

32-223

9

CANADA

DOMINION BUREAU OF STATISTICS

R. H. COATS,  
Dominion Statistician

Property of the Library  
Received SEP 6 1918  
Dom. Bureau of Statistics

STATISTICS STATISTIQUE  
CANADA CANADA

NOV 16 2010

LIBRARY  
BIBLIOTHEQUE

THE VEGETABLE AND ANIMAL OIL REFINING INDUSTRY  
IN CANADA IN 1918

Advance Chapter of

"Chemicals and Allied Products in Canada in 1918"

Prepared under the direction of

S. J. COOK,

Chief of the  
MINING, METALLURGICAL  
and CHEMICAL Division

Ottawa  
1921





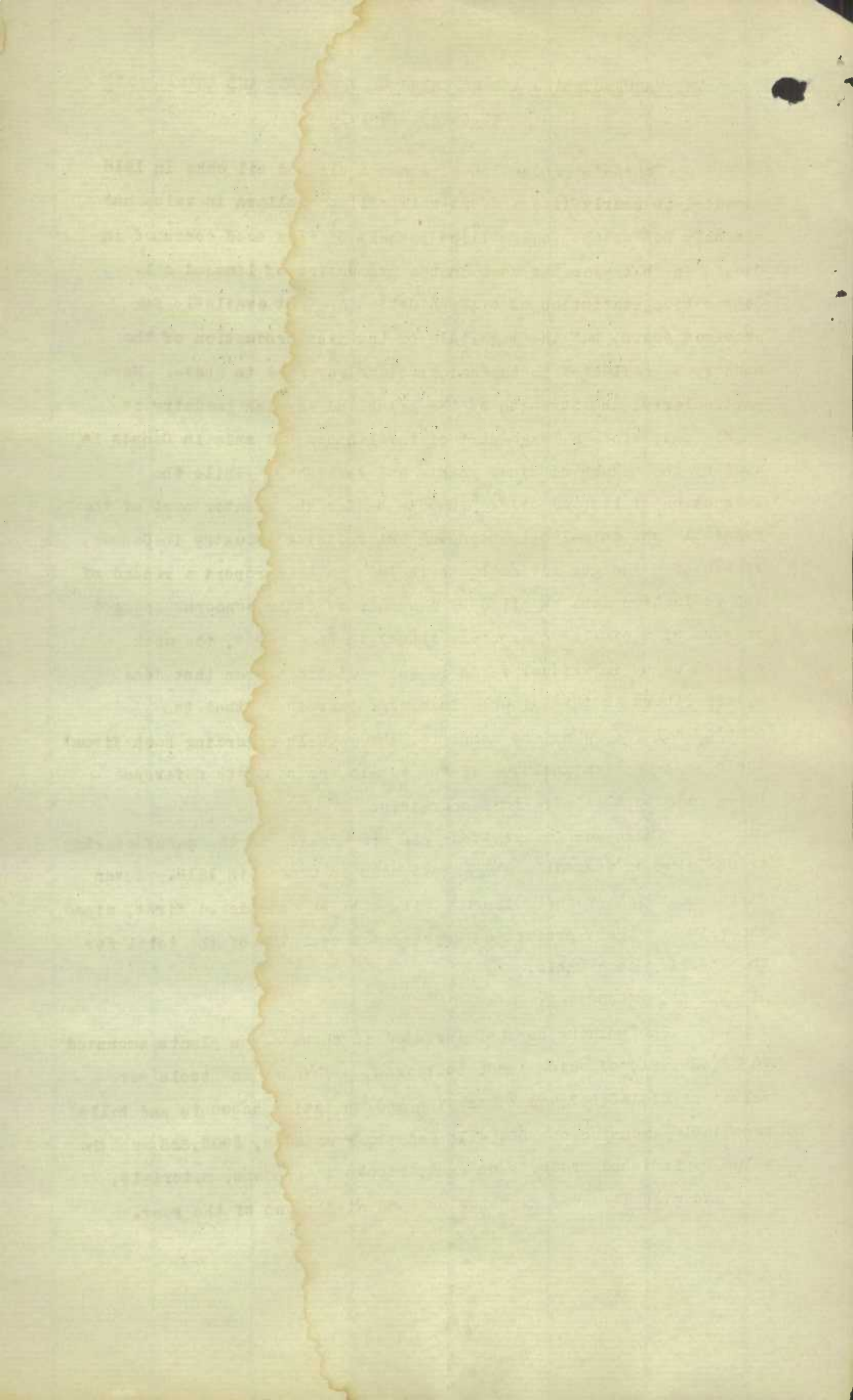
THE MANUFACTURING AND REFINING OF VEGETABLE AND ANIMAL OILS  
IN CANADA IN 1918.

Canada's production of linseed oil and oil cake in 1918 amounted to nearly five and one-half million dollars in value and yet only 34% of the four million bushels of flax seed consumed in Canada in that year was used in the production of linseed oil. Comparative statistics of oil production are not available for previous years, but the magnitude of the flax production of the country is reflected in the calculations referred to above. More particularly, the strength of the paint and varnish industry is emphasized, since a large part of the linseed oil made in Canada is used by the makers of mixed paints and varnishes. While the extraction of linseed oil represents by far the greater part of the vegetable and animal oil producing and refining industry in Canada, it has been thought advisable to include in this report a record of the production data supplied by a number of other concerns engaged in work of a similar character, though in some cases, the work carried on by individual firms is quite distinct from that done by any others in this group. In order, therefore, that the statistical record may be complete, the details regarding such firms' business have been included in the totals, no separate reference being made to the individual operators.

There were twenty-four plants engaged in the manufacturing or refining of vegetable and animal oils in Canada in 1918. Seven of these, which produced linseed oil, will be considered first, since the value of their production represented over 75% of the total for the industry as a whole.

LINSEED OIL PRODUCTION:

The working capital invested in these seven plants amounted to \$2,428,991, of which land, buildings, machinery and tools were valued at \$1,162,247; cash, trading and operating accounts and bills receivable amounted to \$364,411; and the remainder, \$902,333 was the value of finished products on hand, stocks in process, materials, fuel and miscellaneous supplies on hand at the end of the year.



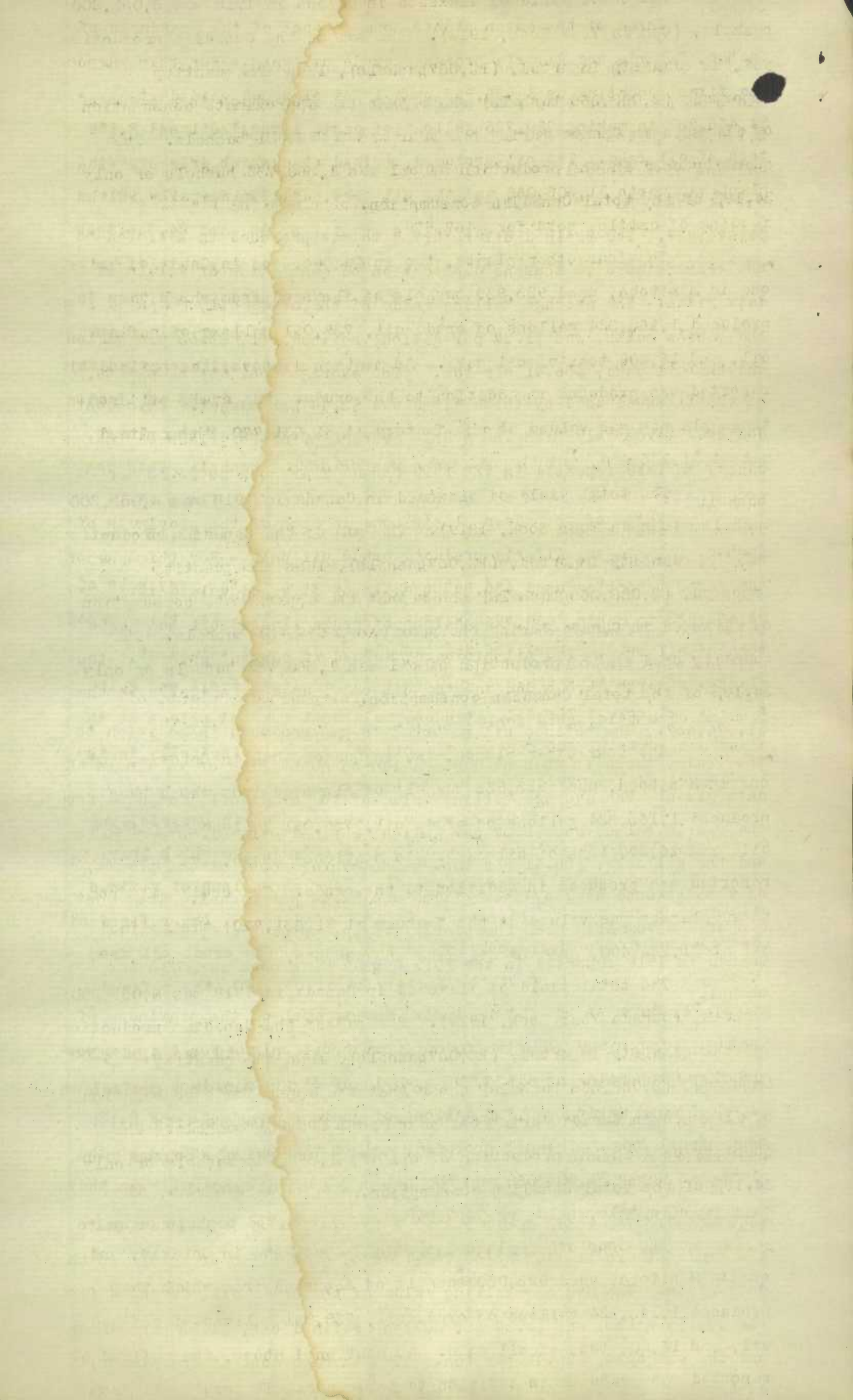


During 1918 these seven plants used 1,360,732 bushels of flaxseed for which they paid \$4,634,669 and from which they produced 2,144,120 gallons of crude linseed oil, worth \$2,936,838; 738,091 gallons of refined linseed oil valued at \$1,126,490; and 24,366 tons of oil cake, having a selling value, f.o.b. producing plant, of \$1,374,437. The refined oil referred to was produced in addition to the crude; there is thus no duplication of quantities or values in the data given. The average selling value of the crude oil, computed from the year's sales, was \$1.37 per gallon; refined oil, \$1.53 per gallon, and the oil cake, \$56.41 per ton. The average cost at the plants, of the flaxseed used by these firms was \$3.44 per bushel. This cost compares favourably with the yearly average price for flaxseed in Canada in 1918 reported in the 1919 Canada Year Book as \$3.13 per bushel.

Three of the seven plants, one in each of the provinces of Quebec, Ontario and Alberta produced crude oil only. For this purpose the firms reporting used 436,893 bushels of flaxseed valued at \$1,466,833 in making 980,796 gallons of crude linseed oil and 8,158 tons of oil cake. The oil produced, valued at current prices at the plant was worth \$1,305,068 and the oil cake, used principally in the feeding of cattle, sold for \$467,878.

The four other plants, two in Quebec, one in Ontario, and one in Manitoba, used 923,839 bushels of flaxseed from which they produced 1,163,324 gallons of crude oil, 738,091 gallons of refined oil, and 16,208 tons of oil cake. As mentioned above, the refined oil reported was produced in addition to the crude. The crude oil from these plants was valued at the factory at \$1,631,770, the refined oil at \$1,126,490, and the oil cake at \$906,559.

The total yield of flaxseed in Canada in 1918 was 6,055,200 bushels, (Canada Year Book, 1919). The sum of the Canadian production and the quantity imported, (13,067 bushels), less the quantity exported, (2,088,366 bushels) shows that the approximate consumption of flaxseed in Canada during the year was 3,979,901 bushels. The quantity used in the production of oil was 1,360,732 bushels or only 34.19% of the total Canadian consumption.





Statistics of labor, wages and miscellaneous manufacturing expenses including fuel, have not been separately compiled as relating to the linseed oil industry. These are included in the general record of the industry as a whole, reported below.

OTHER OILS AND GREASES:

In addition to the seven firms making linseed oil, six others made lubricating oils and greases, one, grease only; six refined oil and tallow; and four others manufactured miscellaneous oils and greases. Separate statistics have not been compiled for these different plants.

GENERAL STATISTICS:

Of the 24 plants in the manufacturing and refining of vegetable and animal oils in Canada, eleven were located in Ontario, six in Québec, three in Manitoba, two in Alberta and one in each of the provinces of New Brunswick and British Columbia. Their total assets on the last day of the year were valued at \$4,572,409, of which \$1,195,114 represented cash, trading accounts and bills receivable. Of the remainder, \$1,782,399 was the value of the land, buildings, fixtures, machinery and tools, while the finished products, fuel and miscellaneous supplies on hand, and stocks in process amounted to \$1,584,896.

EMPLOYEES, SALARIES AND WAGES:

The total sum received by all the salaried employees was \$188,677, of which \$80,307 was paid to the superintendents, officers, and managers. The average number of wage-earners employed was 225 and the total wages paid amounted to \$194,702; an average per capita payment of \$865.

The first table shows the distribution of the persons engaged in the industry on a day when all the firms employed a normal complement of workers. The distribution was made by most firms as on December 15th, (or nearest representative working day), but one firm, which ceased operations before the end of the year reported for the last month of normal production. This accounts for the works sub-total in the following table being somewhat higher than the average number of wage-earners mentioned in the preceding paragraph.





Table 1, CLASSIFICATION OF EMPLOYEES

Salaried employees	No. Male	No. Female
Officers, Superintendents & Managers.....	35	1
Clerks, stenographers, salesmen and other salaried employees.....	102	30
Office Sub-Total.....	137	31
Number of wage-earners receiving per week:		
Less than \$10.....	2	5
\$10, but less than \$15.....	37	2
\$15, but less than \$20.....	92	...
\$20, but less than \$25.....	64	...
\$25 and over.....	50	...
Works Sub-Total.....	245	7
T O T A L.....	382	38

FUEL:

The fuel used in this industry during the year cost \$37,507 laid down at the plants. Of this sum, \$21,714 was paid for 4,440 tons of bituminous coal of various grades. Imported fuel used amounted to nearly three times that of Canadian origin. The kind, cost and quantity exclusive of any supplied to employees, of the different varieties of fuel used in the industry are shown in the following table.

Table 2, FUEL USES

Kind	C A N A D I A N		F O R E I G N	
	Unit	Quantity	Cost at Works	Quantity
Bituminous coal, slack....	Short tons	180	\$ 770	1,000
" " lump.....	"	36	\$ 372	1,095
" " run of mine.	"	887	\$7,114	1,242
Anthracite " lump.....	"	...	...	460
Coke.....	"	...	...	8
Gasoline.....	Gals.	2,000	\$ 700	...
Wood.....	cords	136	\$ 594	...
Gas (natural).....	1000 cu.ft.	360	\$ 179	....
T O T A L.....			\$9,729	\$27,778

MATERIALS USED:

As noted in the record of linseed oil production, the consumption of flaxseed represents four-fifths of the total value of materials used by the whole industry. Table 3 shows the quantity and cost, laid down at the plants, of all the materials used in this industry during the year.





The item "All other materials" includes bones, leather scraps, and various other materials which were grouped together by the firms reporting.

Table 3. MATERIALS USED

Kind	Unit of Measure	Quantity	Total Cost	Value per Unit
Flax Seed.....	Bus.	1,360,732	\$4,684,669	\$3.44
Crude oils, domestic.....	Gals.	1,444,969	223,167	\$0.154
Crude oils, imported.....	"	548,196	145,785	\$0.266
Fish, whale oil, etc.....	"	...	69,082	...
Fish oil.....	"	12,000	4,800	\$0.400
Waste cotton seed oil.....	"	28,800	8,640	\$0.300
Grease.....	....	....	141,067	...
Cooperage Stock (value only)...	...	...	54,106	...
All other materials (value only)	...	...	489,912	...
T O T A L.....			\$5,821,828	

PRODUCTS MADE:

A great variety of products is listed in Table 4, which gives the quantity and selling value at the factory of all the products made by the twenty-four firms in the industry during 1918. The item "other products" includes belt dressings, ammonia powder, soft soap, small quantities of greases and oils, and various other products of a similar nature which for convenience, and because of their relative unimportance, have been grouped together. The yield of linseed oil, 2,882,211 gals., including both crude and refined, was obtained from the seven firms which used the total of 1,360,732 bushels of flax seed.

Table 4. PRODUCTS MADE.

Kind	Unit of Measure	Quantity	Total Selling Value	Value per Unit
Linseed oil, crude.....	Gals.	2,144,120	\$2,936,838	\$ 1.37
" " refined.....	"	738,091	\$1,125,490	\$ 1.53
Lubricating oils.....	"	...	938,092	...
Refined fish & cottonseed oils	"	54,000	60,000	\$ 1.111
Lard oil.....	"	64,725	133,019	\$ 2.132
Paraffin oil.....	"	675	506	\$ 0.749
Tallow lard oil, neatsfoot and stearine....	"	...	156,323	...
Greases.....	....	....	103,058	...
Tallow.....	Lbs.	553,499	82,571	\$ 0.148
Stearine.....	"	599,161	72,720	\$ 0.122
Soap.....	....	....	23,018	...
Oil Cake.....	Tons	24,366	1,374,477	\$56.41
Boiler Compounds.....	....	....	30,000	...
Paints.....	Lbs.	253,271	4,987	\$ 0.016
Fertilizer.....	Tons	40	400	\$10.00
Other Products.....	....	....	118,920	...
T O T A L.....			\$7,365,259	





# MISCELLANEOUS EXPENSES

The miscellaneous expenditures made in connection with this industry during the year and chargeable to manufacturing operations are listed below.

Table 5, MISCELLANEOUS EXPENSES.

Rent of offices, works & machinery.....	\$ 28,480
Rent of power.....	\$ 25,146
Insurance (premium for year only).....	\$ 16,772
Taxes: (internal revenue, war tax, etc.....)	\$ 15,027
(Provincial, municipal, etc.....)	\$ 16,153
Advertising Expenses.....	\$ 8,940
Travelling Expenses.....	\$ 56,832
Ordinary repairs to buildings & Machinery.....	\$ 33,054
All other sundry expenses.....	\$ 146,056
T O T A L.....	\$ 346,460

## IMPORTS:

For the convenience of those interested, several items from the imports list have been selected and the quantities and values of the commodities imported have been compiled. For more complete information covering different years, and also regarding exports, the reader is referred to the Monthly and Annual Reports of the Trade of Canada, prepared in the External Trade Branch of this Bureau. The items selected to show imports for consumption in Canada of materials which are of interest in connection with the vegetable and animal oil industry, for the year ending December 31, 1918.

Table 6, IMPORTS INTO CANADA.

Customs item	Unit of Measure	Quantity	Value
Tallow.....	Lbs.	1,364,699	\$ 199,132
Flax seed.....	Bus.	13,067	\$ 84,606
Oil cake, linseed & linseed oil . cake meal, cotton seed cake and meal, palm nut cake and meal..	Cwt.	442,493	\$ 1,145,286
Cotton seed oil, crude, for the manufacture of refined cotton seed oil.....	Gals.	4,943,454	\$ 7,881,072
Flax seed or linseed oil, raw or boiled.....	"	78,191	\$ 12,370
Arle grease.....	Lbs.	5,328,432	\$ 401,983
Grease rough, the refuse of animal fat for the manufacture of soaps and oils only.....	"	13,858,754	\$ 1,634,546
Seal oil.....	Gals.	159,666	\$ 215,739
Whale and spermaceiti oil.....	"	4,943	\$ 6,181
Animal oil, lard.....	"	16,364	\$ 28,481
Animal oil, neatfoot.....	"	3,009	\$ 5,277
Lubricating oils.....	"	5,299,639	\$ 1,679,771
T O T A L.....			\$ 13,294,751





# EXPORTS:

The exports of commodities of similar interest are shown in the following list:

Table 7, EXPORTS FROM CANADA

Export Items	Unit of Measure	Quantity	Value
Seal Oil.....	Gals.	43,820	\$ 58,314
Whale Oil.....	"	37,085	\$ 55,111
Grease & Grease Scraps.....	Cwt.	33,897	\$ 150,604
Animal Oils, neatsfoot and others n.o.p.....	Gals.	64,588	\$ 54,921
Tallow.....	Lbs.	351,060	\$ 68,944
Oil cake.....	Tons	1,228	\$ 62,691
Flaxseed.....	Bus.	2,988,256	\$ 7,900,519

T O T A L.....\$8,353,104

The data given in this report was compiled from records supplied by the undermentioned firms regarding the operations of their plants in 1918.

Firm Name	Address	Product
Alberta Linseed Oil Co., Ltd.	Medicine Hat, Alta.	Linseed oil; Oil cake.
Campbell Lubricating Co.,	19 Stuart St., Hamilton, Ont.	Belting Oils; Belt dressing; Greases.
Canada Linseed Oil Mills, Ltd.	1213 Notre Dame St. E., Plants: Montreal, Que., and 283 Sorauren Ave., Toronto, Ont.	Linseed oil; Oil cake.
Canadian Economic Lubricant Co. Ltd.	1040 Durocher St., Outremont, Que.	Lubricating oils; Greases; Soap; Boiler Compound.
Colonial Hide Company.	274-290 Wellington St., Montreal, Que.	Tallow.
Dominion Linseed Oil Co., Ltd.	Baden, Ont.	Linseed oil; Oil cake.
Plants: Baden, Ont., and Montreal, Que.		
Dominion Oil Co., Ltd.	Owen Sound, Ont.	Lubricating oils; Greases.
Galena-Signal Oil Company.	134 Royce Ave., Toronto, Ont.	Lubricating oils; Tallow; Grease.
Hatt, Geo. H., Esq.	99 Morley Ave., Toronto, Ont.	Tallow; Grease.
Lyman, C.S., Co., Ltd.	East St., London, Ont.	Tallow; Tankage.
McKenleyside Oil Co.	1111 Florence St., London, Ont.	Lard oil; tallow; Neatsfoot oil; Stearine.
Mawrason, S.F. & Company.	Adelaide & Nelson Sts., London, Ont.	Stearine; Lard oil; Powdered Ammonia.
Maheux, Alphonse, Esq.	476 St. Valier St., Quebec, Que.	Tallow; Fertilizers.
McColl Bros. & Company.	114 Don Esplanade, Toronto, Ont.	Lubricating oils; Greases.
Miller Mfg. Company.	530 Howe St., Vancouver, B. C.	Paraffin oil.
Ontario Lubricating Co., Ltd.	115 Melbourne St., Hamilton, Ont.	Lubricating oils; Greases.
Saunders City Oil Co., Ltd.	Box 1673, Winnipeg, Man.	Axle Grease.
Sherwin-Williams Co. of Canada Ltd.	897 Centre St., Montreal, Que.	Linseed oil; Oil cake.
Plants: Montreal, Que., & 112 Sutherland St., Winnipeg, Man.		
Snowdon, C.C., Esq.	1810-1840 Eleventh St. E. Calgary, Alta.	Lubricating oils; Greases.
Swiftide Oil Company.	Eastport, Maine, U.S.A.	Refined fish oils.
Plant: Fairhaven, N.B.		
Turner, Albert, E., Esq.	160 The Glen, Grandvital, Man.	Tallow.



1010731822