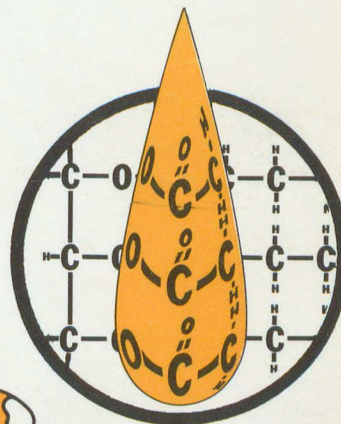
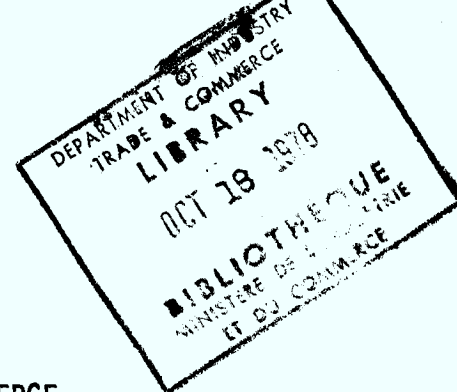


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Fats & Oils in Canada

ANNUAL REVIEW 1977



DEPARTMENT OF INDUSTRY, TRADE AND COMMERCE

FATS AND OILS IN CANADA

ANNUAL REVIEW

1977

Prepared by:

Grain Marketing Office
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INTRODUCTION

"Fats and Oils in Canada - Annual Review 1977" represents the fifth annual issue of this publication.

The feature article this year deals with the POS Pilot Plant facility in Saskatoon, and the important role of this new facility in developing innovative products and processes in the field of oils, protein and starch.

A number of sources were used in developing the statistical tables contained in this publication. While Statistics Canada was the principal source, others included the United States Department of Agriculture and Oil World.

This publication is intended to serve as an information source on Canadian and global oilseed, oil and meal production and trade. Suggestions and comments are welcome and should be addressed to:

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Ottawa, Ontario
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CHAPTER 1

POS PILOT PLANT FACILITY IN SASKATOON SERVING WIDE RANGE OF CLIENTS/MEMBERS

Born of the challenge to fill a technological gap identified for the federal government's Grains Group in 1972 and the opportunity for innovative industry development through a unique structure embracing a wide spectrum of interests, the POS Pilot Plant in Saskatoon now provides the potential to help Canada maintain her place in the forefront of grain and oilseed component extraction and processing.

Because of the unique structure of the corporation which operates the pilot plant facility--unique in that industry was given control of the board of directors although the federal government guaranteed 90 per cent of capital costs and is contributing substantially to initial operating deficits--most of the responsibility for the continued success of the venture now devolves upon the industry itself.

The monogram "POS" derives from the initials of the primary components with which science and technology in this field are concerned: Protein, Oil and Starch.

As the result of careful planning, the plant offers clients exceptional versatility and sufficient size for the scale-up of bench processes for economic and technical feasibility analysis. It has an extensive processing capability in its primary, secondary and flammable processing sections. Laboratory support is provided by both physical facilities and a scientific staff available to clients who choose not to provide their own analysts on project work. Separate laboratories are equipped for client staffing. Further support is provided through a reference library connected to a cooperative inter-library system, a machine shop for maintenance and equipment modification and an in-house design assistance capability. Members enjoy priority but non-members are welcome to use these facilities as available.

Even taking account of today's inflated currency, the pilot plant represents a large investment. Of the total capital cost of nearly \$5 million--largely spent on building and equipment, since land rent is only nominal thanks to the University of Saskatoon on whose campus it is located--the federal government contributed \$4.5 million. The provinces of Alberta and Saskatchewan each invested \$100 thousand, 20 private firms, the Rapeseed Association of Canada and the University of Saskatoon \$10 thousand each.

To ensure initial financial viability of the proprietary corporation, set up to operate the facility--POS Pilot Plant Corporation, a federally-registered, "not for profit" corporation--members also subscribed working capital. The Department of Industry, Trade and Commerce guaranteed to finance operating deficits in the first five years up to a maximum of \$3 million. Other members contracted to supply operating funds over a five-year period as follows. Provinces, \$50 thousand per annum; firms, universities and associations \$5 thousand per annum.

Behind these obvious and quantifiable costs lie a dedicated and vital contribution of immeasurable quantities of inspiration, toil and time by, literally, dozens of people.

All of which raises the questions: "Was the project justified?" and "Who are the benefactors?"

As events have unfolded, there is no question that the need is real and the concept appropriate. In the plant protein area, for example, the original projections on which the project was based six years ago have been substantiated by time. This is no surprise. For in spite of aberrations in supply and price and economic conditions which may temporarily suppress effective demand for edible (processed) plant protein foods--low beef prices in the last few years have had such an effect--the need for protein in the world's diet continues its inexorable growth.

Looking to 1980, the report (Food Protein from Grains and Oilseeds) commissioned by the Honourable Otto Lang, Minister Responsible for the Canadian Wheat Board said:

"Between 1970 and 1980 the gap in per capita income and consumer purchasing power will widen between developed countries and developing countries, due largely to the higher rate of population increase in the latter countries. Consumers in developed countries will experience increasing financial ability to diversify diets with a broad range of more highly processed food products, while most consumers in developing countries will continue to be limited to the purchase of lower cost food items incorporating a lower level of processing.

Demand for protein differs from protein requirements. The world population prefers to consume on average much more protein than is required to perform normal body functions.

For the high income countries both energy demand and total protein demand are projected to increase slightly. Demand for animal protein will increase proportionately more than total protein demand, and there will be a small absolute decline in daily per capita demand for plant protein. Fat intake will increase moderately with increased demand for animal products.

Average daily per capita demand for both energy and protein will increase more in developing countries than in developed countries. Demand for animal protein in developing countries will increase more rapidly than total protein demand but there will still be a noticeable increase in per capita demand for plant protein. Fat intake will increase also."

When the coefficients of growth rates are applied to these per capita trends, the total demand line sweeps sharply upward. Within the overall projection of a 23 per cent increase in world population in the decade 1970 to 1980, the compound growth rate is highest in the same economic classes whose individuals demand ever increasing quantities of plant protein.

While these optimistic forecasts remain basically sound, actual developments have proved to be even more encouraging to the plant protein producers. In North America, where an organized industry first started up, recent expansion and diversification in the plant protein product market have been described as an "explosion". Likewise, Britain and the rest of the EEC have made giant strides since the early 1970's towards coming to grips with the great potential for "grafting of new protein foods onto our diet". Vegetable protein associations were formed in Japan and Britain some time ago. Action has begun to found and structure an EEC association. Individual associations already are active in continental European countries and (soy) plant protein production and processing is growing dramatically. Amsterdam now has the largest crushing, extraction and milling plant in the world. Extruders are at work in Denmark, Holland and Britain. A very large isolate plant is scheduled to come on stream this year and at least two countries are producing spun protein analogs. The industry's proponents in Europe have expressed confidence that the way has been paved for acceptance of the necessary legislation and regulations to permit plant protein to take its rightful place in the human diet.

Because of the world's great preoccupation with protein as a basic necessity for human progress and, perhaps, survival, developments in this area have been getting the lion's share of attention. This does not mean that the other ingredients with which PDS is concerned--oil and starch--have been languishing in a backwater. The requirements for more and better vegetable oils are virtually universal. Cereal-based starch, which mainly finds an industrial market in Canada, still appears to have an excellent potential as a substrate for sweeteners and other "chemical" derivatives.

As costs and competition increase, the need for improved refining methods for vegetable oils assumes greater significance. POS offers the opportunity to monitor, under strict parameters, oil refining capabilities which to date have only been possible to most crushers and refiners on a commercial and less controllable scale.

Ongoing POS capability will provide opportunities for improved methods of hydrogenation of oils and fats.

POS further offers the opportunity for changes in crushing procedures with the increased potential of improving oils and meals for further processing.

In the broadest sense, the whole world benefits from projects like POS, which serves as one of the keys to unlock a great storehouse of new and better food and industrial products from renewable grain and oilseed resources.

In a business, or commercial, sense--and the production, processing and marketing of Canadian grain and oilseeds is a business proposition--the first-line benefactors are the various segments of the industry. Because POS offers a mix of capabilities which do not exist at any other single location, firms which deal in the development of new products, technology and equipment can use the pilot plant to extend their own capabilities to meet any competition and at reasonable cost.

At the farm, or producer, level, not only can work done in POS lead to new and, hopefully, more lucrative raw materials markets but the scope for new crops is greatly enhanced. The promise shown for peas and sunflowers is only an inkling of what the future may bring.

World attention is focused as never before on the degree of excellence which nations have assembled or have failed to assemble, to meet the advent of a brand new era in food science and technology. Thousands of experts are expected to attend the 1978 protein conference in Amsterdam, for example. Canadians can be pleased that the community of effort which created POS has ensured that they need feel second to none in this kind of auspicious company.

CHAPTER 2

WORLD PRODUCTION AND TRADE IN FATS AND OILS

World Fats and Oils: Calculated Production

World production of fats and oils in 1978 is forecast at 53.4 million metric tons, which is 6.5 million tons above the 1977 production (Table 1).

The increase forecast for 1978 is sharply higher than the long-term trend, mainly reflecting larger supplies of soybean, sunflowerseed and palm oils.

In 1977, production of edible vegetable oils, marine oils and industrial oils declined from 1976 levels, but for 1978, production is forecast to recover to the long-term trend line for these products.

Animal fat production will be only slightly increased in 1978. Marine oil production is projected to remain unchanged from the 1977 level.

World Production of Major Oilseed Meals

The meal production figures for 1977 are estimates only, while the 1978 figures are projections. The 1978 figure of 80,986 thousand tons (Table 2) is a 17 per cent increase over the 1977 level, and is due mainly to the anticipated increase in soybean meal production.

Sunflower meal, linseed meal and rapeseed meal production are all forecast to increase in 1978. Fish meal production is expected to show only a marginal increase, to slightly over 4 million metric tons.

World Net Exports of Oilseeds, Oils and Fats

In 1977/78, total world supplies of the major oils and fats are estimated to increase by 3 per cent over the previous year, mainly due to projected increases in the production of soybean, cottonseed, sunflowerseed and palm oils.

In the food oil sector, ending stocks will increase by 8 per cent to 5.7 million tons.

In the non-food sector, 1977/78 ending stocks will be slightly increased from 1976/77, at 800,000 metric tons.

TABLE 1
WORLD OIL AND FAT: CALCULATED PRODUCTION ^{1/}
(Thousands of Metric Tons)

<u>EDIBLE VEGETABLE OILS</u>	<u>1974</u>	<u>1975</u>	<u>Estimated</u> <u>1976</u>	<u>Estimated</u> <u>1977</u>	<u>Forecast</u> <u>1978</u>
Cottonseed	3,168	3,260	2,766	2,983	3,298
Peanut	3,133	3,166	3,647	3,278	3,336
Soybean	9,382	8,318	10,164	9,053	11,250
Sunflower	4,518	3,989	3,605	3,692	4,572
Rapeseed	2,415	2,679	2,879	2,323	2,908
Sesame	634	622	645	626	694
Safflower	210	215	322	209	275
Olive ^{2/}	1,527	1,420	1,752	1,462	1,636
Corn	311	297	412	425	440
TOTAL	25,298	23,966	26,192	24,051	28,409
<u>PALM OILS</u>					
Coconut ^{3/}	2,227	2,890	3,309	3,132	3,188
Palm Kernel	497	516	524	574	602
Palm	2,654	2,976	3,135	3,456	3,740
Babassu	105	105	125	90	95
TOTAL	5,483	6,487	7,093	7,252	7,625
<u>INDUSTRIAL OILS</u>					
Linseed	755	744	782	680	916
Castor	496	342	300	333	375
Oiticica	11	11	15	14	14
Tung	114	91	109	96	110
Olive Residue ^{4/}	146	128	158	147	160
TOTAL	1,522	1,316	1,364	1,270	1,575
<u>ANIMAL FATS</u>					
Butter (Fat Content)	4,496	4,563	4,674	4,757	4,830
Lard	4,534	4,432	4,240	4,425	4,700
Tallow, Grease	4,955	4,599	4,806	5,100	5,175
TOTAL	13,985	13,594	13,720	14,282	14,705

TABLE 1 (Cont'd)

<u>MARINE OILS</u>	<u>1974</u>	<u>1975</u>	<u>Estimated 1976</u>	<u>Estimated 1977</u>	<u>Forecast 1978</u>
Whale	40	45	45	40	40
Sperm Whale	120	119	119	110	110
Fish (Including Liver)	1,001	1,003	969	930	930
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
TOTAL	1,161	1,167	1,133	1,080	1,080
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
GRAND TOTAL	47,449	46,530	49,502	47,935	54,394
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

1/ Years indicated are those in which most of given oil was produced.
Includes oil equivalent of seed production.

2/ Excludes olive residue oil.

3/ Estimated on basis of exports and other information.

4/ Includes quantities of refined oil for edible purposes.

SOURCE: United States Department of Agriculture, FOP 25-77.

Table 2World Production of Major Oilseed Meals ^{1/}

(Thousands of Metric Tons)

<u>OILSEED MEALS</u> ^{2/}	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u> ^{3/}	<u>1978</u> ^{4/}
Soybean Meal	42,139	37,361	45,654	40,702	49,753
Cottonseed Meal	9,082	9,362	7,963	8,565	9,582
Peanut Meal	3,759	3,800	4,447	4,099	4,213
Sunflower Meal	4,286	3,769	3,510	3,552	4,337
Rapeseed Meal	3,736	4,118	4,431	3,683	4,306
Copra Meal	1,218	1,583	1,828	1,716	1,686
Sesame	657	644	664	673	700
Palm Kernel Meal	539	559	568	623	653
Linseed Meal	1,398	1,333	1,471	1,439	1,721
TOTAL	66,814	62,529	40,536	65,052	76,951
Fish Meal & Solubles	4,205	4,062	4,508	3,940	4,035
WORLD TOTAL	71,019	66,591	75,044	68,992	80,986

^{1/} Expressed on a soybean meal equivalent basis.^{2/} Calculated from assumed crushings and extraction rates applied to that portion of each crop available for crushing and/or export and not actual crushings.^{3/} Estimated^{4/} ProjectionSOURCE: United States Department of Agriculture, FOP 18/77.

Table 3

MAJOR OILS & FATS: WORLD PRODUCTION, DISAPPEARANCE, AND STOCKS^{1/}

(Thousands of Metric Tons)

Primarily for Food:

<u>Soybean Oil</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>	<u>1977/78</u>
Opening Stocks ^{3/}	545	815	833	1,200	960
Production ^{4/}	8,819	8,269	10,214	9,967	10,800
Disappearance ^{3/}	8,549	8,251	9,847	10,207	10,600
Ending Stocks ^{3/}	815	833	1,200	960	1,160
<u>Cottonseed Oil</u>					
Opening Stocks ^{3/}	190	210	235	205	200
Production ^{4/}	2,948	2,928	2,486	2,697	2,900
Disappearance ^{3/}	2,928	2,903	2,516	2,702	2,600
Ending Stocks ^{3/}	210	235	205	200	240
<u>Groundnut Oil</u>					
Opening Stocks ^{3/}	308	290	305	440	410
Production ^{4/}	2,537	2,601	3,232	2,786	2,800
Disappearance ^{3/}	2,555	2,586	3,097	2,816	2,810
Ending Stocks ^{3/}	290	305	440	410	400
<u>Sunflower Oil</u>					
Opening Stocks ^{3/}	255	500	780	430	300
Production ^{4/}	4,161	3,908	3,394	3,404	4,200
Disappearance ^{3/}	3,916	3,628	3,744	3,534	4,040
Ending Stocks ^{3/}	500	780	430	300	460
<u>Rapeseed Oil</u>					
Opening Stocks ^{3/}	215	205	225	240	260
Production ^{4/}	2,440	2,442	2,612	2,792	2,460
Disappearance ^{3/}	2,450	2,422	2,597	2,772	2,450
Ending Stocks ^{3/}	205	225	240	260	270
<u>Sesame Oil</u>					
Opening Stocks ^{3/}	45	47	44	45	45
Production ^{4/}	669	651	610	636	620
Disappearance ^{3/}	667	654	609	636	615
Ending Stocks ^{3/}	47	44	45	45	50
<u>Olive Oil^{5/}</u>					
Opening Stocks ^{3/}	306	328	460	743	704
Production ^{4/}	1,566	1,553	1,725	1,442	1,520
Disappearance ^{3/}	1,544	1,421	1,442	1,481	1,533
Ending Stocks ^{3/}	328	460	743	704	691
<u>Coconut Oil</u>					
Opening Stocks ^{3/}	300	250	323	360	310
Production ^{4/}	2,068	2,486	3,096	2,796	2,900
Disappearance ^{3/}	2,118	2,413	3,059	2,846	2,880
Ending Stocks ^{3/}	250	323	360	310	330

<u>Palm Kernel Oil</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>	<u>1977/78</u>
Opening Stocks- ^{3/}	58	65	70	75	80
Production ^{4/}	439	480	518	555	600
Disappearance- ^{3/}	432	475	513	550	600
Ending Stocks-	65	70	75	80	80

Palm Oil

Opening Stocks- ^{3/}	207	256	333	340	390
Production ^{4/}	2,057	2,434	2,647	2,910	3,170
Disappearance- ^{3/}	2,008	2,357	2,640	2,860	3,100
Ending Stocks-	256	333	340	390	460

Butter, Fat Content

Opening Stocks- ^{3/}	876	887	869	992	1,084
Production ^{4/}	5,223	5,242	5,434	5,600	5,550
Disappearance- ^{3/}	5,212	5,260	5,311	5,508	5,634
Ending Stocks -	887	869	992	1,084	1,000

Lard

Opening Stocks- ^{3/}	247	243	260	245	260
Production ^{4/}	3,987	4,037	3,696	3,843	4,000
Disappearance- ^{3/}	3,991	4,020	3,711	3,828	3,990
Ending Stocks-	243	260	245	260	270

Fish Oil

Opening Stocks- ^{3/}	324	289	352	323	250
Production ^{4/}	910	1,049	984	887	850
Disappearance- ^{3/}	945	986	1,013	960	840
Ending Stocks-	289	352	323	250	260

Food Oil & Fats, Total

Opening Stocks- ^{3/}	3,876	4,385	5,089	5,638	5,253
Production	37,824	38,080	40,648	40,315	42,370
Total Supplies	41,700	42,465	45,737	45,953	47,623
Disappearance- ^{3/}	37,315	37,376	40,099	40,700	41,952
Ending Stocks-	4,385	5,089	5,638	5,253	5,671

Primarily for Non-Food:Linseed Oil

Opening Stocks- ^{3/}	165	115	130	147	170
Production ^{4/}	678	602	642	664	720
Disappearance- ^{3/}	728	587	625	641	670
Ending Stocks-	115	130	147	170	220

Castor Oil

Opening Stocks- ^{3/}	67	110	150	119	90
Production ^{4/}	399	376	314	314	320
Disappearance- ^{3/}	356	336	345	343	330
Ending Stocks-	110	150	119	90	80

<u>Tung Oil</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>	<u>1977/78</u>
Opening Stocks- ^{3/}	45	29	30	18	18
Production	97	107	105	104	100
Disappearance- ^{4/}	113	106	117	104	98
Ending Stocks- ^{3/}	29	30	18	18	20
<u>Tallow & Greases</u>					
Opening Stocks- ^{3/}	390	490	436	454	480
Production	5,343	5,184	5,499	5,710	5,650
Disappearance- ^{4/}	5,243	5,238	5,481	5,684	5,650
Ending Stocks- ^{3/}	490	436	454	480	480
<u>GRAND TOTAL</u>					
Opening Stocks- ^{3/}	4,543	5,129	5,835	6,376	6,011
Production	44,341	44,349	47,208	47,107	49,160
Total Supplies	48,884	49,478	53,043	53,483	55,171
Disappearance- ^{4/}	43,755	43,643	46,667	47,472	48,700
Ending Stocks- ^{3/}	5,129	5,835	6,376	6,011	6,471

1/ October-September

2/ Preliminary

3/ Estimated

4/ Residual of the balance.

5/ Seasons November/October 1973/74 to 1977/78. Includes also edible and inedible residue oils.

SOURCE: "Oil World", Hamburg, November 11, 1977.

TABLE 4

WORLD PRODUCTION OF OILMEALS^{1/}
(Thousands of Metric Tons)

	<u>1972/73</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u> ^{2/}	<u>1976/77</u> ^{3/}
Soybean Meal	33,025	38,749	36,729	44,492	43,395
Cottonseed Meal	9,673	9,743	9,676	8,256	8,871
Groundnut Meal	3,472	3,540	3,602	4,487	3,850
Sunflower Meal	4,018	4,762	4,452	3,970	3,998
Rapeseed Meal	3,992	3,899	3,895	4,142	4,407
Sesame Meal	771	795	766	720	755
Copra Meal	1,476	1,216	1,459	1,808	1,644
Palm Kernel Meal	480	512	566	607	655
TOTAL	<u>56,907</u>	<u>63,216</u>	<u>61,145</u>	<u>68,482</u>	<u>67,575</u>
Linseed Meal	1,493	1,303	1,166	1,223	1,269
Fishmeal & Solubles	<u>3,831</u>	<u>4,014</u>	<u>4,458</u>	<u>4,336</u>	<u>4,150</u>
GRAND TOTAL	<u>62,231</u>	<u>68,533</u>	<u>66,769</u>	<u>74,041</u>	<u>72,994</u>

1/ October - September crop year. Actual production in the countries where the crush is taking place, and in the period shown, irrespective of whether from old or new crop.

2/ Preliminary

3/ Estimated.

SOURCE: "Oil World", Hamburg, November 11, 1977.

CHAPTER 3CANADIAN PRODUCTION AND TRADE IN FATS AND OILSCanadian Oilseeds: Acreage, Yield, Production

Canada produces four oilseeds: rapeseed, flaxseed, soybeans and sunflowerseed. These are crushed to produce oil and meal for food and industrial uses and as a protein ingredient in livestock feeds. Additional volumes of oils and meals are imported to help fill domestic needs.

Rapeseed continues to be Canada's leading oilseed crop, with production in 1977 of 1.8 million metric tons. Exports in 1977 increased by 33 per cent to slightly over 1 million metric tons. In addition, approximately 25 million bushels of rapeseed were crushed in six processing plants, to produce 236,000 tonnes of oil, and approximately 325,000 tonnes of meal. Two more processing plants are scheduled to begin crushing in 1979, which should result in more rapeseed being processed prior to export as oil and meal.

Export markets for rapeseed are mainly Japan and the EEC, where rapeseed processing facilities exist.

Due to a larger acreage and a record average yield, production of rapeseed in 1977 increased by 112 per cent over 1976. To some degree, this was a producer response to relatively attractive prices vis-a-vis cereal grains. Further increases are projected for 1978, for the same reason.

Flaxseed acreage increased by 78 per cent in 1977 to 1.42 million acres. Production rose to 610,000 metric tons versus 277,000 the previous year. There are at present two crushers of flaxseed in Canada. Exports of linseed oil and meal are minimal, with most markets preferring to import flaxseed for processing.

Soybean production in 1977 rose to 517,000 metric tons from 250,400 tons the previous year. This increase was mainly due to a 32 per cent increase in acreage coupled with a 56.4 per cent increase in yield per acre. The record production in 1977 of 517,100 metric tons increased Canada's self-sufficiency in soybeans, with imports dropping to 317,970 metric tons in 1977 from 397,577 metric tons in 1976.

Sunflowerseed production increased in 1977 to 79,400 metric tons from 24,000 in 1976, and the long-term average of 30,000 tonnes. The Canadian and export markets could absorb much more of this product, if production could be increased.

Mustardseed production more than doubled in 1977 over the previous year. This crop is grown mainly under contract and mainly for export in unprocessed form.

Canadian Production of Fats and Oils

Canadian production of edible vegetable oils showed an increase of 29 per cent in 1977 over the previous year. Rapeseed oil accounted for virtually all of this increase, mainly because of increased processing capacity in Western Canada.

Production of animal fats was slightly lower in 1977. Tallow and butter production declined while lard increased slightly.

Marine oil production decreased, reflecting a further decline in fish production, particularly herring.

In the inedible oil sector, production increased by 2 per cent, mainly of inedible tallow.

Canadian Imports of Fats and Oils

Imports of fats and oils in 1977 declined to 225,000 metric tons, compared to 281,000 in 1976. All of the decrease was in the edible oil sector. The principal reason for the decrease was the increased availability of indigenous rapeseed, soybean and sunflowerseed oils.

Imports of animal fats decreased while marine oil imports rose, due to short domestic supplies of the latter.

Canadian Exports of Fats and Oils

Exports of edible vegetable oils, in seed or oil forms, increased by 45 per cent in 1977, reflecting strong export demand. Rapeseed and rapeseed oil made up virtually all of the increase in export volume.

Butter exports declined sharply to 273 metric tons compared with 2,861 in 1976. Marine oil exports were down by 22 per cent.

In the inedible sector, exports increased by 31 per cent, mainly because of increased flaxseed and inedible tallow exports. Inedible marine oils also showed an increase over the 1976 volume.

Rapeseed oil was exported in much larger volume and to many more destinations during 1977. Volume rose to 102,700 metric tons versus 42,501 tonnes in 1976, while the number of markets increased to 17, versus 7 in 1976. This trend is expected to continue during 1978, due to the continuing increase in rapeseed crushing capacity in Canada.

Canadian Crashings of Vegetable Oilseeds and Production of Oil

And Meal by Crop Year

The volume of rapeseed processed in Canada continued to increase during 1977. There are now six processing plants, with two more plants due to commence operations in 1978. This development means that more oil and meal is available for domestic and export markets.

Soybean processing during the 1976/77 crop year declined from the previous year. Data for sunflowerseed is not available due to secrecy requirements.

TABLE 5

CANADIAN OILSEEDS: ACREAGE, YIELD, PRODUCTION

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>		<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
	(Thousands of Acres)						(Yield Per Acre, Bushels)				
Flaxseed	1,450	1,450	1,400	800	1,420		13.4	9.5	12.5	13.6	16.9
Rapeseed	3,150	3,160	4,020	1,778	3,330		16.9	16.2	17.9	20.8	23.5
Soybeans	470	415	390	378	500		31.0	24.8	34.6	24.3	38.0
							(Yield Per Acre, Pounds)				
Mustardseed	335	350	163	78	182		782	743	678	894	962
Sunflowerseed	129	21	62	50	165		705	867	1,065	1,060	1,061
	<u>Production</u>						<u>Oil Equivalent</u>				
	(Metric Tons)						(Metric Tons)				
Flaxseed	492,786	350,538	444,613	276,900	609,700		174,634	124,091	157,361	105,209	215,810
Rapeseed	1,206,568	1,163,476	1,723,668	836,900	1,775,800		482,627	465,390	654,097	371,960	710,332
Soybeans	396,527	280,045	366,808	250,400	517,100		70,307	49,569	64,926	44,551	91,526
Mustardseed	118,842	117,935	50,122	35,200	79,300		-	-	-	-	-
Sunflowerseed	41,232	8,255	20,937	24,000	79,400		16,329	3,302	11,975	9,600	31,751
Oil Conversion Factors:	Flaxseed.....35.4% Rapeseed.....40.0% Soybeans.....17.7% Sunflowerseed.....40.0% Mustardseed.....Oil Content Varies with Variety										

SOURCE: Statistics Canada, Catalogue No. 22-002.

TABLE 6CANADIAN OILSEED PRODUCTION BY PROVINCE

	<u>A R E A</u> ^{1/}			<u>YIELD PER ACRE</u>			<u>P R O D U C T I O N</u> ^{2/}		
	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
<u>FLAXSEED</u>	(Bushels)								
Manitoba	303	212	304	11.2	12.0	16.8	213,371	160,028	222,100
Saskatchewan	182	81	223	13.1	17.0	17.3	149,868	86,400	241,300
Alberta	81	30	49	16.0	16.0	15.8	81,284	30,500	48,300
<u>RAPESEED</u>	(Bushels)								
Manitoba	303	101	182	16.7	18.0	25.3	283,498	102,059	258,500
Saskatchewan	728	304	567	18.3	22.8	24.6	748,435	387,800	782,400
Alberta	688	304	567	17.9	19.7	22.1	691,735	335,700	703,100
British Columbia	28	11	32	15.7	17.9	17.5	24,947	11,300	31,800
<u>SOYBEANS</u>	(Bushels)								
Ontario	157	153	202	34.6	24.3	38.0	366,808	251,741	517,091
<u>SUNFLOWERSEED</u>	(Pounds)								
Manitoba	25	20	67	1,065	1,060	1,061	29,945	24,047	79,400
<u>MUSTARDSEED</u>	(Pounds)								
Manitoba	9	7	16	630	800	900	6,579	6,500	16,300
Saskatchewan	30	19	40	658	894	1,050	22,686	19,000	47,600
Alberta	26	9	17	719	973	810	20,871	9,700	15,400

^{1/} Thousands of hectares.

^{2/} Metric Tons.

SOURCE: Statistics Canada, Catalogue No. 22-002.

TABLE 7

CANADIAN PRODUCTION OF FATS AND OILS

(Metric Tons)

	<u>1 9 7 3</u>	<u>1 9 7 4</u>	<u>1 9 7 5</u>	<u>1 9 7 6</u>	<u>1 9 7 7</u>
<u>PRIMARILY EDIBLE ^{1/}</u> <u>VEGETABLE OILS</u>					
Soybean Oil ^{2/}	91,421	122,417	113,106	117,328	116,915
Rapeseed Oil ^{3/}	144,580	112,873	124,773	155,370	235,797
Sunflowerseed Oil ^{4/}	13,233	7,913	3,172	x ^{11/}	x ^{11/}
TOTAL ^{5/}	<u>249,234</u>	<u>243,203</u>	<u>241,051</u>	<u>272,698</u>	<u>352,712</u>
<u>ANIMAL FATS</u>					
Edible Tallow	18,476	16,883	17,000	16,438	14,615
Lard	50,415	50,216	43,240	42,795	44,308
Butter (as butter oil) ^{13/}	<u>80,096</u>	<u>88,258</u>	<u>106,425</u>	<u>96,015</u>	<u>94,366</u>
TOTAL	<u>148,987</u>	<u>155,357</u>	<u>166,665</u>	<u>155,248</u>	<u>153,289</u>
<u>MARINE OILS ^{13/}</u>					
Herring	11,732	7,122	5,044	2,341	1,899
Seal	--	--	--	659	484
Whale ^{7/}	283	--	--	--	--
Other ^{8/}	--	428	44	53	328
TOTAL ^{9/}	<u>12,015</u>	<u>7,550</u>	<u>5,088</u>	<u>3,053</u>	<u>2,711</u>
<u>TOTAL EDIBLE OIL</u> <u>PRODUCTION</u>	<u>410,236</u>	<u>406,110</u>	<u>412,804</u>	<u>430,999</u>	<u>508,712</u>

TABLE 7 (Cont'd)

	<u>1 9 7 3</u>	<u>1 9 7 4</u>	<u>1 9 7 5</u>	<u>1 9 7 6</u>	<u>1 9 7 7</u>
<u>PRIMARILY INEDIBLE</u>					
Linseed Oil <u>10/</u>	13,572	x <u>11/</u>	x <u>11/</u>	x <u>11/</u>	x <u>11/</u>
Inedible Tallow	186,003	182,727	182,491	199,183	202,738
Marine Oils <u>12/13/</u>	<u>925</u>	<u>2,869</u>	<u>4,471</u>	<u>3,146</u>	<u>3,614</u>
<u>TOTAL INEDIBLE OILS PRODUCTION</u>	<u>200,500</u>	<u>185,596</u>	<u>186,962</u>	<u>202,329</u>	<u>206,352</u>
<u>TOTAL EDIBLE AND INEDIBLE FATS AND OILS PRODUCTION</u>					
(Excluding Linseed Oil in 1974, 1975, 1976 & 1977 & Sunflowerseed Oil in 1976 & 1977)	<u>610,736</u>	<u>591,706</u>	<u>599,766</u>	<u>633,328</u>	<u>715,064</u>

1/ Production data for corn oil and cocoa butter are confidential and have not been included.

2/ Soybean oil output of Canadian crushing mills.

3/ Rapeseed oil output of Canadian crushing mills. The Grain Research Laboratory of the Canadian Grain Commission has reported the average oil content of carlot survey samples of rapeseed on an 8.5% moisture basis as follows:

1973	40.2%
1974	39.9%
1975	40.9%
1976	41.3%
1977	41.9%

4/ Sunflowerseed oil output of Canadian crushing mills.

5/ Includes only crude vegetable oils produced in Canadian mills.

6/ Butter oil represents the oil equivalent of creamery butter, farm butter and whey butter production, using 81% as the conversion factor.

7/ Whale oil production includes small amounts of other unspecified marine oils.

8/ Other oil production includes seal oils in 1974, 1975 and 1976.

9/ Small quantities of salmon oil (West Coast) and of redfish oil (East Coast) of edible grade cannot be identified statistically and are included under "Marine Oils" in the inedible category below.

TABLE 7 (Cont'd)

19/ Linseed oil output of Canadian crushing plants. The Grain Research Laboratory of the Canadian Grain Commission has reported the average oil content (dry matter basis) of carlot survey samples of flaxseed as follows:

1972	41.9%
1974	43.5%
1975	42.1%
1976	43.0%
1977	44.3%

11/ Confidential - to meet secrecy requirements of Statistics Act.

12/ Includes liver oils, groundfish oil, salmon oil and small amounts of unspecified oils.

13/ Revised figures for 1976.

SOURCE: Statistics Canada, Catalogue Nos. 22-006, 24-002, 32-002, 32-020.

TABLE 8

CANADIAN IMPORTS OF FATS AND OILS

(Metric Tons)

<u>PRIMARILY EDIBLE</u>					
<u>Vegetable Oils</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Soybeans (Oil Equiv.)	41,027	69,169	68,227	70,371	56,280
Soybean Oil	18,971	33,614	20,881	31,205	28,138
Cottonseed Oil	8,402	11,333	11,289	5,200	5,497
Corn Oil	6,604	10,358	10,172	16,418	15,482
Peanut Oil	7,382	5,519	6,848	6,734	6,845
Coconut Oil	21,299	21,956	25,816	29,647	24,218
Palm Oil	19,580	16,199	41,283	55,001	31,179
Palm Kernel Oil	5,944	4,376	5,093	10,351	7,192
Olive Oil	2,088	2,408	1,987	5,096	4,840
Cocoa Butter	6,595	5,378	4,362	5,008	4,835
Sunflowerseed Oil	77	186	170	271	59
Vegetable Oils & Fats	4,504	5,973	2,965	3,156	2,270
Vegetable Cooking Fats & Packaged Salad Oils	1,031	1,461	693	144	423
Margarine & Shortening Oils	1,448	11,983	15,546	16,322	14,090
TOTAL ^{1/}	144,956	199,918	215,332	254,924	201,348
<u>Animal Fats</u>					
Lard	7,160	17,680	12,118	19,246	17,841
Butter ^{2/}	23,013	19,754	4,565	12	13
TOTAL	30,173	37,435	16,683	19,258	17,854
<u>Marine Oils</u>					
Fish & Marine Oil	1,239	849	879	299	410
TOTAL	1,239	849	879	299	410
TOTAL EDIBLE OILS & FATS	176,369	238,202	232,894	274,481	219,612
<u>PRIMARILY INEDIBLE</u>					
Castor Oil	2,788	1,850	1,909	1,313	1,311
Tung Oil	1,242	425	692	734	699
Inedible Tallow ^{3/}	2,779	3,509	1,668	832	590
Animal Oil & Fats	475	808	487	652	568
Animal Grease ^{4/}	2,517	2,612	4,154	1,700	1,790
TOTAL INEDIBLE OILS & FATS	9,802	9,205	8,910	5,231	4,958
TOTAL EDIBLE & INEDIBLE FATS & OILS IMPORTS	186,172	247,408	241,804	281,025	224,570

TABLE 8 (Cont'd)FOOTNOTES TOCANADIAN IMPORTS OF FATS AND OILS

- 1/ Vegetable oil total includes the oil equivalent of the imported soybeans. This is justified because the soybeans are crushed in Canada for oil and meal production.
- 2/ Butter imports have been converted to oil equivalent, using the factor of 81%.
- 3/ This class includes both edible and inedible tallow. The proportions are not known.
- 4/ This category includes Animal Grease, NES and Wool Grease and Lanolin.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 9

CANADIAN EXPORTS OF FATS AND OILS

(Metric Tons)

PRIMARILY EDIBLE

<u>Vegetable Oils</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Soybeans (Oil Equiv.)	4,771	5,034	1,541	4,363	6,697
Soybean Oil	3,360	8,148	2,074	--	23
Rapeseed (Oil Equiv.)	477,474	246,394	270,479	309,949	411,177
Rapeseed Oil	34,805	27,669	19,811	42,501	102,700
Sunflowerseed (Oil Equiv.)	12,459	8,467	3,186	3,800	10,441
Margarine & Shortening	147	352	268	706	634
Vegetable Oil & Fats	13,252	763	944	6,974	1,413
TOTAL ^{1/}	546,269	296,828	298,303	368,293	533,085

Animal Fats

Butter (Oil Equiv.) ^{2/}	2	3	23	2,861	273
TOTAL	2	3	23	2,861	273

Marine Oils

Herring Oil	2,833	5,524	2,277	5,315	4,124
Whale Oil	1,259	--	--	5	14
TOTAL	4,093	5,524	2,277	5,320	4,138

TOTAL EDIBLE FATS & OILS(Including Oil Equiv.
of Oilseeds)

550,362	302,356	300,603	376,474	537,496
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PRIMARILY INEDIBLE

Flaxseed (Oil Equiv.)	153,355	124,267	86,709	87,297	116,595
Linseed Oil	6,080	592	3,562	5,108	5,717
Inedible Tallow ^{3/}	81,926	98,740	97,871	109,884	140,829
Marine Oils ^{4/}	2,683	2,338	2,615	4,789	11,902
Animal Fats and Oils	5,116	2,718	1,463	3,282	6,931

TOTAL INEDIBLE FATS & OILS

249,162	228,656	192,210	210,370	275,736
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TOTAL EDIBLE & INEDIBLE
FATS AND OILS

799,525	531,012	492,823	586,844	813,232
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TABLE 9 (Cont'd)FOOTNOTES TO
CANADIAN EXPORTS OF FATS AND OILS

- 1/ The margarine portion cannot be separated, consequently it was not converted to fat equivalent. Oil equivalent of oilseeds are included in all totals. It is justified to include the oil equivalents of exported oilseeds into the total of fats and oil exports, since it represents a form of oil export and does not involve a duplication of data. Starting in 1973 rapeseed oil exports are reported separately and are no longer included under "Vegetable Oils and Fats".
- 2/ Butter exports have been converted to oil equivalent, using the factor of 81%.
- 3/ This class includes both edible and inedible tallow. The proportions are not known.
- 4/ Marine oil exports listed under "Inedible Oils" include sun-rotted cod liver oil, a non-specified group of fish and marine oil, and fish liver and visceral oils. While most of these oils can be assumed to be of an inedible grade, a small quantity of edible oil may have been included.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 10

CANADIAN CRUSHINGS OF VEGETABLE OILSEEDS AND
PRODUCTION OF OIL AND MEAL BY CROP YEAR

(Metric Tons)

<u>CRUSHINGS</u>	<u>1972/73</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>
Flaxseed	66,890	19,346	$\frac{1}{x^-}$	$\frac{1}{x^-}$	$\frac{1}{x^-}$
Rapeseed	353,178	334,414	275,973	347,161	549,714
Soybeans	612,552	642,310	635,110	722,988	684,995
Sunflowerseed	31,717	28,212	7,134	20,029	$\frac{1}{x^-}$
TOTAL	<u>1,064,337</u>	<u>1,024,282</u>	<u>918,217</u>	<u>1,090,178</u>	<u>1,234,709</u>
<u>OIL PRODUCTION</u>					
Flaxseed	22,762	6,601	$\frac{1}{x^-}$	$\frac{1}{x^-}$	$\frac{1}{x^-}$
Rapeseed	133,966	125,631	108,483	141,698	225,805
Soybeans	99,125	109,169	108,344	122,694	115,616
Sunflowerseed	13,009	11,234	2,671	8,328	$\frac{1}{x^-}$
TOTAL	<u>268,862</u>	<u>252,635</u>	<u>219,498</u>	<u>272,720</u>	<u>341,421</u>
<u>MEAL PRODUCTION</u>					
Flaxseed	42,037	11,932	$\frac{1}{x^-}$	$\frac{1}{x^-}$	$\frac{1}{x^-}$
Rapeseed	204,169	193,932	157,763	197,376	314,903
Soybeans	482,973	503,368	499,183	569,467	540,689
Sunflowerseed	11,811	10,558	2,553	7,266	$\frac{1}{x^-}$
TOTAL	<u>740,990</u>	<u>719,790</u>	<u>659,499</u>	<u>774,109</u>	<u>855,592</u>

1/ Confidential - to meet secrecy requirements of the Statistics Act.

SOURCE: Statistics Canada, Catalogue No. 22-006.

CHAPTER 4THE CANADIAN RAPESEED SITUATIONCanadian Rapeseed Production

Rapeseed production continued its variable tendencies, declining to 836,886 tonnes in the 1976/77 crop year from 1,748,616 the previous year. The 1977/78 crop year saw production rise again to an estimated 1,775,800 metric tons. A further increase is projected for the crop year 1978/79.

Canadian Exports of Rapeseed

In 1977, exports of rapeseed increased to slightly over 1 million tonnes, reflecting strong demand. Japan and the EEC continued to be our main export markets. Rapeseed shipments as food aid have been sharply reduced and replaced by rapeseed oil.

Canadian Exports of Rapeseed Oil

Additional new crushing capacity has lead to increased export availability of rapeseed oil. Demand was strong for this oil during 1977, and the volume exported rose to 91,648 tonnes for the crop year 1976/77, and 102,700 tonnes for calendar year 1977.

Canadian Exports of Rapeseed Meal

Rapeseed meal exports rose to 107,088 tonnes in 1977 versus only 27,984 tonnes in 1976. This reflects the improved quality of the rapeseed meal now available plus the increase in domestic crushing activity.

Canadian Rapeseed Prices

Rapeseed is traded on the Winnipeg Commodity Exchange. Prices follow the general trend for soybeans, oil and meal traded on the Chicago market. During the current crop year, prices have been above soybean prices, due to the buoyant world market for edible oils.

TABLE 11CANADIAN SUPPLY AND DISPOSITION OF RAPESEEDRAPESEED OIL AND RAPESEED MEAL

(Crop Year)

<u>RAPESEED</u>	<u>1972/73</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>
	(Metric Tons)				
Stocks, Starting	978,386	468,974	280,912	399,913	1,048,648
Production	1,299,555	1,206,568	1,163,476	1,748,616	836,886
Exports	1,226,050	888,664	592,987	683,026	1,017,871
Domestic Crashings	353,170	334,414	275,968	347,160	549,714
<u>RAPESEED OIL</u>					
Exports	24,983	34,488	19,240	32,633	91,648
Domestic Production	133,966	125,631	108,483	141,698	225,806
<u>RAPESEED MEAL</u>					
Exports	19,452	47,580	10,672	27,984	107,088
Domestic Production	204,169	193,932	157,763	197,376	314,903

SOURCE: Statistics Canada, Catalogue No. 22-006.

TABLE 12
CANADIAN EXPORTS OF RAPESEED
(Metric Tons)

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Algeria	--	--	--	--	38,266
Australia	20,613	14,739	--	--	5
Bangladesh	81,048 ^{2/}	18,012 ^{3/}	47,688 ^{4/}	25,662 ^{8/}	17,530
Belgium-Luxembourg	2,092	358	508	--	248
Brazil	--	12	--	--	27
Denmark	4,536	--	--	--	18
Finland	--	--	--	103	82
France	17,118	--	--	--	1,519
Germany, West	87,970	23,418	5,651	15,058	66,843
India	51,302 ^{5/}	4,521 ^{6/}	14,142 ^{7/}	--	13,650
Italy	86,121	896	2,008	2,956	1,930
Japan	710,987	493,947	579,385	687,076	746,082
Korea, South	24,474	--	--	7,268	--
Lebanon	--	--	--	--	--
Mexico	23,502	38,731	--	--	--
Mozambique	--	--	--	--	7,700
Netherlands	61,895	20,680	18,426	16,682	111,876
Norway	--	--	--	--	2,656
Pakistan	--	--	--	--	--
Peru	--	2	--	--	--
Romania	--	1	--	--	--
Singapore	--	--	--	--	12,887
Spain	1,004	--	919	4	70
Sweden	13	1/	56	211	104
Switzerland	--	--	3,953	--	--
Taiwan	18,024	--	--	--	--
United Kingdom	3,048	999	3,324	13,358	5,884
United States	2	104	123	6,491	563
Venezuela	--	--	9	--	--
Yugoslavia	--	--	--	--	3
TOTAL	1,193,666	615,975	676,199	774,873	1,027,943

1/ Less than one metric ton.

2/ CIDA reports 27,140 metric tons shipped under bilateral food aid in the crop year 1972/73.

3/ CIDA reports 30,162 metric tons shipped under bilateral food aid in the crop year 1973/74.

4/ CIDA reports 9,432 metric tons shipped under bilateral food aid in the crop year 1974/75.

5/ CIDA reports 51,302 metric tons shipped under bilateral food aid in the crop year 1972/73.

6/ CIDA reports 4,521 metric tons shipped under bilateral food aid in the crop year 1973/74.

7/ CIDA reports 23,582 metric tons shipped under bilateral food aid in the crop year 1974/75.

8/ CIDA reports 16,787 metric tons shipped under bilateral food aid in the crop year 1975/76.

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 13

CANADIAN EXPORTS OF RAPESEED OIL

(Metric Tons)

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Algeria	--	--	--	--	3,216
Australia	395	538	122	--	2,917
Bangladesh	295 ^{1/}	--	--	5,542 ^{4/}	7,000
Chile	11,159	--	--	--	--
Ecuador	--	--	--	--	504
Egypt	--	--	--	745	2,160 ^{5/}
France	1	--	--	--	--
Germany, West	--	--	--	--	2,217
Haiti	--	--	--	--	2,434
Hong Kong	2,304	--	590	2,069	5,133
India	5,050	13,237 ^{2/}	9,438 ^{3/}	23,248 ^{4/}	66,794 ^{6/}
Japan	13,695	3,381	3,019	8,481	6,415
Lebanon	--	--	--	290	650 ^{7/}
Madagascar	--	--	--	--	284 ^{8/}
Netherlands	13	--	3,202	--	--
Portugal	--	--	--	--	123
Tunisia	--	--	--	--	131 ^{9/}
United Kingdom	1,176	1,240	2,476	--	--
United States	711	8,268	963	2,124	2,064
Viet Nam	--	--	--	--	728
Yemen	--	--	--	--	20
Zambia	--	1,002	--	--	--
TOTAL	34,805	27,669	19,811	42,501	102,700
TOTAL VALUE (\$'000)	10,223	14,133	15,683	23,081	61,907

^{1/} CIDA reports 4,493 metric tons shipped under bilateral food aid in the crop year 1972/73.

^{2/} CIDA reports 13,694 metric tons shipped under bilateral food aid in the crop year 1973/74.

^{3/} CIDA reports 7,364 metric tons shipped under bilateral food aid in the crop year 1974/75.

^{4/} CIDA reports 17,455 metric tons shipped under bilateral food aid in the crop year 1975/76.

^{5/} CIDA reports 3,500 metric tons shipped under bilateral food aid in the crop year 1976/77.

^{6/} CIDA reports 35,081 metric tons shipped under bilateral food aid in the crop year 1977/78.

TABLE 13 (Cont'd)FOOTNOTES TOCANADIAN EXPORTS OF RAPESEED OIL

- 7/ CIDA reports 1,328 metric tons shipped under World Food Program in the crop year 1977/78.
- 8/ CIDA reports 491 metric tons shipped under World Food Program in the crop year 1977/78.
- 9/ CIDA reports 707 metric tons shipped under World Food Program in the crop year 1977/78.

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 14CANADIAN EXPORTS OF RAPESEED OILCAKE AND MEAL

(Metric Tons)

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Barbados	9	269	--	--	--
Chile	5,499	--	--	--	--
France	--	--	--	--	3,675
Cuba	20	--	--	--	1,005
Denmark	--	--	--	--	4,532
Germany, West	1,451	16	1,965	4,686	57,565
Ireland	--	--	--	--	1,000
Jamaica	--	3	--	--	--
Japan	1	--	--	121	4,001
Korea, South	7,597	--	--	--	--
Mexico	3,039	5,811	--	--	--
Netherlands	6,702	10,738	5,756	26,941	7,967
Norway	--	--	--	--	24,395
Philippines	3,710	609	--	--	--
Taiwan	--	--	--	--	2,051
United Kingdom	11,616	7,620	12,392	16,127	21,968
United States	1,608	5,840	552	3,696	8,232
TOTAL	<u>41,257</u>	<u>30,911</u>	<u>20,666</u>	<u>51,573</u>	<u>136,393</u>
TOTAL VALUE (\$'000)	<u>6,198</u>	<u>3,218</u>	<u>2,115</u>	<u>6,089</u>	<u>19,639</u>

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 15

QUALITY DATA FOR WESTERN CANADIAN RAPESEED,
SURVEY SAMPLES OF 1976 AND 1977 CROPS

	1976 Survey				1977 Survey			
	<u>Oil</u> <u>Content</u>	<u>Erucic</u> <u>Acid</u> <u>Content</u>	<u>Protein</u> ^{2/} <u>Content</u>	<u>No. of</u> <u>Samples</u>	<u>Oil</u> ^{1/} <u>Content</u>	<u>Erucic</u> <u>Acid</u> <u>Content</u>	<u>Protein</u> ^{2/} <u>Content</u>	<u>No. of</u> <u>Samples</u>
<u>WESTERN CANADA</u>								
No. 1 CRS	41.3	2.3	36.3	421	41.9	1.6	36.1	387
No. 2 CRS	40.6	0.9	39.3	22	41.9	1.5	38.2	54
No. 3 CRS	-	-	-	-	42.9	1.0	36.9	1
All Grades	41.3	2.3	36.4	443	41.9	1.6	36.4	443
<u>ALL GRADES BY</u> <u>PROVINCE</u>								
Manitoba	41.8	2.1	38.6	61	42.1	1.7	37.3	79
Saskatchewan	41.9	1.5	36.6	205	42.5	1.0	36.7	173
Alberta	40.5	3.2	35.4	177	41.4	2.1	35.7	191

1/ Oil content of seed is reported on an 8.5% moisture basis.

2/ Protein content is reported on the oil-free meal and an 8.5% moisture basis.

SOURCE: Canadian Grain Commission, Crop Bulletins Nos. 133 and 137.

TABLE 16

SUMMERFALLOW AND STUBBLE CULTIVATION OF RAPESEED

	<u>Summer- fallow</u>	<u>Stubble</u>	<u>Total</u>
<u>Seeded Area</u>	<u>('000 Acres)</u>		
1973	2,410	740	3,150
1974	2,346	754	3,100
1975	3,170	1,080	4,250
1976	1,731	379	1,750
1977	2,291	959	3,250
<u>Distribution</u>	<u>(Per Cent)</u>		
1973	77	23	100
1974	76	24	100
1975	75	25	100
1976	78	22	100
1977	70	30	100
<u>Average Yield Per Seeded Acre</u>	<u>(Bushels)</u>		
1973	17.9	13.5	16.9
1974	17.2	13.4	16.3
1975	19.0	14.7	17.9
1976	22.2	15.6	20.8
1977	25.1	20.3	23.7
<u>Production</u>	<u>(Metric Tons)</u>		
1973	980,223	226,345	1,206,568
1974	913,998	229,066	1,143,064
1975	1,363,059	360,609	1,723,668
1976	691,735	133,811	825,546
1977	1,301,823	442,257	1,744,080

SOURCE: Statistics Canada, Catalogue No. 22-002

TABLE 17CANADIAN RAPESEED PRICES ^{1/}

(Crop Year)

<u>MONTH</u>	<u>1972/73</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>
Cents and Eighths Per Bushel.....				
August	244/7	649/7	821/2	666/2	527
September	253/3	536/4	851/4	595/3	557/6
October	256/1	493/7	955/5	533/1	513/3
November	260/5	482/5	902	495/3	579/4
December	295/5	566/6	812/3	441	549/4
January	325/6	655/1	731/7	451/6	578
February	374/4	706/1	639/3	467/7	788/3
March	361	677/7	620/2	465/4	712/3
April	376/2	608/7	643/3	455/7	828
May	399/1	702/1	568/5	479/3	837
June	537/7	738/6	545/3	540/5	759/4
July	<u>682/4</u>	<u>796</u>	<u>587/4</u>	<u>580/4</u>	<u>634/6</u>
Yearly Average	<u>364</u>	<u>634/4</u>	<u>723/2</u>	<u>514/3</u>	<u>655/3</u>

^{1/} Winnipeg Grain Exchange No. 1 Canadian Rapeseed,
basis in-store Thunder Bay.

SOURCE: Statistics Canada, Catalogue No. 22-006.

CHAPTER 5

THE CANADIAN SOYBEAN SITUATION

Canadian Supply and Disposition

Soybean production during the crop year 1976/77 declined from preceding years. This necessitated an increase in imports from the United States to fill domestic needs.

Interest is continuing on the part of the Japanese as regards edible grade soybeans and soybean products produced in Canada.

Canadian Imports of Soybeans and Soybean Oil

During 1977, imports of soybeans declined, as did imports of soybean oil. The main reason for this decline was the increased availability of rapeseed oil from domestic sources. Rapeseed oil became the leading oil in Canada during 1977, with 36 per cent of the market compared with 33 per cent for soybean oil. Increased supplies of Canadian - produced soybeans in 1977 also were a factor in reducing the import requirement.

Imports of Soybean Meal

Soybean meal imports were slightly reduced during the crop year 1976/77 compared with the previous year.

Canadian Exports of Soybeans

Canadian soybean exports consist mainly of edible grade beans to specialized markets such as Japan and Hong Kong. There are also small shipments to other markets for processing into oil and meal.

Canadian Exports of Soybean Oil and Meal

Canadian exports of soybean oil were virtually zero in 1977. Meal exports declined to 51,333 metric tons, reflecting the downward trend which commenced with the entry of the United Kingdom into the EEC.

TABLE 18

CANADIAN SUPPLY AND DISPOSITION OF SOYBEANS,
SOYBEAN OIL AND SOYBEAN MEAL
 (Crop Year)

<u>SOYBEANS</u>	<u>1972/73</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>
	(Metric Tons)				
Production	374,755	396,527	300,457	366,808	250,384
Imports	298,633	340,354	344,273	371,026	391,608
Exports	28,902	28,875	9,498	22,289	24,820
Domestic Crushings	612,535	642,309	635,096	722,975	684,995
<u>SOYBEAN OIL</u>					
Imports	16,459	33,395	19,557	30,810	26,704
Exports	12,547	4,942	5,587	1,043	-
Domestic Production	99,125	109,169	108,344	122,694	115,616
<u>SOYBEAN MEAL</u>					
Imports	219,872	232,974	271,149	343,814	339,244
Exports	118,066	94,087	83,527	69,335	51,333
Domestic Production	482,973	503,368	499,183	569,467	540,689

SOURCE: Statistics Canada, Catalogue No. 22-006.

TABLE 19

CANADIAN IMPORTS OF SOYBEAN AND SOYBEAN OILSoybeans
(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Germany, West	--	2	1	--	--
Hong Kong	12	<u>1</u> /	3	17	6
Japan	2	2	4	--	8
Peoples' Republic of China	20	20	13	--	9
Singapore	--	--	--	--	4
Sweden	--	--	--	--	<u>1</u> /
United Kingdom	<u>1</u> /	--	--	--	8
United States	<u>231,749</u>	<u>390,756</u>	<u>385,444</u>	<u>397,560</u>	<u>317,935</u>
TOTAL	<u>231,784</u>	<u>380,781</u>	<u>385,465</u>	<u>397,577</u>	<u>317,970</u>
TOTAL VALUE (\$'000)	<u>50,360</u>	<u>90,505</u>	<u>86,210</u>	<u>81,136</u>	<u>98,953</u>

Soybean Oil
(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
France	--	<u>1</u> /	1	--	--
United States	<u>18,971</u>	<u>33,614</u>	<u>20,881</u>	<u>31,205</u>	<u>28,138</u>
TOTAL	<u>18,971</u>	<u>33,614</u>	<u>20,882</u>	<u>31,205</u>	<u>28,138</u>
TOTAL VALUE (\$'000)	<u>8,264</u>	<u>24,829</u>	<u>14,394</u>	<u>14,223</u>	<u>17,216</u>

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 20

IMPORTS OF SOYBEAN OIL BY PROVINCE

	<u>1 9 7 3</u>		<u>1 9 7 4</u>		<u>1 9 7 5</u>		<u>1 9 7 6</u>		<u>1 9 7 7</u>	
	<u>Metric</u>	<u>'000</u>	<u>Metric</u>	<u>'000</u>	<u>Metric</u>	<u>'000</u>	<u>Metric</u>	<u>'000</u>	<u>Metric</u>	<u>'000</u>
	<u>Tons</u>	<u>of \$</u>	<u>Tons</u>	<u>of \$</u>	<u>Tons</u>	<u>of \$</u>	<u>Tons</u>	<u>of \$</u>	<u>Tons</u>	<u>of \$</u>
Nova Scotia	39	17	--	--	1	<u>1/</u>	10	6	--	--
New Brunswick	948	393	1,366	1,033	1,614	1,267	1,036	545	1,199	791
Quebec	873	446	5,897	3,871	1,490	822	2,056	788	436	282
Ontario	11,775	5,114	16,913	13,143	11,681	8,196	17,767	8,396	16,367	10,321
Manitoba	2,338	993	4,458	3,184	2,752	1,572	4,646	1,865	4,160	2,191
Saskatchewan	--	--	95	73	250	155	225	100	490	264
Alberta	162	72	970	599	343	236	1,931	734	3,246	1,896
British Columbia	2,830	1,225	3,912	2,922	2,747	2,142	3,532	1,783	2,238	1,468
TOTAL	<u>18,969</u>	<u>8,260</u>	<u>33,613</u>	<u>24,825</u>	<u>20,881</u>	<u>14,394</u>	<u>31,205</u>	<u>14,222</u>	<u>28,137</u>	<u>17,216</u>

1/ Less than \$1,000.

SOURCE: Statistics Canada, Unpublished Data.

TABLE 21

IMPORTS OF SOYBEAN MEAL BY PROVINCE

	<u>1 9 7 3</u>		<u>1 9 7 4</u>		<u>1 9 7 5</u>		<u>1 9 7 6</u>		<u>1 9 7 7</u>	
	<u>Metric</u> <u>Tons</u>	<u>'000</u> <u>of \$</u>	<u>Metric</u> <u>Tons</u>	<u>'000</u> <u>of \$</u>	<u>Metric</u> <u>Tons</u>	<u>'000</u> <u>of \$</u>	<u>Metric</u> <u>Tons</u>	<u>'000</u> <u>of \$</u>	<u>Metric</u> <u>Tons</u>	<u>'000</u> <u>of \$</u>
Newfoundland	--	--	--	--	129	18	--	--	--	--
Nova Scotia	3,084	477	133	29	3,288	521	19	3	2,913	679
New Brunswick	36	4	72	13	129	18	5,569	1,369	7,797	2,418
Quebec	36,719	5,312	65,673	10,399	91,146	20,062	118,447	25,368	99,456	26,329
Ontario	47,879	14,048	57,704	10,897	49,312	8,574	57,881	12,891	84,149	21,713
Manitoba	46,432	11,245	77,965	14,627	63,070	9,975	69,789	12,250	68,543	16,507
Saskatchewan	16,335	4,383	19,672	3,975	17,808	3,134	16,740	3,227	20,127	5,235
Alberta	21,794	5,644	27,025	5,108	37,904	6,273	42,521	7,120	38,634	9,564
B.C.	19,060	5,016	29,192	5,865	31,554	5,622	37,896	7,810	29,681	7,861
TOTAL	<u>191,341</u>	<u>46,129</u>	<u>277,438</u>	<u>50,853</u>	<u>294,343</u>	<u>54,209</u>	<u>348,865</u>	<u>70,042</u>	<u>351,302</u>	<u>90,310</u>

SOURCE: Statistics Canada, Unpublished Data.

TABLE 22CANADIAN EXPORTS OF SOYBEANS

(Metric Tons)

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Belgium-Luxembourg	--	2,000	--	--	--
Bulgaria	137	--	--	--	--
France	--	63	490	73	75
Germany, West	1	561	225	10	--
Hong Kong	18	957	2,192	5,111	6,502
Hungary	--	--	--	--	3
Jamaica	2	3	4	--	--
Japan	5,103	3,830	3,041	6,825	10,976
Malaysia	--	--	--	209	227
Netherlands	145	18	--	--	3,941
Philippines	--	--	--	125	--
Romania	--	--	--	--	1,008
Singapore	--	--	1,020	9,667	2,950
Spain	--	--	213	--	8,885
Sweden	839	1,356	--	--	--
Switzerland	72	91	--	--	--
Taiwan	--	--	--	--	397
United Kingdom	20,358	4,162	30	80	246
United States	274	22	46	351	94
U.S.S.R.	--	--	--	--	--
Yugoslavia	--	--	160	--	--
Other Countries ^{1/}	--	--	--	2,199	2,533
TOTAL	<u>26,955</u>	<u>13,066</u>	<u>8,710</u>	<u>24,653</u>	<u>37,837</u>
TOTAL VALUE (\$'000)	<u>6,151</u>	<u>3,451</u>	<u>2,812</u>	<u>6,100</u>	<u>11,047</u>

^{1/} To protect confidentiality under the Statistics Act.SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 23CANADIAN EXPORTS OF SOYBEAN OIL AND MEAL

(Metric Tons)

SOYBEAN OIL

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Bahamas	4	--	--	--	--
Germany, West	--	--	14	--	--
Jamaica	--	--	4	--	--
Leeward-Windward Islands	--	1	1	--	--
United Kingdom	3,310	7,778	1,965	--	--
United States	45	368	92	--	23
TOTAL	<u>3,359</u>	<u>8,148</u>	<u>2,076</u>	<u>--</u>	<u>23</u>
TOTAL VALUE (\$'000)	<u>1,233</u>	<u>5,663</u>	<u>1,391</u>	<u>--</u>	<u>12</u>

SOYBEAN MEAL

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Belgium-Luxembourg	6,679	--	--	--	--
Denmark	--	--	--	--	6,748
Germany, West	--	--	--	28	3,790
Guyana	--	--	--	3	--
Ireland	--	3,789	--	2,039	--
Trinidad-Tobago	--	--	1	--	--
United Kingdom	94,906	101,984	57,269	59,653	34,333
United States	9,923	9,420	1,723	987	718
TOTAL	<u>111,509</u>	<u>115,195</u>	<u>58,993</u>	<u>62,711</u>	<u>45,589</u>
TOTAL VALUE (\$'000)	<u>18,851</u>	<u>17,547</u>	<u>9,435</u>	<u>11,272</u>	<u>10,747</u>

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 24

CANADIAN SOYBEAN PRICES ^{1/}

(Crop Year)

<u>M O N T H</u>	<u>1972/73</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>
(Cents and Eighths Per Bushel).....				
August	340/7	1040	716/2	596/5	576/7
September	325/6	605	726/6	545/5	619/7
October	310/5	557	811/4	477/3	574/4
November	342/2	553/6	723/6	435	602/4
December	391/7	583/7	678/2	420/6	664
January	428	606/2	590/6	436/3	676/1
February	567/6	644/1	506/2	441/7	709/4
March	617/5	610/2	504/2	438/1	829/1
April	646/4	534/2	527/3	437/6	937/5
May	882/4	517/1	481/8	481/2	945/5
June	1095/7	504/6	488/2	582/4	816
July	<u>929</u>	<u>642/1</u>	<u>542/7</u>	<u>611/4</u>	<u>611/7</u>
Yearly Average	<u>573/2</u>	<u>616/4</u>	<u>608/2</u>	<u>492/1</u>	<u>713/6</u>

^{1/} Buying prices, carlots, f.o.b. Chatham, No. 2 and better.SOURCE: Statistics Canada, Catalogue No. 22-006.

CHAPTER 6

THE CANADIAN SUNFLOWERSEED SITUATION

Canadian Sunflowerseed Production

Canadian production of sunflowerseed increased sharply in 1977, when production rose to 79,379 metric tons versus 24,047 the previous year.

Manitoba produces virtually all of the sunflowerseed grown in Canada. Production is variable from year to year because of competition from other crops.

The Canadian and export markets could absorb much larger quantities of sunflowerseed and oil if production could be increased.

Canadian Trade in Sunflowerseed and Oil

Exports of sunflowerseed rose to 26,103 tonnes in 1977 from 9,501 tonnes in 1976. The principal markets were the EEC, Czechoslovakia and the United States.

A very small quantity of sunflowerseed oil was imported in 1977, from the United States. There were no exports of this oil from Canada in 1977.

TABLE 25CANADIAN SUNFLOWERSEED: ACREAGE, YIELD AND PRODUCTION

(Crop Year)

	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>	<u>1977/78</u>
	(Thousands of Acres)				
Manitoba	125.0	30.0	62.0	50.0	165.0
Saskatchewan	2.5	-	-	-	-
Alberta	1.5	-	-	-	-
Canada, Total	129.0	30.0	62.0	50.0	165.0

(Yield Per Acre, Pounds)

Manitoba	700	867	1,065	1,060	1,061
Saskatchewan	800	-	-	-	-
Alberta	933	-	-	-	-
Canada, Total	705	867	1,065	1,060	1,061

(Production - Metric Tons)

Manitoba	39,689	8,255	29,945	24,047	79,379
Saskatchewan	907	-	-	-	-
Alberta	635	-	-	-	-
Canada, Total	41,232	8,255	29,937	24,047	79,379

SOURCE: Statistics Canada, Catalogue No. 22-002.

TABLE 26

CANADIAN EXPORTS OF SUNFLOWERSEED

(Metric Tons)

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Algeria	--	--	--	--	1,050
Australia	<u>1/</u>	--	--	17	15
Bangladesh	<u>1/</u>	2	--	2	--
Czechoslovakia	--	6,877	--	1,604	6,998
Denmark	--	--	--	18	--
France	20,357	--	--	--	--
Germany, West	69	7,244	3,825	3,590	344
Italy	8,255	--	--	--	--
Korea, South	23	--	--	--	--
Mexico	--	--	--	---	434
Netherlands	887	5,703	--	3,001	14,284
New Zealand	2	<u>1/</u>	2	<u>1/</u>	5
Portugal	--	36	2,701	--	--
Spain	161	--	526	--	--
Sweden	37	<u>1/</u>	2	4	5
United Kingdom	22	31	34	25	19
United States	1,326	1,250	874	1,238	2,949
U.S.S.R.	--	<u>1/</u>	--	--	--
TOTAL	<u>31,143</u>	<u>21,169</u>	<u>7,965</u>	<u>9,501</u>	<u>26,103</u>
TOTAL VALUE (\$'000)	<u>6,143</u>	<u>7,334</u>	<u>2,623</u>	<u>3,258</u>	<u>6,225</u>

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 27CANADIAN IMPORTS OF SUNFLOWERSEED OIL

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Austria	1	3	5	--	--
France	<u>1/</u>	2	1	--	--
United States	74	178	160	271	59
U.S.S.R.	--	1	4	--	--
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
TOTAL	<u>77</u>	<u>186</u>	<u>170</u>	<u>271</u>	<u>59</u>
TOTAL VALUE (\$'000)	<u>27</u>	<u>181</u>	<u>158</u>	<u>147</u>	<u>43</u>

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 28

IMPORTS OF SUNFLOWERSEED OIL BY PROVINCE

	<u>1 9 7 3</u>		<u>1 9 7 4</u>		<u>1 9 7 5</u>		<u>1 9 7 6</u>		<u>1 9 7 7</u>	
	Metric	'000	Metric	'000	Metric	'000	Metric	'000	Metric	'000
	Tons	\$	Tons	\$	Tons	\$	Tons	\$	Tons	\$
Nova Scotia	--	--	--	--	--	--	1	<u>2/</u>	--	--
Quebec	2	1	7	4	8	9	2	<u>2/</u>	--	--
Ontario	74	25	178	175	50	43	38	22	4c	2
Alberta	--	--	--	--	111	105	213	115	26	18
British Columbia	--	--	<u>1/</u>	<u>1/</u>	<u>1/</u>	<u>2/</u>	16	6	27	22
TOTAL	<u>77</u>	<u>26</u>	<u>185</u>	<u>179</u>	<u>170</u>	<u>157</u>	<u>270</u>	<u>143</u>	<u>58</u>	<u>43</u>

1/ Less than one metric ton.2/ Less than \$1,000.SOURCE: Statistics Canada, Unpublished Data.

CHAPTER 7

THE CANADIAN MUSTARDSEED SITUATION

Canadian Mustardseed Production

Mustardseed is grown largely under contract. Production in 1977 increased by 125 per cent to 79,378 metric tons, reflecting a doubling of acreage and a higher yield than the previous year.

Production is concentrated in the Prairie region, with Eastern Ontario also producing a small acreage.

Canadian Exports of Mustardseed

Canada is a leading exporter of mustardseed. Major markets are the EEC, Japan and the United States. The volume of mustardseed exported in 1977 was 56,438 metric tons valued at \$19,660,000, little changed from 1976.

Canadian Imports of Ground Mustard

Some types of ground mustard are imported in packaged form. Total imports in 1977 were 349 metric tons valued at \$548,000, versus 269 tonnes in 1976 valued at \$358,000.

TABLE 29CANADIAN MUSTARDSEED: ACREAGE, YIELD AND PRODUCTION

(Crop Year)

	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>	<u>1977/78</u>
	(Thousands of Acres)				
Manitoba	40	40	23	18	40
Saskatchewan	225	200	76	47	100
Alberta	70	110	64	22	42
Canada, Total	335	350	163	87	182

(Yield, Pounds Per Acre)

Manitoba	800	750	630	800	900
Saskatchewan	800	750	658	894	1,050
Alberta	714	727	719	973	810
Canada, Total	782	743	678	894	962

(Production-Metric Tons)

Manitoba	14,515	13,608	6,578	6,531	16,329
Saskatchewan	81,647	68,039	22,679	19,051	47,627
Alberta	22,679	36,287	20,865	9,707	15,422
Canada, Total	118,842	117,935	50,121	35,289	79,378

SOURCE: Statistics Canada, Catalogue No. 22-002.

TABLE 30CANADIAN EXPORTS OF MUSTARDSEED

(Metric Tons)

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Australia	--	65	--	--	22
Belgium-Luxembourg	8,035	6,292	114	574	435
Brazil	<u>1/</u>	93	--	--	--
Chile	--	4	--	--	--
Costa Rica	--	4	15	17	--
Czechoslovakia	--	--	108	35	--
El Salvador	4	--	--	--	--
France	--	129	290	181	--
Germany, West	11,459	2,165	3,483	2,613	2,157
Guatemala	--	1	--	--	--
Israel	25	--	3	--	--
Japan	6,149	7,565	9,058	7,517	7,024
Mexico	177	281	272	108	196
Netherlands	10,791	18,048	11,057	9,114	14,138
New Zealand	--	1	--	--	--
Philippines	--	--	4	4	7
South Africa	--	--	--	--	21
Spain	--	--	17	40	--
Sweden	--	54	54	54	--
Switzerland	684	94	430	--	1,108
United Kingdom	36	637	1,253	85	18
United States	34,052	33,460	31,659	38,526	31,312
U.S.S.R.	24	--	--	--	--
Venezuela	1	22	24	--	--
TOTAL	<u>71,441</u>	<u>68,925</u>	<u>57,841</u>	<u>58,871</u>	<u>56,438</u>
TOTAL VALUE (\$'000)	<u>13,812</u>	<u>21,171</u>	<u>22,939</u>	<u>20,946</u>	<u>19,660</u>

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 31CANADIAN IMPORTS OF GROUND MUSTARD

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
France	--	--	4	--	9
Germany, West	4	1/	2	--	--
Hong Kong	1	1/	1/	--	1/
India	--	--	1/	--	--
Japan	1	1/	1/	--	--
People's Republic of China	--	3	--	--	--
Taiwan	--	--	2	--	--
United Kingdom	271	306	317	169	241
United States	41	56	65	99	98
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
TOTAL	319	368	393	269	349
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
TOTAL VALUE (\$'000)	407	424	522	358	548
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007.

CHAPTER 8OTHER OILSEED CAKE AND MEAL

Canadian imports of other oilseed cake and meal regained the level of years prior to 1976 with an increase of 44.1 per cent in 1977 as compared to 1976 (Table 32). Cottonseed meal imports accounted for the increase in spite of a price increase from \$117. per tonne in 1976 to \$149. per tonne in 1977.

Exports of oilseed cakes and meals (NES) dropped by 36.5 per cent in 1977 as compared to 1976 (Table 33). The sole buyer remains the United States, and total exports are still at an insignificant level with a total of 732 tonnes.

TABLE 32CANADIAN IMPORTS OF MISCELLANEOUS OILSEED CAKE AND MEALS

(Metric Tons)

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Cottonseed Meal	1,228	307	317	27	1,001
Oilseed Cake & Meal (NES)	<u>1,411</u>	<u>3,303</u>	<u>2,317</u>	<u>1,732</u>	<u>1,535</u>
TOTAL	<u>2,639</u>	<u>3,610</u>	<u>2,634</u>	<u>1,759</u>	<u>2,536</u>
TOTAL VALUE (\$'000)	<u>506</u>	<u>598</u>	<u>390</u>	<u>206</u>	<u>379</u>

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 33CANADIAN EXPORTS OF OILSEED CAKES AND MEALS (NES)

(Metric Tons)

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Barbados	--	--	--	--	--
Belgium-Luxembourg	54	--	--	--	--
Bermuda	29	--	--	--	--
France	1,887	--	--	--	--
Germany, West	36	--	--	--	--
Italy	9,353	--	--	--	--
Japan	70,725	--	--	--	--
Netherlands-Antilles	9,334	--	--	--	--
Norway	18	--	--	--	--
St. Pierre-Miquelon	--	--	4	--	--
United Kingdom	547	--	--	--	--
United States	20,590	--	--	1,150	732
TOTAL	112,575	--	4	1,150	732
TOTAL VALUE (\$'000)	6,706	--	1	114	103

SOURCE: Statistics Canada, Catalogue No. 65-004.

CHAPTER 9

DEODORIZED FATS AND OILS

Canadian production of deodorized fats and oils continues to increase with a gain of 2.9 per cent in 1977 over 1976. Vegetable oils have maintained their share at 90.0 per cent of the total fats and oils utilized in the manufacture of shortenings, margarines and salad oils. The relative production of shortening, margarine and salad oils as a percentage of the total has remained fairly constant with shortening 44.1 per cent; margarine 28.4 per cent and salad oil at 27.4 per cent (Table 34).

Imports of vegetable oils and fats (NES) dropped by 28 per cent in 1977 over 1976 and have reached the lowest figure since 1973 (Table 35). These imports come from a wide variety of countries with the United Kingdom and the United States making up the bulk at 89.9 per cent.

Canadian imports of cocoa butter decreased slightly in 1977 (Table 36). Brazilian shipments dropped back to 1975 levels while United Kingdom exports rose from 1,409 tonnes to 1,714 tonnes. It is interesting to note the huge increase in price to \$5,091.62 per tonne in 1977 from \$3,337.46 per tonne in 1976.

For the first time in five years importation of coconut oil dropped by 18.3 per cent from 1976 to 1977 (Table 37). Imports from Sri Lanka dropped from 8,190 tonnes in 1976 to 156 tonnes in 1977, while Malaysian exports rose sharply from 1,730 tonnes in 1976 to 4,664 tonnes in 1977. Although coconut oil is a specialized oil, the price of \$596. per tonne in 1977 compared to \$365. per tonne in 1976 probably accounted for the decrease in imports as it is possible in some industrial applications to replace coconut oil when price or availability becomes a factor.

Corn oil imports for 1977 decreased by 5.7 per cent compared to 1976 (Table 38). The price in 1977 was \$685. per tonne as compared with an average of \$530. per tonne in 1976. Price could have been a factor in reduced imports in spite of the ongoing statements being made with respect to the use of polyunsaturated oils in the human diet.

Cottonseed oil imports rose from 5,200 tonnes in 1976 to 5,497 tonnes in 1977 (Table 39). This occurred in spite of an increase in average price from \$550. per tonne in 1976 to \$614. per tonne in 1977.

Olive oil imports dropped somewhat in 1977 after their sharp increase in 1976 but remained much closer to the new level reached in 1976 (Table 40). Spain continues to be the major supplier. The price for olive oil dropped significantly from \$910. per tonne in 1976 to \$703. per tonne in 1977. The importation of olive oil is likely to continue at these levels due to the make-up of the Canadian population by people from those countries where olive oil has been the predominant oil.

Palm oil imports suffered their largest drop in five years from 55,001 tonnes in 1976 to 31,179 tonnes in 1977, a decrease of 43.3 per cent (Table 41). The price for palm oil predominantly from Malaysia and Indonesia rose from \$350. per tonne in 1976 to \$550. per tonne in 1977. This major price change is primarily responsible for the reductions in palm oil imports as other local oils are interchangeable with palm oil.

Palm kernel oil imports dropped substantially in 1977 as compared to 1976 by 30.5 per cent (Table 42). The average price for palm kernel oil rose sharply in 1977 to \$589. per tonne as compared to \$305. per tonne in 1976. Shipments from the United States dropped back to more normal levels while those from Malaysia and the Netherlands continue to make-up the major share of all palm kernel oil imports.

Peanut oil imports continue to indicate a stable level in spite of a sharp price increase from \$630. per tonne in 1976 to \$815. per tonne in 1977 (Table 43). The United States continues to be the major supplier of peanut oil with Brazil showing a dramatic decrease in exports to Canada in 1977 as compared to their performance in the two previous years.

Canadian exports of other vegetable oils and fats (NES) dropped dramatically by 80 per cent in 1977 as compared to 1976 (Table 44). The two major buyers in 1976 were West Germany and Saudi Arabia but their purchases have dropped back to insignificant quantities in 1977.

TABLE 34

CANADIAN PRODUCTION OF DEODORIZED FATS AND OILS

(Metric Tons)

VEGETABLE OILS	1 9 7 6				1 9 7 7			
	Margarine Oil	Shortening Oil	Salad Oil	Total	Margarine Oil	Shortening Oil	Salad Oil	Total
Coconut	318	17,959	14	18,291	X	X	X	18,447
Corn	7,161	X	X	17,057	X	X	X	21,263
Cottonseed	2	2,668	729	3,399	X	X	X	3,301
Palm	6,877	30,353	1,140	38,370	X	24,165	X	28,904
Palm Kernel	X	X	-	6,154	X	X	X	6,052
Peanut	-	X	X	6,481	X	X	X	6,567
Rapeseed	31,844	21,451	47,228	100,523	34,919	32,683	53,392	120,994
Soybean	49,950	49,817	21,223	120,990	53,336	42,634	20,334	116,304
Sunflowerseed	X	X	X	11,163	X	X	X	10,727
Other Vegetable	X	X	-	1,488	X	X	X	650
TOTAL VEGETABLE OILS	97,064	132,712	94,140	323,916	102,778	128,971	101,460	333,209
MARINE OILS								
Herring	1,412	1,739	-	3,151	X	X	-	X
Seal	-	-	-	-	X	X	-	76
Whale	-	-	-	-	-	-	-	-
Other Marine	123	170	-	293	X	X	-	X
TOTAL MARINE OILS	1,535	1,909	-	3,444	-	-	-	76
ANIMAL FATS								
Lard	1,684	8,151	35	9,870	X	X	-	X
Oleo, All Types	-	1,297	-	1,297	-	X	-	X
Tallow, Edible	240	20,489	163	20,892	X	X	-	X
TOTAL ANIMAL FATS	1,924	29,937	198	32,059	X	X	-	X
TOTAL ALL FATS & OILS	100,523	164,558	94,338	359,419	104,971	163,375	101,460	369,806

TABLE 34 (Cont'd)

X Confidential to meet secrecy requirements of the Statistics Act.

SOURCE: Statistics Canada, Catalogue No. 32-006.

TABLE 35

CANADIAN IMPORTS OF VEGETABLE OILS AND FATS (NES)

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Austria	6	1	10	1	2
Belgium-Luxembourg	--	18	--	--	--
Brazil	35	18	14	212	15
Denmark	10	140	146	23	23
Egypt	--	--	--	--	<u>1</u> /
France	2	2	1	13	2
Germany, West	16	72	6	6	9
Greece	--	185	545	<u>1</u> /	--
Hong Kong	22	30	31	29	47
India	--	<u>1</u> /	<u>1</u> /	6	<u>1</u> /
Israel	6	--	--	--	--
Japan	28	59	33	47	98
Lebanon	1	--	<u>1</u> /	--	--
Netherlands	--	--	64	2	1
New Zealand	--	--	--	10	--
Peoples' Republic of China	1	5	7	14	19
Singapore	--	<u>1</u> /	--	2	--
Switzerland	1	1	3	3	6
Syria	--	1	--	--	--
Taiwan	--	<u>1</u> /	<u>1</u> /	<u>1</u> /	--
United Kingdom	289	1,994	572	331	512
United States	4,077	3,441	1,521	2,452	1,528
Yugoslavia	1	--	6	<u>1</u> /	8
TOTAL	<u>4,501</u>	<u>5,973</u>	<u>2,965</u>	<u>3,156</u>	<u>2,270</u>
TOTAL VALUE (\$'000)	<u>1,597</u>	<u>7,447</u>	<u>3,129</u>	<u>3,069</u>	<u>3,111</u>

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 36CANADIAN IMPORTS OF COCOA BUTTER

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Australia	--	1,019	--	--	--
Brazil	351	1,677	426	875	416
Cuba	99	--	60	92	75
Dominican Republic	145	33	--	--	--
Ecuador	--	246	--	--	180
Germany, West	99	283	37	--	170
Ghana	1,198	1,016	--	--	--
Guinea	--	25	--	--	--
Ireland	42	--	--	--	--
Ivory Coast	99	977	236	299	178
Jamaica	50	44	--	--	10
Leeward-Windward Is.	--	30	--	--	--
Mexico	22	--	184	--	--
Netherlands	2,073	98	1,521	1,612	1,453
Nigeria	841	3,173	--	--	--
Singapore	--	--	--	26	--
Trinidad-Tobago	--	10	--	--	--
United Kingdom	1,274	211	1,283	1,409	1,714
United States	295	4,241	613	693	636
TOTAL	<u>6,593</u>	<u>13,175</u>	<u>4,362</u>	<u>5,008</u>	<u>4,835</u>
TOTAL VALUE (\$'000)	<u>12,925</u>	<u>20,048</u>	<u>14,378</u>	<u>16,714</u>	<u>24,618</u>

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 37CANADIAN IMPORTS OF COCONUT OIL

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Australia	661	993	2,218	<u>1/</u>	<u>1/</u>
British Oceania	46	--	--	--	--
Fiji	--	1,721	<u>1/</u>	--	--
Finland	--	--	68	--	--
Germany, West	--	1	1	--	--
Hong Kong	--	--	--	<u>1/</u>	--
Indonesia	--	--	--	173	--
Jamaica	<u>1/</u>	--	--	2	3
Leeward-Windward Is.	1	--	--	--	--
Malaysia	6,744	7,907	3,902	1,730	4,664
Netherlands	1,322	--	--	--	--
Norway	--	<u>1/</u>	--	--	--
Philippines	8,490	67	7,137	18,623	18,827
Puerto Rico	3	18	--	--	--
Singapore	4	5	--	--	--
Sri Lanka	1,728	8,096	10,540	8,190	156
United Kingdom	370	719	346	174	1
United States	1,922	2,423	1,600	752	567
TOTAL	<u>21,297</u>	<u>21,956</u>	<u>25,816</u>	<u>29,647</u>	<u>24,218</u>
TOTAL VALUE (\$'000)	<u>7,643</u>	<u>20,934</u>	<u>11,995</u>	<u>10,847</u>	<u>14,447</u>

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 38

CANADIAN IMPORTS OF CORN OIL
(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
France	--	<u>1/</u>	<u>1/</u>	--	--
Germany, West	309	--	--	--	--
United Kingdom	1,067	1,605	--	--	--
United States	<u>5,226</u>	<u>8,752</u>	<u>10,172</u>	<u>16,418</u>	<u>15,482</u>
TOTAL	<u>6,603</u>	<u>10,358</u>	<u>10,173</u>	<u>16,418</u>	<u>15,482</u>
TOTAL VALUE (\$'000)	<u>3,291</u>	<u>9,010</u>	<u>7,311</u>	<u>8,705</u>	<u>10,612</u>

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 39CANADIAN IMPORTS OF COTTONSEED OIL

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
United Kingdom	--	<u>1/</u>	--	--	--
United States	<u>8,402</u>	<u>11,333</u>	<u>11,289</u>	<u>5,200</u>	<u>5,497</u>
TOTAL	<u>8,402</u>	<u>11,334</u>	<u>11,289</u>	<u>5,200</u>	<u>5,497</u>
TOTAL VALUE (\$'000)	<u>3,102</u>	<u>8,214</u>	<u>7,647</u>	<u>2,863</u>	<u>3,376</u>

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 40

CANADIAN IMPORTS OF OLIVE OIL
(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Chile	--	--	--	25	--
France	30	38	30	28	15
Greece	130	105	417	162	107
Italy	698	773	611	525	737
Portugal	273	241	150	106	155
Spain	899	1,170	709	2,132	3,750
Sweden	--	8	--	--	--
Switzerland	--	--	17	--	--
Tunisia	--	--	22	--	--
Turkey	--	1	1	--	14
United States	54	66	29	2,117	62
TOTAL	<u>2,086</u>	<u>2,408</u>	<u>1,986</u>	<u>5,096</u>	<u>4,840</u>
TOTAL VALUE (\$'000)	<u>2,795</u>	<u>4,597</u>	<u>4,161</u>	<u>4,646</u>	<u>3,406</u>

SOURCE: Statistics Canada, Catalogue No. 65-007.

Table 41Canadian Imports of Palm Oil

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Germany, West	3	1	--	--	--
Ghana	--	--	--	--	3
India	--	--	--	<u>1</u> /	--
Indonesia	--	2,011	13,085	20,592	15,249
Ivory Coast	--	--	1,385	--	--
Malaysia	19,558	10,503	23,675	31,800	13,972
Netherlands	--	--	--	--	8
Philippines	--	--	--	250	--
Singapore	--	1,020	509	1	--
United Kingdom	<u>1</u> /	3	<u>1</u> /	2	6
United States	16	2,658	2,627	2,354	1,941
TOTAL	<u>19,578</u>	<u>16,199</u>	<u>41,283</u>	<u>55,001</u>	<u>31,179</u>
TOTAL VALUE (\$'000)	<u>4,560</u>	<u>10,671</u>	<u>19,547</u>	<u>19,285</u>	<u>17,142</u>

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 42CANADIAN IMPORTS OF PALM KERNEL OIL

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Denmark	--	--	--	--	7
Hong Kong	--	200	--	--	--
Indonesia	--	--	473	2,223	3,905
Malaysia	4,474	2,970	3,966	4,685	2,941
Netherlands	142	78	13	10	--
Nigeria	975	--	--	--	--
Singapore	--	--	--	44	--
United States	351	1,126	640	3,388	339
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TOTAL	5,943	4,376	5,092	10,351	7,192
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TOTAL VALUE (\$'000)	2,160	4,459	2,565	3,174	4,236
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 43

CANADIAN IMPORTS OF PEANUT OIL
(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Brazil	--	--	2,444	3,602	604
France	--	--	18	--	--
Hong Kong	94	190	97	52	40
Japan	--	--	5	--	--
Nicaragua	--	--	--	693	--
Nigeria	2,155	--	--	--	--
Senegal	--	--	507	--	--
United Kingdom	--	519	680	<u>1/</u>	<u>1/</u>
United States	<u>5,132</u>	<u>4,808</u>	<u>3,095</u>	<u>2,381</u>	<u>6,201</u>
TOTAL	<u>7,382</u>	<u>5,519</u>	<u>6,846</u>	<u>6,734</u>	<u>6,845</u>
TOTAL VALUE (\$'000)	<u>3,769</u>	<u>5,031</u>	<u>5,950</u>	<u>4,252</u>	<u>5,582</u>

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007.

Table 44

CANADIAN EXPORTS OF OTHER VEGETABLE OILS AND FATS (NES)^{1/}

(Metric Tons)

DESTINATION	1973	1974	1975	1976	1977
Australia	--	--	2/	--	2/
Bahamas	5	--	--	4	2
Barbados	28	43	10	13	46
Bermuda	20	2	--	--	--
British Honduras	1	--	--	--	--
Colombia	--	--	--	443	--
Cuba	14	1	183	4	3
Cyprus	--	--	2/	--	--
Emirates, UA	--	--	--	13	--
Germany, West	--	1	2/	2,205	3
Greenland	1/	--	--	--	--
Guyana	26	154	6	2	4
Haiti	--	--	111	--	--
Honduras	6	--	--	--	--
Hong Kong	419	--	--	--	--
India	--	--	--	5	--
Ivory Coast	--	--	--	--	1
Jamaica	6	1	1	--	--
Jordan	--	--	--	5	--
Kenya	2	1/	--	--	--
Kuwait	--	11	--	--	--
Leeward-Windward Is.	31	9	63	45	100
Mexico	9	--	--	--	--
Netherlands	--	--	--	--	57
Peru	--	--	--	--	66
Saudi Arabia	--	--	99	3,156	32
South Africa	--	2/	2/	--	--
St. Pierre-Miquelon	1	2/	--	--	1
Sweden	--	--	--	17	18
Taiwan	--	--	--	2/	--
Trinidad-Tobago	133	159	29	120	159
United Kingdom	12,100	--	71	125	66
United States	445	375	364	811	855
TOTAL	13,249	763	944	6,974	1,413
TOTAL VALUE (\$'000)	1,238	513	512	1,914	918

TABLE 44 (Cont'd)FOOTNOTES TOCANADIAN EXPORTS OF OTHER VEGETABLE OILS AND FATS (NES)^{1/}

1/ This export class No. 393-99 includes sunflower oil, salad & cooking oil and certain specialty fats like pan greases. Prior to 1973 it included rapeseed oil.

2/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-004.

CHAPTER 10SPECIFIED FATS AND OILS

The trend established in margarine production in previous years continued in 1977, when domestic production increased by some 10 thousand metric tons over the previous year. The sharp decline in butter production reflects both the replacement of butter by margarine and also the increased usage of butter fat in cheese and concentrated whole milk products (Table 51).

Canadian imports of margarine and shortening (Table 46) declined substantially during the year, possibly indicating a shift to self sufficiency in the domestic industry, as the drop in imports is markedly greater than the reduction in exports of these commodities (Table 47).

Shortening production appears to have stabilized, while that of salad oils continues its growth pattern exhibited in previous years. It should be noted, however, that imports of vegetable cooking fats and packaged salad oils (Table 48) climbed, reversing the trend exhibited in 1976. However, these imports were still appreciably lower than those of 1975.

Of chief interest in the production, import and export of fats and oils of animal origin (Tables 45, 49 and 50) are the reduction in imports of these items, and also the massive increase in the exports of tallow, oils and fats (NES). Study of this latter table indicates that there have again been substantial shifts in the importance of the markets for these products in many of Canada's trading partners. These changes indicate the variations in both demand and relative market value in the various countries.

Animal oil and fat production in Canada in 1978 should reflect the expected increase in hog slaughter and the decrease in cattle slaughter forecast for the industry.

TABLE 45

CANADIAN PRODUCTION OF SPECIFIED FATS AND OILS PRODUCTS

(Thousands of Metric Tons)

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Margarine ^{1/}	98	108	119	126	136
Butter ^{2/}	98	108	131	117	94
<u>SHORTENING</u>					
Packaged ^{3/}	17	17	23	90	90
Bulk ^{4/}	163	154	148	81	81
<u>REFINED OILS</u>					
Salad ^{5/}	69	77	81	95	101
Lard ^{6/}	50	50	43	42	40
<u>TALLOW</u> ^{7/}					
Edible	18	16	17	16	13
Inedible	184	182	182	199	180

1/ Includes retail and commercial packages. Commercial sales (21-450 pound) packages account for about 5% of total output.

2/ Includes factory and whey butter.

3/ Retail packages up to 20 pounds only.

4/ Covers commercial (21-450 pound) packages, bulk and other than packaged retail sales of manufacturers of shortening and deodorized shortening oil. Includes baking and frying fats and oils.

5/ Covers packaged and bulk manufacturers' sales.

6/ Rendered lard includes shipments of processed lard in retail and commercial packages and bulk sales.

7/ Shipments for year.

SOURCE Statistics Canada, Catalogue Nos. 32-002 and 32-006.

TABLE 46CANADIAN IMPORTS OF MARGARINE AND SHORTENING

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Denmark	1	--	--	--	--
France	--	--	--	--	2
Germany, West	1	9	1	4	3
Greece	3	--	--	15	--
India	--	--	--	1	--
Netherlands	--	--	--	2	--
St. Pierre-Miquelon	--	--	--	22	--
Sweden	39	69	5	55	44
United Kingdom	--	--	--	<u>1/</u>	--
United States	<u>4,314</u>	<u>11,903</u>	<u>15,695</u>	<u>16,221</u>	<u>14,040</u>
TOTAL	<u>4,360</u>	<u>11,983</u>	<u>15,701</u>	<u>16,322</u>	<u>14,089</u>
TOTAL VALUE (\$'000)	<u>1,743</u>	<u>9,005</u>	<u>11,399</u>	<u>8,967</u>	<u>9,921</u>

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 47

CANADIAN EXPORTS OF MARGARINE, SHORTENING AND LARD

(Metric Tons)

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Bahamas	--	--	1	--	--
Bahrain	--	--	--	17	--
Barbados	39	--	--	--	--
Bermuda	22	22	14	16	15
Emirates, UA	--	--	--	48	64
Germany, West	--	--	1	--	2
Greenland	3	--	--	--	--
Jamaica	4	30	22	35	4
Japan	--	18	--	--	--
Jordan	--	--	--	18	16
Kuwait	--	--	--	67	46
Lebanon	--	--	--	--	190
Leeward-Windward Is.	<u>1/</u>	<u>1/</u>	3	--	19
Libya	--	--	--	7	--
Netherlands-Antilles	3	1	--	--	32
Qatar	--	--	--	15	11
Saudi Arabia	--	--	--	405	64
St. Pierre-Miquelon	50	44	42	25	41
Trinidad-Tobago	--	--	<u>1/</u>	--	1
United States	22	234	182	49	122
Yemen	<u>1/</u>	--	--	--	--
TOTAL	<u>144</u>	<u>352</u>	<u>268</u>	<u>706</u>	<u>634</u>
TOTAL VALUE (\$'000)	<u>100</u>	<u>290</u>	<u>248</u>	<u>543</u>	<u>770</u>

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-004.

Table 48

CANADIAN IMPORTS OF VEGETABLE COOKING FATS
AND PACKAGED SALAD OILS

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Denmark	-	2	-	-	-
France	-	17	12	-	1
Greece	8	18	15	-	12
Hong Kong	1	-	-	<u>1/</u>	1
Israel	-	1,000	-	<u>1/</u>	-
Sweden	26	18	14	5	1
United Kingdom	285	16	57	3	4
United States	<u>709</u>	<u>386</u>	<u>594</u>	<u>135</u>	<u>404</u>
TOTAL	<u>1,030</u>	<u>1,461</u>	<u>692</u>	<u>144</u>	<u>423</u>
TOTAL VALUE (\$'000)	<u>636</u>	<u>471</u>	<u>389</u>	<u>109</u>	<u>342</u>

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 49

CANADIAN IMPORTS OF LARD, TALLOW, ANIMAL OILS AND FATS

(Metric Tons)

<u>L A R D</u>					
<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Australia	1	9	--	7	--
France	--	--	--	--	1
Norway	--	--	1/	--	--
United States	7,158	17,671	12,118	19,239	17,840
TOTAL	7,160	17,680	12,119	19,246	17,841
TOTAL VALUE (\$'000)	2,531	12,306	8,276	8,000	9,051

TALLOW, ANIMAL OILS AND FATS (NES)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Australia	22	3	11	5	--
Germany, West	1	--	10	--	6
Netherlands	--	--	--	1	--
New Zealand	--	--	--	10	--
United Kingdom	1	--	--	--	--
United States	3,228	4,314	2,136	1,467	1,152
TOTAL	3,253	4,318	2,155	1,485	1,158
TOTAL VALUE (\$'000)	1,226	1,803	768	639	556

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 50

CANADIAN EXPORTS OF TALLOW, ANIMAL OILS AND FATS (NES)

(Metric Tons)

DESTINATION	1973	1974	1975	1976	1977
Bangladesh	--	--	--	--	99
Barbados	23	90	27	21	--
Belgium-Luxembourg	1,193	598	996	2,022	798
Bermuda	--	--	--	1	--
Brazil	--	97	--	--	--
Chile	--	--	--	--	249
Colombia	--	--	52	32	22
Cuba	4,904	13,638	13,587	10,702	5,600
Dominican Republic	--	18	--	--	--
France	949	1,002	5	10	2,362
Germany, West	1,470	--	300	3,857	2,112
Ghana	--	596	749	--	--
Guatemala	--	32	21	--	517
Guyana	--	--	136	--	--
Hong Kong	--	--	--	--	2
Iran	--	--	--	1,300	--
Ireland	--	--	300	--	--
Italy	--	--	548	1,413	--
Ivory Coast	--	--	--	--	496
Jamaica	28	238	299	474	338
Japan	19,460	15,376	10,400	18,058	25,111
Kenya	--	--	--	50	110
Korea, South	985	5,272	15,700	13,190	26,269
Leeward-Windward Is.	59	4	--	4	1
Malaysia	--	--	73	56	146
Mexico	--	16	25	20	44
Morocco	--	--	574	--	--
Netherlands	6,709	24,124	16,697	29,077	38,105
Netherlands-Antilles	--	3	--	--	--
Nigeria	--	--	924	1,319	--
Norway	297	16	71	--	--
Panama	--	--	--	4	--
People's Republic of China	9,948	11,112	5,580	2,033	8,630
Portugal	--	--	52	157	145
Puerto Rico	--	17	--	--	--
Senegal	--	997	708	--	--
Singapore	--	36	158	18	51
Spain	936	1,550	9,656	7,390	9,343
St. Pierre-Miquelon	1/	1/	--	--	3
Switzerland	93	150	209	272	169

TABLE 50 (Cont'd)

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Taiwan	--	--	--	1,680	2,900
Trinidad-Tobago	588	326	294	503	486
United Kingdom	22,140	13,803	5,541	9,778	18,064
United States	16,221	10,885	11,044	9,651	4,456
U.S.S.R.	--	--	3,774	--	--
Venezuela	18	193	69	66	1,132
Zaire	--	--	747	--	--
Zambia	--	1,203	--	--	--
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TOTAL	87,042	101,458	99,335	113,166	140,829
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TOTAL VALUE (\$'000)	24,407	41,253	32,218	38,589	54,856
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1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 51

CANADIAN TRENDS IN BUTTERFAT PRODUCTION AND UTILIZATION

(Thousands of Metric Tons)

<u>Year</u>	<u>Total Milk Production</u>		<u>Butterfat Utilization</u>			
	<u>Whole Milk</u>	<u>Butterfat Equivalent</u> ^{1/}	<u>Manufactured Dairy Products</u> ^{2/}	<u>Fluid Milk Sales</u> ^{3/}	<u>Farm Home Consumed</u>	<u>Fed on Farms</u>
1968	8,329	291	180	81	13	10
1969	8,487	297	188	80	13	10
1970	8,306	290	181	82	12	10
1971	8,062	282	170	83	11	10
1972	8,032	281	172	86	7	10
1973	7,659	268	154	87	7	11
1974	7,561	264	152	89	6	11
1975	8,017 ^{6/}	280	169	87 ^{6/}	5	12
1976	7,685 ^{6/}	269	157	84 ^{6/}	5	17
1977	7,743	271	165	85	5	14

BUTTERFAT UTILIZATION IN MANUFACTURED DAIRY PRODUCTS

<u>Year</u>	<u>Total</u>	<u>Creamery Butter</u>	<u>Cheese</u> ^{4/}	<u>Concentrated Whole Milk Products</u>	<u>Ice-Cream Mix</u>
1968	180	123	34	12	11
1969	188	129	35	24	^{5/}
1970	181	121	37	23	^{5/}
1971	170	106	38	10	16
1972	172	108	38	10	16
1973	154	92	38	10	14
1974	152	85	44	9	14
1975	169	104	41	9	15
1976	157	92	42	8	15
1977	165	91	46	12	16

TABLE 51 (Cont'd)FOOTNOTES TOCANADIAN TRENDS IN BUTTERFAT PRODUCTION AND UTILIZATION

- 1/ Fat content of milk based on conversion factor of 3.5%.
- 2/ Includes creamery butter, cheddar cheese (bulk of all Canadian cheese production), other cheese, concentrated whole milk products, ice-cream mix.
- 3/ Fluid milk sales represent whole milk sales from farms for use in milk and cream.
- 4/ Includes mainly cheddar cheese and other factory cheese made from whole milk and cream. Excludes creamed cottage cheese.
- 5/ Included with concentrated whole milk products.
- 6/ Revised figure.

SOURCE: Based on unpublished Statistics Canada data.

CHAPTER 11

MARINE AND FISH OILS AND MEALS

World Fish Meal Supply

World fish meal production dropped from 4.9 million tons in 1976 to 4.4 million tons in 1977. This decline was due principally to the reduced production of Peruvian anchovy meals, which declined from 857,000 to 400,000 tons. There were lesser declines registered in the relatively large outputs of Japan, South Africa and the United States. Icelandic production increased about 50 per cent. Due to good catches of capelin, Norway and Denmark maintained production at the 1976 level. The largest producer of fish meal in 1977 was Japan (700,000 tons), followed by the Soviet Union (630,000 tons) and Norway (470,000 tons). Canadian output of fish meal in 1977 was 45,813 tons.

Prices

During 1977 fish meal prices stabilized at a high level compared to the increasing trend of prices in 1976. Quotations for 65 per cent fish meal in bulk shipments c.i.f. European ports ranged seasonally between \$350 and \$460 per ton. The upward pressure on fish meal prices as a result of low 1977 production was effectively checked by the moderate prices of competing products.

Outlook

Owing to resource constraints in Peru and South Africa, world supplies are expected to remain tight. Resources should hold at 1977 levels in the United States, Iceland, Norway and Chile. Danish production will fall significantly as a result of extended jurisdiction and conservation measures. There should be a marginal increase in Canadian production of groundfish meal.

World Fish Oil Supply

Most fish oil countries produced less oil in 1977 than in 1976, Iceland being the significant exception. The low oil content of capelin was the cause of diminution in Norway and Denmark. Catches of pilchard fell in South Africa and Peru did not produce enough fish oil to meet domestic demand. The United States not only had a reduced catch of menhaden, but also the fish were smaller with low oil content. The world production declined to 900,000 tons in 1977, from just over one million tons.

The European market, which accounts for 90 per cent of world trade, was characterized by limited supplies and high prices, even higher than soybean oil at the close of 1977. This situation is expected to prevail throughout 1978.

Trends in the Fish Reduction Industry

Whereas the latter half of the 1960's was characterized by the rapid growth and development of the Atlantic Coast Fish Meal and Marine Oil industry, the 1970's have, on the other hand, witnessed the peaking and subsequent reversal of this trend. Landings of herring on which this growth phase was based have declined since 1968-70 when landings reached a plateau in excess of 1 million tons, to less than 300,000 tons in each of the past three years. In addition to the decline in the herring catch per se there has been a progressive diversion of landings into the production of food products, in response to the emergence of a market for Canadian food herring in Europe and Japan which has further reduced the raw material available to the reduction industry.

Given the growing importance that is being placed on utilization of herring for direct food production relative to reduction, it is difficult to visualize any reversal in the current declining trend in landings of herring for reduction into meal and oil. It is too early to assess the benefits on herring stocks, particularly on the east coast from the proposed establishment by Canada of a 200-mile economic fishing zone. However, any increase in supplies are likely to be gradual and it is expected that every effort will be made towards utilizing herring for food.

Marine Oil

In 1977, the total output of marine oil in Canada was 6,635 tons (Table 52), as against 10,658 in 1975 and over 36,000 tons in 1970. This decline was primarily attributable to the decline in the production of herring oil which fell by some 75 per cent over the period. Although groundfish body and offal oil has declined about 72 per cent since 1973 to 3,106 tons in 1977, it has become the major source of fish oil.

Fish Meal

The Canadian production of fish meal in 1977 was 45,813 tons, a decrease of over 10,000 tons over 1975 (Table 55). This was largely attributable to an increase in groundfish reduction of over 20 per cent above the level of 1974 and 1975 to 33,342 tons in 1976. This upward trend is expected to continue and to increase sharply in the 1980's as a result of larger Canadian catches on the Atlantic Coast as a consequence of the extended fishing zone.

The scope for utilization of the herring resource - which historically has provided the main source of raw material for reduction - is now severely circumscribed; Pacific herring may now be harvested for food purposes only, and the raw material available to the reduction industry is consequently confined to that portion of the catch not suitable for conversion to food products. Herring meal production has declined from 16,484 tons in 1974 to 13,047 tons in 1976, but the latter production level could be maintained over the next few years.

TABLE 52

CANADIAN PRODUCTION OF MARINE OILS BY TYPES AND AREAS

(Metric Tons)

<u>ATLANTIC COAST</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977^{1/}</u>
Body or Offal Oil:					
Groundfish	11,039	7,222	4,543	3,883	3,106
Herring	15,022	13,936	5,517	3,599	1,925
Other ^{2/}	394	755	18	54	387
Liver Oil:					
Groundfish	419	226	279	52	454
Seal Oil:	--	--	1,486	661	486
ATLANTIC TOTAL	<u>26,874</u>	<u>22,139</u>	<u>11,843</u>	<u>8,249</u>	<u>6,358</u>
<u>PACIFIC COAST</u>					
Body or Offal Oil:					
Herring	1,105	585	x ^{3/}	x ^{3/}	x ^{3/}
Salmon	802	415	x ^{3/}	x ^{3/}	x ^{3/}
Other	217	100	x ^{3/}	x ^{3/}	x ^{3/}
PACIFIC TOTAL	<u>2,124</u>	<u>1,100</u>	<u>1,429</u>	<u>2,409^{5/}</u>	<u>277^{4/}</u>
CANADA TOTAL	<u>28,998</u>	<u>23,239</u>	<u>13,272</u>	<u>10,658^{5/}</u>	<u>6,635^{4/}</u>

^{1/} Preliminary.^{2/} Primarily whale oil.^{3/} Confidential - to meet secrecy requirements of the Statistics Act.^{4/} Estimate.^{5/} Revised figure.SOURCE: Based on Environment Canada data.

TABLE 53CANADIAN IMPORTS OF FISH AND MARINE OILS (NES)

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Denmark	6	<u>1/</u>	1	<u>1/</u>	--
France	--	<u>1/</u>	--	--	--
Germany, West	--	<u>1/</u>	--	4	--
Japan	6	89	--	9	9
Netherlands	--	--	--	6	--
Norway	134	179	629	150	3
South Africa	89	92	--	--	--
United Kingdom	323	165	49	28	5
United States	<u>676</u>	<u>322</u>	<u>199</u>	<u>99</u>	<u>393</u>
TOTAL	<u>1,237</u>	<u>849</u>	<u>878</u>	<u>299</u>	<u>410</u>
TOTAL VALUE (\$'000)	<u>424</u>	<u>467</u>	<u>500</u>	<u>233</u>	<u>263</u>

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 54CANADIAN EXPORTS OF MARINE OILS BY TYPES

(Metric Tons)

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Cod Liver Oil, Sun Rotted	1,270	1,043	868	1,381	915
Herring Oil	2,812	5,488	2,277	5,315	4,124
Whale Oil	1,224	--	--	5	14
Fish & Marine Animal Oil NES	<u>2,676</u>	<u>2,313</u>	<u>1,746</u>	<u>3,408</u>	<u>10,987</u>
TOTAL	<u>7,983</u>	<u>8,845</u>	<u>4,891</u>	<u>10,110</u>	<u>16,040</u>
TOTAL VALUE (\$'000)	<u>1,795</u>	<u>3,763</u>	<u>1,837</u>	<u>2,968</u>	<u>3,950</u>

SOURCE: Statistics Canada, Catalogue No. 65-004.

Table 55CANADIAN PRODUCTION OF FISH MEALS BY TYPES AND AREAS

(Metric Tons)

<u>ATLANTIC COAST</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u> ^{1/}
Groundfish	34,485	26,700	25,708	33,342	33,606
Herring	13,650	16,484	14,327	13,047	6,789
Other	1,721	2,321	589	4,387	4,136
ATLANTIC TOTAL	<u>49,856</u>	<u>45,505</u>	<u>40,624</u>	<u>50,776</u>	<u>44,531</u>
<u>PACIFIC COAST</u>					
Herring	4,278	4,711	x ^{2/}	x ^{2/}	x ^{2/}
Salmon	1,561	887	x ^{2/}	x ^{2/}	x ^{2/}
Other	592	554	x ^{2/}	x ^{2/}	x ^{2/}
PACIFIC TOTAL	<u>6,431</u>	<u>6,152</u>	<u>6,540</u>	<u>10,013</u> ^{4/}	<u>1,282</u> ^{3/}
CANADA TOTAL	<u>56,287</u>	<u>51,657</u>	<u>47,164</u>	<u>60,789</u> ^{4/}	<u>45,813</u> ^{3/}

^{1/} Preliminary^{2/} Confidential - to meet secrecy requirements of the Statistics Canada Act.^{3/} Estimate^{4/} Revised figureSOURCE: Based on Environment Canada data.

TABLE 56CANADIAN IMPORTS OF FISH MEAL

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Cuba	--	--	--	163	--
Denmark	--	10	--	--	--
France	--	--	59	--	--
Germany, West	--	<u>1</u> /	--	229	--
Japan	--	--	2	--	--
Peru	21	--	--	--	--
Puerto Rico	81	--	41	40	--
Taiwan	--	--	--	--	13
United Kingdom	--	2	--	7	--
United States	379	245	209	521	451
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
TOTAL	482	261	311	962	464
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
TOTAL VALUE (\$'000)	121	83	87	309	153
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 57CANADIAN EXPORTS OF FISH MEAL AND CONDENSED SOLUBLES

(Metric Tons)

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1976</u>
Herring Meal and Pilchard Meal	12,997	16,281	14,733	14,972	11,181
Fish Meal NES	16,386	18,393	9,515	17,000	16,445
Fish Condensed Homogenized Solubles	185	-	43	941	307
TOTAL (Meal Only)	<u>29,568</u>	<u>34,678</u>	<u>24,291</u>	<u>32,913</u>	<u>27,933</u>
TOTAL VALUE (Meal Only) (\$'000)	<u>11,023</u>	<u>12,160</u>	<u>6,071</u>	<u>9,422</u>	<u>11,367</u>

SOURCE: Statistics Canada, Catalogue No. 65-004.

CHAPTER 12

THE CANADIAN FLAXSEED SITUATION

Canadian Flaxseed Production

Flaxseed production declined in 1977 mainly due to competition from alternative crops. There are two main flaxseed processors involved in crushing a portion of the crop. The main portion is exported in seed form.

Canadian Exports of Flaxseed

Exports in 1977 increased to 332,708 tonnes from 195,107 in 1976. This represented a drawdown in stocks. Main markets are the EEC, Spain, Japan and the United States.

Canadian Exports of Linseed Oil and Meal

Small quantities of these products were exported in 1977. The EEC absorbed 5,682 tonnes out of total exports of 5,717 tonnes valued at \$2,786,000.

TABLE 58

CANADIAN SUPPLY AND DISPOSITION OF FLAXSEED,LINSEED OIL AND LINSEED MEAL

(Crop Year)

	<u>1972/73</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>
	(Metric Tons)				
<u>FLAXSEED</u>					
Stocks, Starting ^{1/}	407,234	194,904	200,950	218,578	380,640
Production	447,495	492,786	350,538	444,523	276,875
Imports	76	431	406	-	<u>3/</u>
Exports	498,882	393,797	267,196	195,107	332,708
Domestic Crushing	66,881	19,355	x ^{2/} -	x ^{2/} -	x ^{2/} -
<u>LINSEED OIL</u>					
Exports	10,588	2,230	2,184	5,817	4,525
Domestic Production	22,762	6,601	x ^{2/} -	x ^{2/} -	x ^{2/} -
<u>LINSEED MEAL</u>					
Exports	12,735	24	196	636	3,679
Domestic Production	42,037	11,932	x ^{2/} -	x ^{2/} -	x ^{2/} -

^{1/} Total Stocks in all positions.^{2/} Confidential - to meet secrecy requirements of the Statistics Act.^{3/} Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 22-006.

TABLE 59CANADIAN IMPORTS OF FLAXSEED

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
United Kingdom	--	--	--	--	18
United States	<u>86</u>	<u>451</u>	<u>337</u>	<u>1/</u>	<u>51</u>
TOTAL	<u>86</u>	<u>451</u>	<u>337</u>	<u>1/</u>	<u>69</u>
TOTAL VALUE (\$'000)	<u>25</u>	<u>333</u>	<u>171</u>	<u>--</u>	<u>45</u>

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 60

CANADIAN EXPORTS OF FLAXSEED

(Metric Tons)

DESTINATION	1 9 7 3	1 9 7 4	1 9 7 5	1 9 7 6	1 9 7 7
Australia	--	5,633	--	--	--
Austria	--	--	34	36	--
Belgium-Luxembourg	11,886	7,477	2,951	1,763	11,658
Czechoslovakia	15,826	25,004	17,717	3,151	5,836
Denmark	2,062	--	--	--	614
Finland	--	--	--	--	6
France	7,772	5,202	1,848	508	6,722
Germany, East	--	3,860	--	--	--
Germany, West	117,865	110,680	77,619	81,224	117,479
Greece	1,371	2,184	1,050	1,500	--
Italy	12,755	--	--	--	--
Japan	110,123	77,027	65,330	90,647	78,984
Korea, North	--	--	--	--	269
Korea, South	2,971	--	--	1,750	3,373
Netherlands	86,808	41,289	31,516	11,078	25,799
New Zealand	--	2,199	--	--	--
Panama	--	--	2,117	--	102
Poland	--	23,263	18,926	--	--
Spain	10,833	6,500	6,580	8,547	11,315
Sweden	--	--	72	54	2,279
Switzerland	1,906	1,237	108	1,468	9,020
Taiwan	--	--	--	--	911
Trinidad-Tobago	--	--	2	--	--
United Kingdom	49,841	31,337	15,573	4,672	13,892
United States	1,170	12,659	3,493	40,198	41,107
TOTAL	433,200	351,031	244,942	246,602	329,366
TOTAL VALUE (\$'000)	112,984	148,631	83,815	66,278	93,538

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 61CANADIAN EXPORTS OF LINSEED OIL

(Metric Tons)

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Belgium-Luxembourg	--	--	1,526	1,965	1,717
Bermuda	--	--	1	1	--
Ecuador	1	--	--	--	--
French West Indies	--	--	--	<u>1/</u>	--
Jamaica	--	--	<u>1/</u>	--	--
Leeward-Windward Is .	--	--	--	--	1
Liberia	--	2	2	--	--
Netherlands	--	---	1,590	2,848	1,724
Nigeria	<u>1/</u>	--	--	--	--
United Kingdom	5,962	581	398	250	2,241
United States	96	--	36	34	27
Venezuela	<u>18</u>	<u>8</u>	<u>7</u>	<u>8</u>	<u>7</u>
TOTAL	<u>6,078</u>	<u>592</u>	<u>3,562</u>	<u>5,108</u>	<u>5,717</u>
TOTAL VALUE (\$'000)	<u>2,314</u>	<u>655</u>	<u>3,237</u>	<u>2,758</u>	<u>2,786</u>

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 62CANADIAN EXPORTS OF LINSEED CAKE AND MEAL

(Metric Tons)

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Belgium-Luxembourg	--	--	--	481	--
Germany, West	--	--	--	3,150	--
Leeward-Windward Is.	4	--	--	--	4
Netherlands	1,873	--	--	--	3,201
Sweden	--	--	--	22	--
Trinidad-Tobago	168	49	114	60	91
United Kingdom	2,313	--	--	--	--
United States	1,151	64	80	159	1,430
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
TOTAL	5,511	114	194	3,875	4,726
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
TOTAL VALUE (\$'000)	822	24	37	835	741
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 63

QUALITY DATA FOR WESTERN CANADIAN FLAXSEED, SURVEY SAMPLES OF 1975, 1976 AND 1977 CROPS

	<u>Oil Content ^{1/}</u>			<u>Iodine Value</u>			<u>Protein Content ^{2/}</u>			<u>No. of Samples</u>		
<u>WESTERN CANADA</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
No. 1 CW	42.1	43.0	44.2	188	192	195	42.6	41.1	40.6	246	289	215
No. 2 CW	42.2	43.8	44.4	188	193	199	42.4	43.3	39.7	33	4	40
No. 3 CW	41.4	--	44.7	188	--	201	43.8	--	40.1	11	--	27
No. 4 CW	--	--	46.2	--	--	199	--	--	40.2	--	--	5
All Grades	42.1	43.0	44.3	188	192	196	42.6	41.1	40.4	290	293	289
<u>ALL GRADES</u>												
Manitoba	41.7	43.0	44.5	185	192	197	42.8	41.8	40.1	135	161	156
Saskatchewan	42.1	42.9	44.2	189	192	196	42.9	39.7	40.4	103	94	118
Alberta	43.2	43.2	43.0	195	194	190	41.4	41.7	44.2	52	38	15

^{1/} Oil Content of seed is reported on moisture-free basis.

^{2/} Protein Content is reported on oil-free meal and moisture-free basis.

SOURCE: Canadian Grain Commission, Crop Bulletin Nos. 133 and 137.

TABLE 64

SUMMERFALLOW AND STUBBLE CULTIVATION OF FLAXSEED

<u>Seeded Area</u>	<u>Summer-fallow</u>	<u>Stubble</u>	<u>Total</u>
('000 Acres)			
1973	776	674	1,450
1974	731	719	1,450
1975	658	742	1,400
1976	308	492	800
1977	596	824	1,420
(Per Cent)			
<u>Distribution</u>			
1973	54	46	100
1974	50	50	100
1975	47	53	100
1976	38	62	100
1977	42	58	100
(Bushels)			
<u>Average Yield Per Seeded Acre</u>			
1973	14.6	12.0	13.4
1974	10.5	8.5	9.5
1975	14.6	10.6	12.5
1976	16.2	12.0	13.6
1977	19.1	15.3	16.9
(Metric Tons)			
<u>Production</u>			
1973	287,035	205,750	492,786
1974	195,590	154,948	350,538
1975	243,852	200,670	444,523
1976	127,006	149,868	276,874
1977	289,575	320,056	609,632

SOURCE: Statistics Canada, Catalogue No. 22-002.

TABLE 65

CANADIAN FLAXSEED PRICES ^{1/}

(Crop Year)

<u>M O N T H</u>	<u>1972/73</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>
..... Cents and Eighths Per Bushel					
August	305/7	878/7	1099/7	854/3	714/2
September	325/4	885/6	1172	790	717/6
October	357/7	898/6	1219/1	722/2	698/3
November	353	1018/5	1094/2	655/7	675/2
December	366/7	1060/5	1066/5	628/5	666/4
January	436/4	1122/6	922/4	657	695/5
February	535/6	1167	810/5	653/2	715/7
March	483/3	1107	784/1	646	740/4
April	478	967/3	861/3	634	846/1
May	552/6	991/6	825/6	657/7	768/7
June	701/7	979/5	779/7	713/3	557/7
July	<u>895/6</u>	<u>1095/2</u>	<u>815/2</u>	<u>742/6</u>	<u>616/2</u>
Yearly Average	<u>482/6</u>	<u>1014/4</u>	<u>954/2</u>	<u>696/3</u>	<u>701/1</u>

^{1/} Winnipeg Grain Exchange No. 1 C.W. Flaxseed, Basis Thunder BaySOURCE: Statistics Canada, Catalogue No. 22-006.

CHAPTER 13

OTHER INEDIBLE FATS AND OILS

The products grouped in this publication are castor, tung and tall oils, tall pitch, tall oil fatty acids, chemically modified oils, fats and waxes, and derivatives of oils, fats and waxes.

Imports of castor oil in 1971 have remained identical to those in 1976 (Table 66). This is interesting as the average price of castor oil rose to \$1,024. per tonne in 1977 as compared to \$625. per tonne in 1976. For the first time the United States became the major supplier of castor oil with imports from Brazil dropping sharply.

Tung oil imports decreased a minimal amount to 699 tonnes in 1977 from 724 tonnes in 1976 (Table 67). The United States became the predominant supplier of this product. The price of tung oil showed a dramatic increase from \$900. per tonne in 1976 to \$1,961. per tonne in 1977. It is indicative of the fact that when an oil is highly specialized it is not easy to interchange with another oil and thus price is not a prohibitive factor.

Imports of tall oil, tall oil pitch and tall oil fatty acids decreased substantially from 7,670 tonnes in 1976 to 5,916 tonnes in 1977 (Table 68). Levels of importations had remained fairly stable since 1973 up to 1977. Average prices for these products increased from \$380. per tonne in 1976 to \$549. per tonne in 1977.

Canadian imports of chemically modified oils, fats and waxes in 1977 remained at a level close to that in 1976 (Table 69). The United States remains the major supplier of these products. Average prices per tonne of this mix was \$881. in 1977 as compared to \$730. per tonne in 1976.

Exports of chemically modified oils, fats and waxes rose by 27.7 per cent from 1976 to 1977 (Table 71). The average price rose dramatically from \$220. per tonne in 1976 to \$729. per tonne in 1977.

TABLE 66CANADIAN IMPORTS OF CASTOR OIL

(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Brazil	2,401	1,529	1,697	968	257
Colombia	8	-	-	-	-
Ecuador	-	-	-	-	29
United States	<u>377</u>	<u>320</u>	<u>211</u>	<u>345</u>	<u>1,025</u>
TOTAL	<u>2,787</u>	<u>1,850</u>	<u>1,908</u>	<u>1,313</u>	<u>1,311</u>
TOTAL VALUE (\$'000)	<u>2,858</u>	<u>1,646</u>	<u>1,169</u>	<u>822</u>	<u>1,343</u>

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 67

CANADIAN IMPORTS OF TUNG OIL
(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Argentina	991	127	141	70	29
Brazil	14	--	--	14	--
Denmark	--	--	--	<u>1/</u>	--
Paraguay	57	42	56	381	223
People's Republic of China	89	183	70	20	--
United States	88	70	423	247	433
Uruguay	--	--	--	--	14
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
TOTAL	<u>1,241</u>	<u>425</u>	<u>690</u>	<u>734</u>	<u>699</u>
TOTAL VALUE (\$'000)	<u>527</u>	<u>308</u>	<u>441</u>	<u>663</u>	<u>1,371</u>

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 68

CANADIAN IMPORTS OF TALL OIL, TALL OIL PITCH
AND TALL OIL FATTY ACIDS

(Metric Tons)

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
<u>TALL OIL AND TALL OIL PITCH</u>					
Netherlands	4	--	--	--	--
United States	1,502	2,254	2,378	2,849	757
<u>TALL OIL FATTY ACIDS</u>					
Germany, West	--	--	--	15	--
People's Republic of China	--	--	2	--	--
United States	<u>5,807</u>	<u>4,715</u>	<u>5,503</u>	<u>4,806</u>	<u>5,159</u>
TOTAL	<u>7,314</u>	<u>6,969</u>	<u>7,433</u>	<u>7,670</u>	<u>5,916</u>
TOTAL VALUE (\$'000)	<u>1,931</u>	<u>3,500</u>	<u>3,447</u>	<u>2,906</u>	<u>3,252</u>

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 69CANADIAN IMPORTS OF CHEMICALLY MODIFIED OILS,FATS AND WAXES
(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Brazil	--	20	69	--	40
Denmark	1	--	<u>1/</u>	--	--
France	<u>1/</u>	3	--	--	--
Germany, West	3	8	8	72	69
Greece	--	--	3	--	3
Israel	--	--	--	<u>1/</u>	--
Japan	15	--	--	--	--
Netherlands	418	398	442	214	116
Netherlands-Antilles	--	--	23	--	--
Switzerland	--	--	<u>1/</u>	--	--
United Kingdom	419	55	1,125	1,219	53
United States	<u>6,569</u>	<u>5,198</u>	<u>4,176</u>	<u>4,606</u>	<u>5,848</u>
TOTAL	<u>7,425</u>	<u>5,677</u>	<u>5,850</u>	<u>6,112</u>	<u>6,132</u>
TOTAL VALUE (\$'000)	<u>3,985</u>	<u>5,401</u>	<u>6,925</u>	<u>6,084</u>	<u>5,405</u>

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 70

CANADIAN IMPORTS OF MIXTURES AND DERIVATIVES
OF OILS, FATS AND WAXES
(Metric Tons)

<u>COUNTRY OF ORIGIN</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Belgium-Luxembourg	--	1	--	--	--
Brazil	--	--	20	--	--
Denmark	--	--	--	--	2
France	--	3	6	1	<u>1</u> /
Germany, West	41	103	98	116	116
India	--	--	--	<u>1</u> /	--
Japan	--	--	--	--	--
Netherlands	2	1	--	<u>1</u> /	--
Norway	--	--	--	118	237
Sweden	2	--	--	--	--
United Kingdom	147	66	153	316	604
United States	<u>15,144</u>	<u>14,780</u>	<u>10,886</u>	<u>12,031</u>	<u>10,555</u>
TOTAL	<u>15,338</u>	<u>14,958</u>	<u>11,163</u>	<u>12,585</u>	<u>11,516</u>
TOTAL VALUE (\$'000)	<u>6,996</u>	<u>10,022</u>	<u>8,415</u>	<u>9,195</u>	<u>10,969</u>

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 71

CANADIAN EXPORTS OF CHEMICALLY MODIFIED OILS,
FATS AND WAXES
(Metric Tons)

<u>DESTINATION</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Australia	--	1	--	--	--
Bahamas	--	<u>1</u> /	--	--	--
Barbados	--	--	27	--	--
Bermuda	<u>1</u> /	--	--	--	--
Brazil	22	--	--	--	--
Cuba	--	--	--	--	--
France	--	32	14	--	--
Germany, West	44	24	<u>1</u> /	2	--
Guyana	--	--	<u>1</u> /	--	--
Israel	--	--	4	--	--
Italy	16	--	--	--	--
Japan	498	240	20	--	--
Leeward-Windward Is.	<u>1</u> /	--	--	--	<u>1</u> /
Netherlands-Antilles	--	1	--	--	--
Panama	<u>1</u> /	--	--	--	--
Poland	--	--	--	<u>1</u> /	--
United Kingdom	19	36	18	--	150
United States	1,461	1,759	3,212	3,008	3,100
U.S.S.R.	--	--	--	--	508
Venezuela	--	1	9	1	86
TOTAL	<u>2,062</u>	<u>2,097</u>	<u>3,306</u>	<u>3,012</u>	<u>3,846</u>
TOTAL VALUE (\$'000)	<u>821</u>	<u>995</u>	<u>578</u>	<u>663</u>	<u>2,803</u>

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-004.

CHAPTER 14SELECTED FINISHED PRODUCTS

Production of peanut butter dropped for the third year to the 1974 level (Table 72).

In contrast to reduced peanut butter production, salad dressing and mayonnaise production has increased considerably by 23.8 per cent in 1977, as compared to 1976 (Table 72).

Sandwich spread production is continuing its slight yearly decrease from 1973 (Table 72).

TABLE 72

CANADIAN PRODUCTION OF PEANUT BUTTER, SALAD DRESSINGS
AND MAYONNAISE, AND SANDWICH SPREADS

(Metric Tons)

<u>PRODUCT</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Peanut Butter	25,628	29,211	33,211	30,473 ^{4/}	29,216
Salad Dressings ^{1/} and Mayonnaise ^{2/}	39,326	41,504	38,379	35,942	44,550
Sandwich Spreads	2,948	2,766	x ^{3/}	2,609	2,455
TOTAL	<u>67,902</u>	<u>73,481</u>	<u>-</u>	<u>69,879</u>	<u>76,221</u>

1/ Salad dressing and French dressings shall contain not less than 35% vegetable oil.

2/ Mayonnaise, mayonnaise dressing and mayonnaise salad dressing shall contain not less than 65% vegetable oil.

3/ Confidential to meet secrecy requirements of the Statistics Act.

4/ Revised figure for 1976.

SOURCE: Statistics Canada, Catalogue No. 32-018

CONVERSION FACTORSSTATUTORY WEIGHT PER BUSHEL AND BUSHEL EQUIVALENT PER METRIC TON

<u>OILSEED</u>	<u>Pounds</u>	<u>Kilograms</u>	<u>BusHEL Equivalent Per Metric Ton</u>
Flaxseed	56	25.402	39.368
Soybeans	60	27.216	36.744
Rapeseed	50	22.680	44.092
Sunflowerseed	30	13.608	73.487
Mustardseed	50	22.680	44.092

<u>OILSEED PRODUCTS</u>	<u>Extraction Rate</u> (Per Cent)	<u>Yield Per Bushel</u> (Pounds)	<u>Weight of Gallon</u> (Pounds)
Flaxseed, Oil	35.4	19.8	9.3
Linseed Meal	61.7	34.6	-
Soybeans, Oil	17.7	10.6	9.2
Meal	80.0	47.3	-
Rapeseed, Oil ^{1/}	40.0	20.0	9.1
Meal	57.5	28.75	-
Sunflowerseed, Oil ^{2/}	40.0	12.0	
Meal	38.0	11.4	9.2
Mustardseed, ^{3/} Oil (Yellow)	28	-	-
Oil (Oriental)	40	-	-
Oil (Brown)	36	-	-

^{1/} Rapeseed oil yields seem to have reached a fairly stable level of about 40 per cent on an "as received" basis. The previous factor of 37.5 per cent has been changed accordingly.

^{2/} The introduction of new sunflowerseed varieties has increased the oil yield on crushing to the 40 per cent level. The previous factor of 36 per cent has been changed accordingly. The meal yields continue to show fluctuations, and this factor has not been changed.

^{3/} Mustardseed is not crushed in Canada, and is primarily used for condiment purposes. Yellow, oriental and brown mustardseed varieties are grown in Canada, and the theoretical extraction rates reflect average oil contents of the seed, calculated on a dry basis.

OTHER PRODUCTS: Marine Oils: 1 Imperial gallon = 9.1 pounds.

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