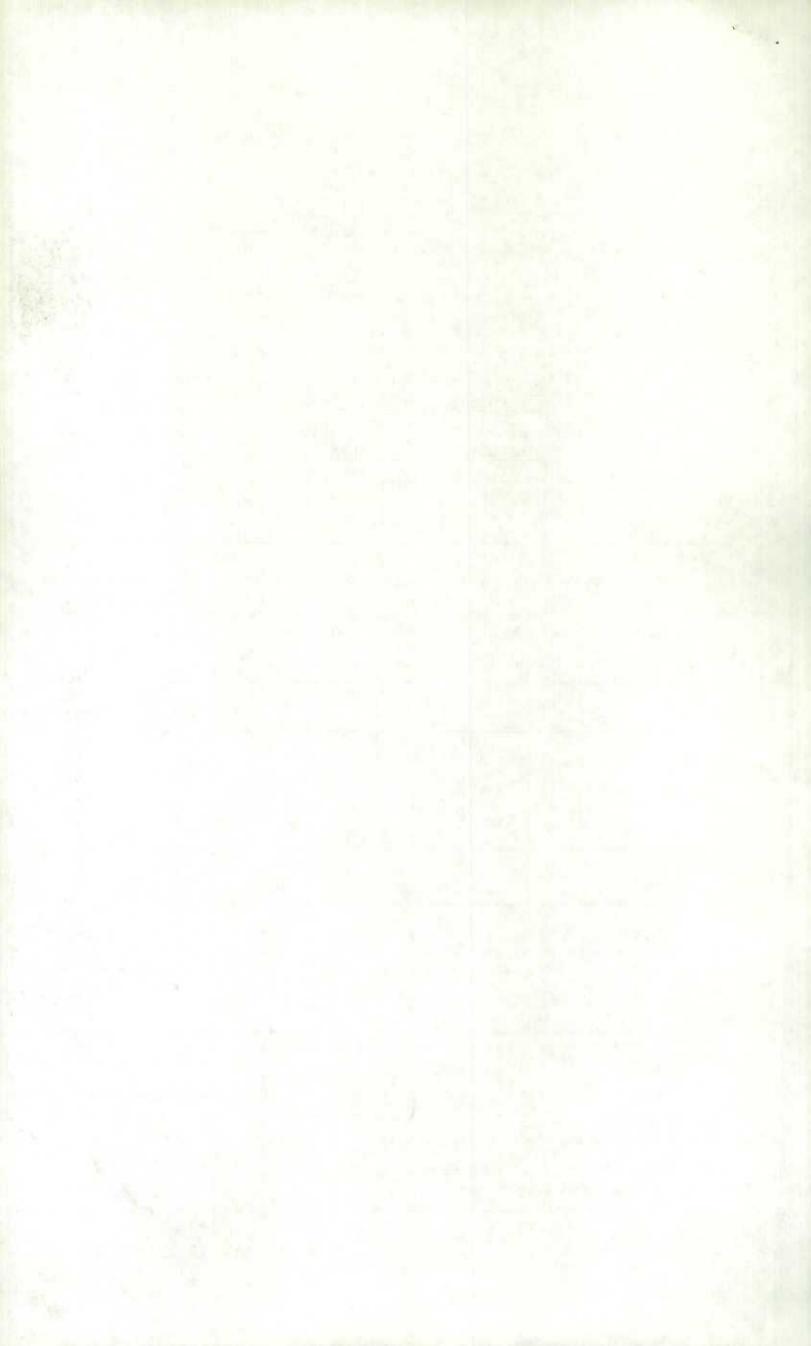
| Renths | | Wage-carners | | libenths | "age-earners | | |
|--|--|--|--|--|--|----------------------------------|--|
| 1.(1,01:5 | | Male | Female | 10511G115 | Male | Fentle | |
| January February March April May June | | 463 466 458 467 464 434 | 30 25 27 28 28 28 28 | July August September October November December | 432 450 468 478 512 438 | 33 31 26 18 25 26 | |
| | | Avera | ige monthly | Total by months employment during year | 5,528 461 | 327 27 | |

Table 5. Employment by months, 19.4.

Working time: Table 6 shows the totals and averages of the working time of plants and employees during the calondar year 1924. Owing to the seasonal mature of the plants making potato starch the average working time of plants is reduced by one half.

Talls 6. Working time of Flants and Employees, 1924.

| Establishments in operation | | | 7 |
|---|-------|------------------------------|---------------------------------|
| | K - 1 | Tetal | Avorage |
| Days in operation on full time Days in operation on part time Days idle Hours worked per day or shift by wege-earners Hours worked per day or shift by wege-earners | | 930 1,198 5,480 402 | 132.86 171.14 9.4 57.4 |



THE STARCH AND GLUCOSE INDUSTRY IN CAMADA, 1924.

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 nearly 97 per cent of the cost of all fuel used during the year. The only others reported were fuel oil, to the value of \$6,919 and wood to the value of \$37.

| Kinds of fuel | | quantity | Cost Value |
|--|-----------------------------|---------------------------------|---------------------------------|
| Bituminous coal Anthracite coal Fuel oil Wood | ton. ton Gal. Cord | 39,157 1,034 60,000 10 | 214,070 6,624 6,919 37 |
| Total cost of fuel used | | _ | 227,650 |

Table 7 .- Fuel Consumption, 1924.

Power Equipment

The power equipment employed in the Starch and Gluccse industry in the Dominion in 1924 is given in Table 2, according to manufacturers' rating. The cost reported for electricity purchased during the year was \$422, an average of \$28, per horsepower of motors operated by purchased power. There was an increase of 9 in the total number of motors and of 98 in rated horsepower as compared with 1923.

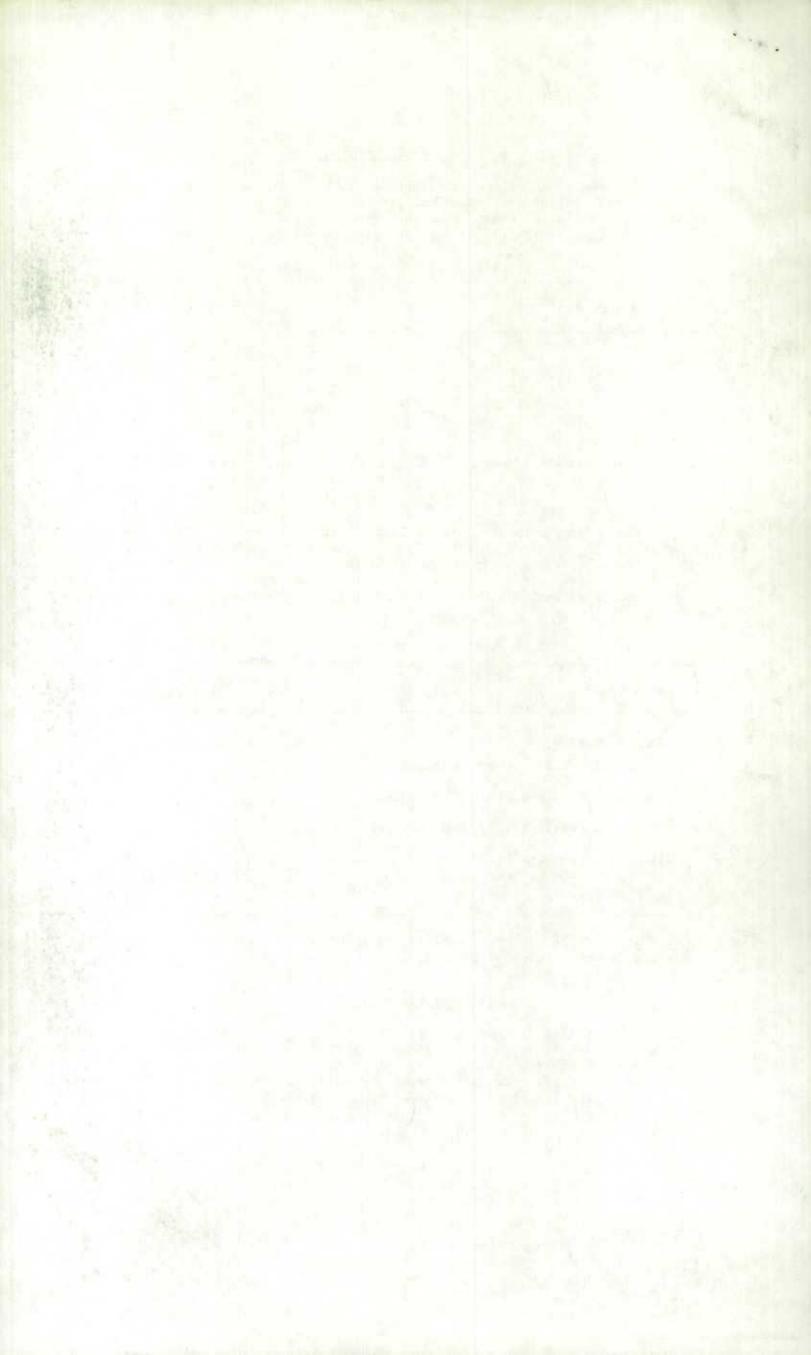
Table 8 .- Power Equipment, 1924.

| | | L | A DESCRIPTION OF A DESC |
|----------|---|-----------------|--|
| *1 r 6 m | Description | Number of Units | Horse nower accord- ing to mfrs.' rating |
| | Steam engines | 10 | 2,040 |
| | Total primary power equipment | 10 | 2,040 |
| | Electric motors operated by purchased power | 3 | 15 |
| | Total power used in manufacturing | 13 | 2,055 |
| | Electric motors operated by power generated by establishment | 189 | 2,547 |
| | Total Electric motors | 202 | 4,602 |

There were 18 boilers installed for steam heating and other purposes with an aggregate boiler h.p. capacity of 3,320.

Materials Used

The quantity and the value of the different classes of materials used during 1924 were not asked for on the questionnaire for that year, only the total cost of all materials being required, which for the year in question amounted to \$3,665,350. The importance of the information regarding materials being recognized it is the antennicity... to resume its collection in future questionnaires.



THE STARCH AND GLUCOSE INDUSTRY IN CANADA, 1924

Imports and Experts

The quantity and value of starch and similar preparations are shown in table 9 for imports and in Table 10 for exports. The total value of imports for consumption in Canada for the calendar year 1924 was \$556,976 as compared with \$462,750 in 1923. Exports of goods the produce of Canada were valued at \$28,219 in 1924 as against \$18,899 in 1923.

Table 9. Imports by Classes, Countries, Quantity and Value, 1924.

| Articles imported by countries | Quantity Lt. | Value |
|---|---------------------------------------|-----------------------|
| | | |
| Starch, including farina, corn starch, potato starch, | | |
| petato flour and similar preparations - | 200 240 | 11 004 |
| United Kingdom | 178,347 2,381,058 | 11,234 |
| United States | 1,905,051 | 69,857 |
| Notherlands | 30,108 | 2,125 |
| Other Countries | | 69-61 |
| Total | 4,494,564 | 200,407 |
| British gum, dry sizing cream and enamel sizing - | | |
| United Kingdom | 113,084 | 4,162 |
| United States | 452,900 | 30,951 |
| | | and the second second |
| Total | 565,984 | 35,113 |
| Dextrine, dry | | Tes Laster |
| United Kingdom | 7,834 | 542 |
| United States | 3,272,478 | 263,608 |
| Netherlands | 78,146 | 3,383 |
| Other Countries | 97,981 | 4,676 |
| Total | 3,456,439 | 172,209 |
| The All the second s | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | |
| Glucese or grape sugar, glucose syrup and corn | | No. |
| syrup or any syrups containing comixture. | | There are |
| thereof - | 24,573 | 2,068 |
| United Kingdom United States | 3,594,210 | 147,179 |
| United States | 19/179620 | I Sell |
| Total | 3,618,783 | 149,247 |

Table 10. Exports of Canadian Froduce by Countries, Quantity and Value, 1924.

| Articles Exported by Countries | Quantity Lb. | Value |
|---|--------------------------|---------------------|
| | | |
| Corn Starch - United Kingdom New Zealand Other Countries | 14,000 387,580 600 | 318 27,310 48 |
| Total | 402,180 | 27,676 |
| Pctato starch - Other Countries | 2,230 | 172 |
| Glucese or glucese syrup - Other Countries | | 271 |
| Tetal Value of Experts | - | 28,119 |

