EXPORT MARKET DEVELOPMENT TASK FORCE

Working Paper

Processed Fruit and Vegetable Products

Agriculture Canada

Industry, Trade and Commerce
Industrie et Commerce

A WORKING PAPER PREPARED FOR THE

Canada. EXPORT MARKET DEVELOPMENT TASK FORCE

Processed Fruit and Vegetable Products

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This study has been prepared to assist discussions on the best means to further develop export markets for Canadian agricultural products. The views expressed are those of the study group, largely based on interviews with members of the industry and hog marketing boards and commissions. They are not necessarily the views of the Department of Industry, Trade and Commerce, Agriculture Canada, nor of the Export Market Development Task Force.

The Task Force will discuss this study with provincial and federal officials, to establish how government and industry should best proceed to develop Canada's agricultural exports.

THE EXPORT MARKET DEVELOPMENT TASK FORCE

In the summer of 1978, the federal Deputy Ministers of Agriculture Canada and Industry, Trade and Commerce established the Export Market Development Task Force. They appointed Mr. C. Stuart, Director General - Agriculture, Fisheries and Food Products Branch, Industry, Trade and Commerce, and Mr. P.W. Couse, Director General - Market Development Directorate, Agriculture Canada, to lead the task force.

The task force leaders directed that a number of working papers be prepared, initially on: the U.S.A. Market for Variety Cheeses and Aged Canadian Cheddar, Breeding Cattle and Semen, Pulses, and Financing and Credits Insurance. Other working papers have now been prepared on Blueberries, Processed Meat Products and, Processed Fruits and Vegetables.

The study groups preparing the working papers were composed of officers from both departments, working at the federal level on identifying domestic and international market opportunities, and recommending policies, programs and specifications which would help Canadian agriculture.

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1. Introduction

The processed fruit and vegetable industry, with estimated sales of $1200 million in 1978 and employment of approximately 19,000, has played an increasingly important role for Canada's 50,000 growers of horticultural crops, and now accounts for approximately half their total production. The industry is widely dispersed throughout the country, generally in smaller population centres, giving it a high regional and local significance. A wide variety of products is produced ranging from basic products such as canned and frozen fruits, vegetables and juices (about 40% of shipments) to formulated items like soups, ketchup, jams, stews and relishes (60% of shipments).

The industry is primarily a supplier to the domestic market with exports accounting for about 5% of production. Imports, on the other hand, supply approximately 25% of the domestic market. Roughly one-half are tropical or sub-tropical products not produced in Canada and the balance temperate products in competition with domestic processors (e.g. canned tender fruit, tomato products, mushrooms). While formulated products comprise the largest segment of industry production, there is very little trade in these more specialized items. Over 80% of both imports and exports are basic fruit and vegetable products. This, in large part, explains why the following products are seen as having the best prospects for export and therefore were selected for study.

Processed Vegetables	Processed Fruit
Canned & frozen corn	Canned apple products (solid pack, applesauce, juice, concentrate)
Canned & frozen green & wax beans	Frozen raspberries
Canned & frozen peas	Canned sweet cherries
Canned & frozen potatoes	
Canned asparagus	

In addition, as a result of discussions with provincial governments and the trade, it was agreed that frozen sour cherries, canned raspberries, and frozen carrots would also be considered.

Exports of the products under study were $33.7 million in 1978, about two-thirds of total exports for the industry (not including frozen blueberries which is a separate study). This amounts to 111 million pounds of product which is equivalent to approximately 25,000 acres of horticultural production with a farm value of some $7.5 million. Export sales of these products provide an estimated 600 man-years of employment in the processing sector plus related jobs on the primary side and other service industries. In addition, export sales are essential to the viability of some products, notably frozen corn, canned corn-on-the-cob, and canned sweet cherries as they account for the major portion of Canadian production (Annex 1).

The domestic market for basic fruit and vegetable products tends to be relatively mature with some growth in frozen coming at least in part at the expense of canned product. As a result, future development in this segment will depend to a large extent on the industry's ability to exploit import replacement and export market opportunities. Additional throughput is important as firms producing basic fruit and vegetable products are, in general, faced with excess capacity, high unit overhead costs, and a record of less than satisfactory profitability.

2. <u>World Trade in Processed Fruits and Vegetables</u>

International trade in processed fruit and vegetable products is quite extensive but tends to be focused in three product categories: (1) products which cannot be produced economically in the consuming country for climatic reasons (e.g. citrus juices); (2) products which are labour intensive and can be produced at lower cost in developing countries (e.g. mushrooms); and (3) products which can be concentrated before shipment thereby enhancing the advantage of a lower raw product cost (e.g. tomato, apple, grape concentrates). Canada's climate, high wage rates, and high raw product costs do not permit Canadian processors to compete in any of these major trade segments.

The products which Canada can produce most efficiently - processing vegetables and some fruits, can generally be produced equally as well in many other countries, particularly the developed countries which also have temperate climates. As a result, world trade for the commodities under study tends to be minimal as the major consuming countries are largely self-sufficient. In the United States, the largest and most efficient producer, exports account for about 3% of production while imports are less than 1% for the commodities under study. With the exception of processed corn, EEC imports of these products are of minor significance and occur primarily only in times of domestic shortage. Japan is the only major market where imports of processed vegetables, particularly frozen, form a large and increasing portion of the market. However, despite the limited general trade in these products, the vast size and supply variability of the world market can provide important export opportunities for enterprising Canadian firms. While Canadian exports may be modest in terms of the total world market, they are important to the basic fruit and vegetable segment of the relatively small domestic industry.

3. Canadian Exports

Total exports increasing

During the period 1969 to 1978 exports of the products under study increased on a dollar basis almost three fold from approximately $13 million to $34 million Probably of greater significance, however, is that exports of these products also increased some 25% on a unit basis during the same period.

CANADIAN EXPORTS

	average 1969-72	average 1973-75	1976	1977	1978
		(lbs. millions)			
Frozen Vegetables	29.7	42.0	72.6	68.3	67.4
Canned Vegetables	39.7	20.2	22.2	22.2	21.0
Processed Fruit	14.9	14.7	13.7	15.6	22.8
Total (lbs. millions)	84.3	76.9	108.6	106.1	111.2
Total ($millions)	$13.2	$19.3	$28.3	$27.2	$33.7

Note: Above data for products studied only
Detailed export information in Annexes II, III, IV, V

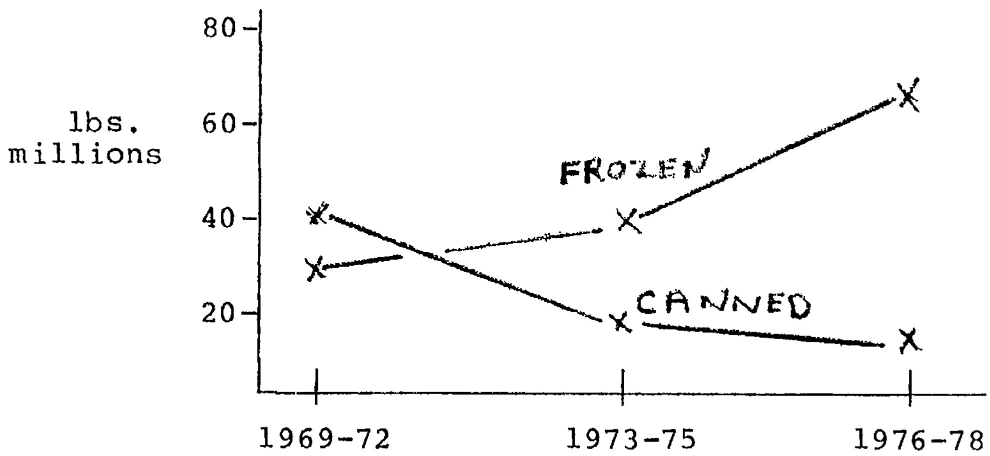
Source: Statistics Canada - Cat. 65-004

The decline in exports during the 1973-75 period can be attributed to several factors including adjustment to the U.K. entry into the EEC, a period of rapidly escalating costs in Canada, and generally tight supplies of many products due to below normal crops. The sudden turnaround in 1976 resulted from the industry taking advantage of export opportunities created by the drought in Europe. Canada's improved competitive position in 1977 and 1978, largely due to the exchange rate differential, has permitted export sales to be maintained at this new higher level.

Major Growth in Frozen Vegetables

Frozen vegetable exports have increased from approximately 30 million pounds to 70 million pounds during the past decade and now represent 65% of export volume. This growth has, in part, been offset by canned shipments which have decreased from 40 million pounds to 20 million pounds during the 10 year period.

CANADIAN EXPORTS - PROCESSED VEGETABLES



Exports by product

The following table shows exports for the products under study from 1969 through 1978.

EXPORTS BY PRODUCT

	Average 1969-72 (lbs. millions)	Average 1973-75 (lbs. millions)	Average 1976-78	Average 1976-78 ($millions)
Frozen Vegetables				
green & wax beans	.6	.8	4.4	$1.1
corn	7.6	13.8	19.7	$5.2
peas	2.5	3.2	8.8	$2.2
potatoes	19.1	24.2	36.5	$7.3
Total	29.7	42.0	69.5	$15.8
Canned Vegetables				
asparagus	1.4	2.0	2.9	$2.6
green beans	1.4	.4	1.0	$ .2
wax beans	16.5	.9	2.0	$ .4
corn	18.3	14.9	13.3	$5.9
peas	2.0	1.9	1.7	$ .4
potatoes	.1	---	.8	$ .2
Total	39.7	20.2	21.8	$9.7
Processed Fruit				
apple juice	3.6	3.3	5.3	$ .6
apple juice concentrate	.6	.7	.4	$ .1
canned apples	5.9	2.2	3.0	$ .5
frozen fruit (except blueberries)	2.9	3.9	4.4	$ .9
canned sweet cherries	2.0	4.6	4.2	$1.9
Total	14.9	14.7	17.3	$4.0
Total - all products	84.3	76.9	108.6	$29.5

Note: Separate information for frozen carrots and canned raspberries was not available. Frozen raspberries and sour cherries are included in a basket (except blueberries) frozen fruit classification.

During the 10 year period, exports of each frozen vegetable increased, in most cases quite signficantly, while exports of all canned vegetables with the exception of canned asparagus and potatoes decreased. It is worth noting that canned vegetable exports did not improve significantly in the 1976-78 period in contrast to the dynamic increases experienced in frozen in response to the more favourable export market conditions. For processed fruit products, canned apple juice, frozen fruit, and canned sweet cherries have shown increased export sales while exports of apple juice concentrate and canned apples have decreased during the 10 year period.

In terms of pounds exported, frozen potatoes is by far the largest export item followed by frozen corn, canned corn and frozen peas. Combined, these four products comprise approximately 75% of the total pounds exported. When considered on a dollar basis, however, high unit value products like canned asparagus and sweet cherries take on much greater significance. These two items together account for only 7% of volume but approximately 16% of dollar sales.

Exports by Market

The United Kingdom has traditionally been the largest export market, generally accounting for over half of exports. However, as shown in the table below, the U.K. has decreased in importance in recent years and in 1978 was displaced on a unit basis as the largest export market by the U.S.. In dollar terms the U.K. is still the largest market. It is encouraging to note that exports are currently on the increase in all other markets although volumes to such markets as the Middle East and Africa are minimal.

CANADIAN EXPORTS BY MARKET

	Average 1969-72	Average 1973-75	1976	1977	1978	1978
		(lbs. millions)				($millions)
United Kingdom	38.5	35.7	65.4	51.0	32.5	$11.6
United States	15.9	17.2	9.9	22.9	35.4	$ 7.2
Other Europe	21.2	6.7	19.6	15.6	17.4	$ 5.7
Central America & Antilles	5.5	4.5	4.9	7.3	10.3	$ 2.6
Other Asia	1.1	2.0	2.3	3.6	7.2	$ 1.9
Oceania	1.4	9.2	4.2	3.3	4.3	$ 3.7
South America	.6	1.3	2.0	1.9	3.2	$ .9
Other Africa	.1	.1	*	.1	.2	$ .1
Middle East	*	.1	.2	*	.5	*
Total	84.2	76.9	108.6	106.1	111.2	$33.7

Notes: *less than 100,000 lbs. or $100,000.
above data for products under study only

4. Regional Significance of Exports

Although detailed information is not available a rough estimate of exports by region for 1978 is as follows:

	$ millions	% of total exports
Maritimes	7.7	23%
Quebec	4.0	12
Ontario	16.0	47
Prairies & B.C.	6.0	18
	$33.7	100%

Note: Products under study only.

Major exports from the Maritimes are apple products and frozen potatoes, from Quebec canned beans and corn, from Ontario frozen peas, corn and beans and canned corn, and from Western Canada canned asparagus and sweet cherries.

5. Export Competition

The United States is Canada's toughest competitor in export markets. Economies of scale together with generally lower cost labour and raw product inputs result in a lower U.S. production cost for most products. In addition the Tariff Board report on fruits and vegetables estimated Canadian unit overhead costs to be 20% higher than those in the United States. It is interesting to note, however, how well Canada has been able to meet this competition and maintain a major share of the export business. In 1978, Canadian exports of six major products were equivalent to about 40% of the volume of similar U.S. exports.

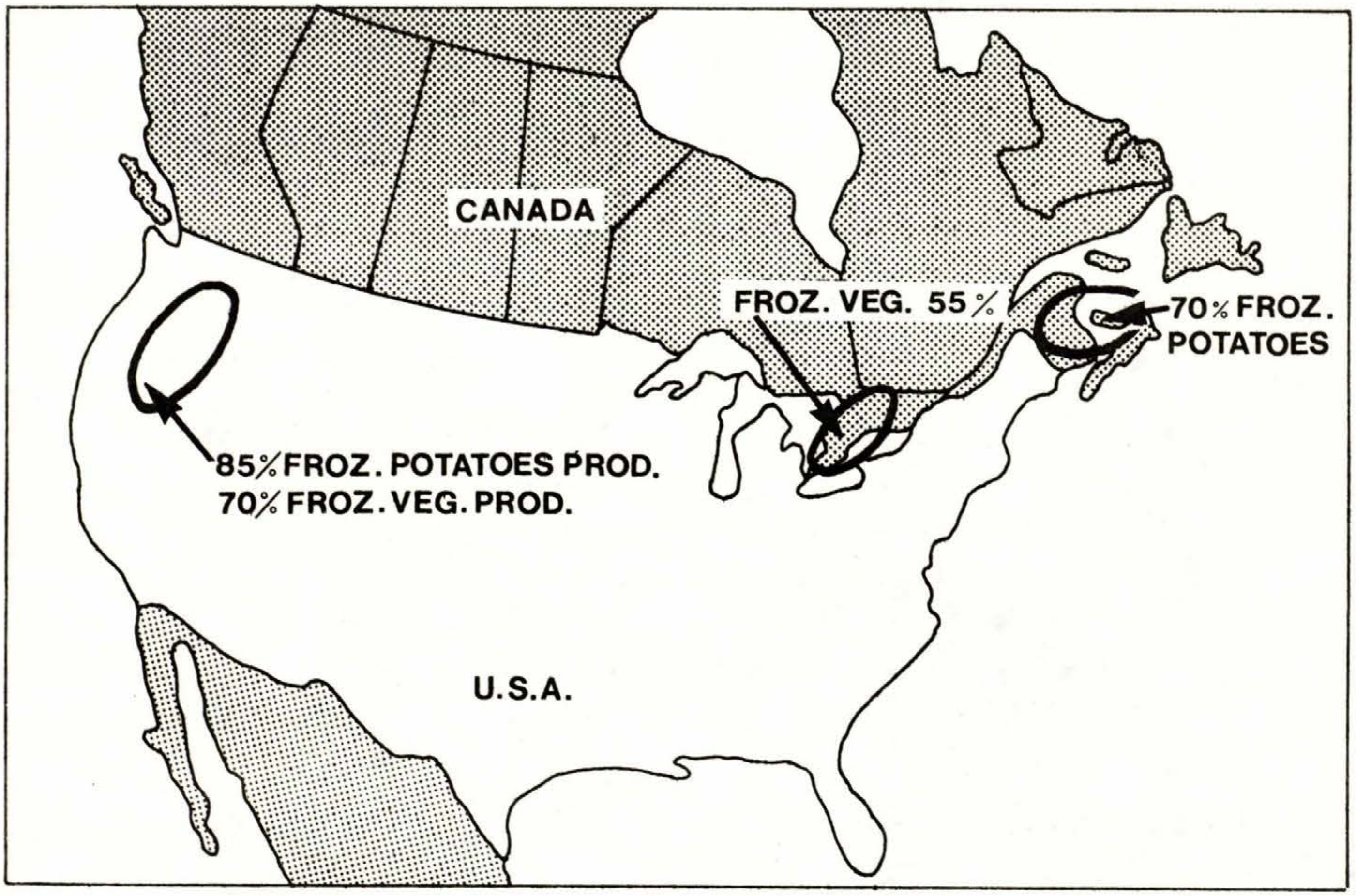
		1978 exports (lbs. millions) Canada	U.S.
frozen	peas	11	23
	corn	26	46
	potatoes	26	53
canned	asparagus	4	3
	corn	13	85
	peas	2	7
	Total	82	217

Note: Comparable data not available for other products

This commendable Canadian performance, despite the above mentioned cost disadvantages, can be explained largely by examining the distribution of production in both countries. As shown below, the majority of U.S.

production of frozen potatoes and vegetables is located in the Pacific Northwest while Canadian production is centered in Ontario and Atlantic Canada. This has provided Canadian processors with a geographic advantage in serving the European and Caribbean markets. In addition, Canadian processors are very well situated to ship into the large Northeastern U.S. market which is supplied primarily from the Pacific Northwest. The lower value of the Canadian dollar has allowed Canadian processors to be competitive in this market for some products as evidenced by the surge in exports to the U.S. in 1978. The U.S. industry, on the other hand, has a distinct competitive advantage in Pacific Rim markets where it enjoys a freight advantage in addition to generally lower cost production.

PRODUCTION LOCATION–FROZEN VEGETABLES



An analysis of frozen vegetable exports by market for the two countries illustrates the effect of production location influences on trade patterns.

1978 Exports by Country
Frozen Vegetables & Potatoes
(lbs. millions)

Destination	Canada	U.S.
U.S.	24.9	--
Canada	--	28.2
U.K.	20.2	4.9
Other Europe	10.8	4.3
Asia	7.1	114.9
Cen. America & Antilles	9.9	9.2
Oceania	--	6.3
South America	3.2	2.1
Middle East	.1	3.5
Africa	.1	.2
Total	76.3	174.9

Note: Includes trade for all Frozen vegetable products not only those under study.

Several observations can be made from the above table.

(a) In 1978, the U.S. market accounted for about one third of Canadian exports of frozen vegetables and potatoes. This volume was offset by a slightly larger volume of imports into Canada from the U.S.

(b) While shipments to the U.K. and Europe accounted for a 40% share of Canadian exports, they comprised only 5% of U.S. exports in 1978. In terms of actual units, Canadian volume to these markets was about 3½ times greater than U.S. volume.

(c) Approximately 65% of U.S. exports are to Asia, primarily Japan, while Canadian shipments to this market are about 10% of total exports.

(d) Neither Canada nor the U.S. is shipping significant quantities of frozen product to South America, the Middle East or Africa.

Other countries exporting the products under study include Australia, New Zealand, Taiwan, China, South Africa and Israel. Australia, New Zealand and China are minor suppliers of a range of products, primarily to Japan. Taiwan is a major supplier of canned and frozen vegetables to Japan and also exports large quantities of canned white asparagus to all major markets. South Africa and Israel compete with Canada and the U.S. for the processed sweet corn market in Europe.

6. <u>Quality/packaging considerations</u>

The quality of Canadian processed fruit and vegetable products is among the highest in the world. A consistently high quality product can be an important consideration when seeking certain types of export contracts (e.g. private label sales to Mark's and Spencer). In general, however, while the quality must be acceptable, price is the key selling criterion. This is especially true in the case of frozen vegetables where export sales are largely in bulk for repackaging and are sold according to accepted international grading standards. The fact that the vast majority of all exports are sold under buyers label or in bulk underscores the importance of price as exporters do not have the benefit of a consumer brand franchise to cushion pricing changes.

7. Exporter Profile

In general, export sales are handled by the processor dealing directly with the foreign importer or distributor. A relatively large number of processors are involved to some extent in exporting, probably due to the commodity nature of many of the products. There are few, however, that are exporting in large quantities on a consistent basis. It is estimated that 5 or 6 firms may account for up to 75-80% of total exports. These firms, as well as others, have been exporting for many years and are highly sophisticated international marketers. In many instances they buy products from other processors to complete an export order or to supplement their own supplies.

While the processed fruit and vegetable industry is approximately 60% foreign owned, on the basis of shipments, this proportion does not follow for export sales. It is estimated that 80% of exports are made by Canadian firms. Canadian subsidiaries of Transnational Enterprises (TNE's) tend to be oriented to serving the domestic market.

It was sensed during interviews with several of the more experienced and successful exporters that they were not particularly keen about governments conducting studies of this nature. Their concern, generally, was that they had worked hard to find and develop these markets over the years and they didn't want information disclosed that might help their competitors.

8. Use of Government Services

The industry appears to be reasonably well-informed about the various Federal and Provincial government programs and services available to assist export sales. The PEMD program and its provincial counterparts have been used effectively by many firms over the years. Some concern was mentioned about the long processing times which can be a problem for an industry with seasonal production where market conditions change rapidly. The Trade Commissioner Service is held in very high regard for the services it provides to exporters. The firms interviewed did not suggest a need for any additional government programs or services but some indicated that more export market information would be helpful.

9. Export prospects/constraints

In the short term export prospects for processed fruits and vegetables are excellent. Shipments in 1978 were at record levels and expectations are for significant increases in 1979. The bright prospects are largely due to the fall in value of the Canadian dollar which has made Canadian products more competitive in foreign markets. Whether this new export level merely represents short-term opportunity sales or a new momentum on which to build over the longer term will depend on the industry's ability to maintain this competitive edge. The outlook for specific products follows:

frozen vegetables

During the past decade frozen vegetables have increased from 35% to 65% of exports of the products studied and they can be expected to continue to increase in importance. The key frozen products are frozen corn and potatoes. The European market for frozen corn, which accounts for 90% of our exports, is presently being supplied entirely by imports with the exception of a small supply from a French processor. The market is highly underdeveloped and consumption is estimated to be increasing at the rate of 10% per year. It is anticipated that Canadian processors will be able to maintain their large share of this market against U.S., Israeli and South African competition and thereby grow with the market. Probably the major threat to Canadian exports comes from the further development of frozen corn processing capacity within the EEC. In this regard it is understood that sweet corn processors (canned and frozen) in France are currently not cost competitive with imported product. Their competitive position will weaken further with the implementation of EEC tariff decreases on processed sweet corn resulting from the Multilateral Trade Negotiations. On this basis the outlook for increased exports of frozen corn, at least in the medium term, is excellent.

During the past decade, frozen potato exports have fluctuated wildly from 11 million pounds to a high of 53 million pounds. While this volume is large in absolute terms it is miniscule relative to annual world consumption (estimated at some 6000 million pounds) and generally is equivalent to less than 10% of Canadian production of approximately 400 million pounds. In recent years the large majority of exports were opportunity sales resulting from raw product shortages in various markets (e.g. during European drought in 1976). Processors have been quick to capitalize on these opportunities which are of great significance to an industry which has some additional capacity and is geared to high volume with low margins. The only continuing export business of significance is to the Caribbean market and some lower grade product to Japan.

For the future, significant export opportunities for frozen potatoes are not foreseen in the large European market except during periods of local shortages. The EEC has a competitive industry which normally can fill the demand. Similarly, Canadian exports to Japan would appear to be limited even though Japanese imports are large and expected to increase. This is due to the favourable West Coast location of the giant U.S. industry which currently supplies that market. While the location of the U.S. industry constrains Canadian expansion in Pacific Rim markets, it in turn creates an important opportunity for Eastern Canadian processors in the large Northeastern U.S. market. The devalued Canadian dollar has allowed domestic processors to compete vigourously in this market in 1978 and sales are rapidly increasing. Two factors which should enhance export prospects to this market in the longer term are: (1) the more rapid increase of energy costs (i.e. transportation costs, particularly for frozen product) relative to other cost inputs and (2) the U.S. tariff reduction from 17½% to 10% on frozen potatoes negotiated in Gatt. The approximately 2000 million pound U.S. french fry market that is within striking distance provides some perspective on the dimensions of the export opportunity.

Traditionally, exports of frozen peas, green and wax beans, and carrots have been quite sporadic and generally of limited volume. The only continuing business has been 4-5 million pounds of lower grade peas shipped to Venezuela, Japan and the Caribbean for reprocessing. However, as in the case of frozen potatoes, the industry has recently begun shipping significant quantities of these products to the North Eastern United States (the U.S. industry for frozen vegetables is also located in the Pacific Northwest.) Exports in 1979 should show further increases as several large contracts are already in place with U.S. buyers. Frozen peas in particular are currently quite competitive in the U.S. market as the tariff is only 1¢ per pound (about 4% a.v.) in season (July 1 - Sept 30) and 2¢ per pound for the balance of the year. Current market conditions also allow frozen carrots and beans to compete but the 17½% tariff is expected to limit long term potential for these items. The long term prospect for frozen peas in the U.S. market is regarded with cautious optimism by the industry which is well aware of the economies of scale and generally lower production costs enjoyed by the U.S. industry.

The recent strong export demand for frozen vegetables has resulted in a near capacity situation, especially for frozen corn, and the industry will soon be faced with investment decisions.

canned vegetables

In contrast to the excellent growth in frozen vegetables, canned vegetable exports have shown a large decline from 40 million to 20 million pounds during the past 10 years. This can be attributed to the loss of canned wax bean sales to Germany after the formation of the EEC and a decline in canned corn sales to the U.K. upon its entry into the Community. The loss of canned corn sales is primarily the result of TNE's shifting their supply source to lower cost U.S. production after Canada lost its U.K. tariff preference.

It would appear, on balance, that exports of canned products have now more or less bottomed out and that we may look for modest increases in export sales. This growth will come in canned corn-on-the-cob which now represents a major portion of canned corn exports and canned asparagus. Exports of canned kernel corn to Europe will largely depend on corporate policies of TNE's which are not likely to favor increased shipments of normally higher cost Canadian product.

Canned corn-on-the cob is produced by 3 or 4 small firms as it does not lend itself well to mass production by large processors. The marketing of this product, however, is done mainly by large firms with considerable export marketing expertize. The bulk of Canadian production is exported to Europe and it is anticipated that exports will continue to increase. Some investment is currently underway to increase production capacity.

Exports of canned asparagus have shown remarkable growth in recent years and further significant increases are expected in 1979. Export sales were $4 million in 1978. The Canadian product is green asparagus as opposed to white asparagus which is a widely traded commodity produced in low wage countries. Green asparagus tends to be preferred in English speaking countries while the white product is used in continental Europe. Canadian exports are primarily to Australia and the U.K. Most of the raw product used in production is imported from the U.S. which, of course, creates a significant import replacement opportunity on the primary side. However, some exporters are apprehensive about long-term export prospects on the basis that once a sufficient market develops low-wage countries may become more active. Asparagus production is highly labour intensive. This is a factor to take into account in the import replacement programs currently underway in various provinces.

There is a very limited amount of international trade in canned peas, green and wax beans, and potatoes and this is not expected to change. Canadian processors can not compete on a continuing basis with local production in foreign markets except to a limited extent in times of supply shortages. This is evidenced by the minimal increase in exports to Europe during the drought in 1976.

<u>processed apples</u>

Prospects for exports of certain processed apple products at the present time are good but advantage cannot be taken of the situation because of raw product shortages. In fact, it was the view of some persons interviewed that there would be a world shortage of processing apples during the medium term (5 to 10 years). The reason put forward is the recent rapid increase in world demand for both the fresh fruit and apple juice. Because this change in demand could not be foreseen 5 to 10 years ago, sufficient new plantings were not made to meet current requirements.

The domestic supply of "ciders" (apples for juice processing) has been tight in recent years, particularly in Nova Scotia and B.C. This has contributed to the large increase in production of apple juice from imported concentrate to meet the burgeoning demand. Currently about 40% of the market is juice produced from concentrate compared to about 12 per cent 5 years ago. It should be noted that production of juice from fresh apples has also shown significant increases during this period. Short world supplies of concentrate have resulted in higher prices and problems with sourcing. For the first 10 months of 1978 Canada imported $7 million of apple concentrate and this will likely increase in 1979. The long-term implications for the apple industry of this market shift could be of considerable significance as raw product supplies move back in line with demand. The domestic industry may not be able to compete with low cost apple concentrate suppliers and, hence, this important market segment (apple juice from concentrate) could continue to be supplied using imported concentrate.

Until the above noted supply shortages can be corrected, export opportunities for apple juice will continue to be limited. Some processors are exporting canned solid pack apples to the U.K. largely due to high world prices and a favourable Canadian exchange rate. The prospects of significant long term exports of this product are not encouraging due to strong Italian competition behind a relatively high EEC tariff wall. Exports of applesauce to the U.S. offers some promise but is constrained by the lack of an on-going price advantage and the difficulty in entering a heavily branded, well established market.

Processed Raspberries

Processed raspberries are one of the brightest spots in the fruit and vegetable industry. Like apples a sudden surge in demand for raspberries has created a tremendous opportunity for development. The increased demand is largely a result of the rapidly growing yogourt market in North America. The Fraser Valley provides an ideal climate for the production of a high yielding top quality raspberry to meet this demand. The problem is how to most effectively and profitably exploit the various opportunities which include both domestic and export market development of fresh, IQF, canned, juice and block frozen product. The constraint has been product availability.

The B.C. Raspberries Growers Association under a program funded by AGMAP is taking positive action in the development of this industry. The first priority is to increase raw product supply through encouraging additional plantings. This has been successful to date and the 1979 crop is expected to be substantially larger than that of recent years if conditions are normal. In conjunction with increasing supply, plans call for stimulating increased demand in order to keep prices firm. Central to this on the domestic side is the development of a raspberry juice market which from tests has great potential, as well as further development of the fresh market which is viewed as a highly underdeveloped segment.

On the export side the goal is to broaden the product and market base in order to reduce dependence on fresh sales to the U.S. The latter market may shrink in the future as the Washington industry increases production and modernizes. Specific plans for 1979 provide a $1.00 per case rebate to processors on export sales of canned raspberries. In addition processors are being encouraged to produce as much IQF product as possible which has a strong export demand. Good export possibilities also exist for raspberry juice. It is anticipated that for several years the major constraint to export sales may be available supply. Also, the inclination of grower co-operatives to sell product in its simplest form, fresh or block frozen, may inhibit export development of the more sophisticated products, especially if demand remains strong.

processed cherries

Canned sweet cherries, with exports of $2.5 million in 1978, are an important product to small processors in the Okanagan. These firms have worked hard to develop export sales which are primarily to the U.K. and Australia. They are presently seeking new markets and it is anticipated that exports will continue to increase steadily. The high quality of the B.C. product helps assure continuing business in this more specialized, higher priced product category.

Frozen sour cherries, on the other hand, are more of a commodity item used for further processing in pies and other products. Production is centered in Southwestern Ontario adjacent to the U.S. industry in Michigan. The Ontario price is tied to the Michigan price and cross border trade is dependent on respective supply availability which can vary considerably for this crop. It is doubtful whether increased exports could be sustained on a long-term basis as Ontario producers do not have a competitive edge over their U.S. counterparts.

10. Summary of Export Prospects by Market

Up to this point discussion has been on a product basis. The following summarizes the opportunities which have been noted on a market basis.

United States

- excellent prospects in frozen potatoes and to a lesser extent for frozen peas.
- short term opportunity sales of frozen beans, carrots and corn.
- prospects for canned vegetables are poor

- expect continuation of present volume of processed apples, possibly modest increases in applesauce.
- frozen sour cherries limited to opportunity sales.
- modest opportunity in processed raspberries.

United Kingdom

- excellent opportunity for increased sales of frozen corn, canned corn-on-the-cob, canned asparagus, canned cherries and processed raspberries.
- limited opportunity in canned apples.
- frozen potato exports primarily opportunity sales.
- expect continuation of present volumes of canned kernel corn.

Other Europe

- excellent prospects for frozen corn and canned corn-on-the-cob.

- some continuing sales of canned wax beans.
- some potential for canned sweet cherries and processed rasberries.

Central America & Antilles

- continuing growth is expected on a broad range of product, mainly frozen. Overall market potential is not large.
- good potential for increase in frozen potatoes.

Oceania

- excellent potential for canned asparagus, canned cherries and processed raspberries.

Asia

- limited potential for increased exports of major volume vegetable products. Japan is expected to continue to provide an outlet for lower grade frozen vegetables.
- good potential for canned asparagus, cherries, and processed raspberries.

South America

- continuing outlet for lower grade frozen peas for reprocessing.

Africa

- no significant opportunities seen at the present time.

Middle East

- best prospects are for pure fruit juices- raspberry and apple.

11. Conclusions

(a) Export sales are important to the basic fruit and vegetable segment of the industry in all major producing regions of Canada.

(b) There are some excellent prospects for increasing export sales particularly in frozen potatoes, canned and frozen corn, frozen peas, canned asparagus, canned cherries, and processed raspberries.

(c) The industry is relatively sophisticated in terms of export marketing expertize, aware of opportunities which exist, and is aggressively pursuing them.

(d) Major constraints to increasing export sales are the lack of raw product availability in the case of raspberries and apples for processing. These constraints have been identified by the industry and remedial action is underway. In addition, processing capacity for frozen vegetables (excluding frozen potatoes) is reaching its limit.

(e) The industry is generally aware of and satisfied with existing government programs and services to assist exports, many firms are making effective use of them, and the need for additional government involvement is not seen as being necessary. Some firms, however, indicated additional export market information would be helpful.

12. Recommendations

(a) Governments should continue to work closely with industry in exploiting the opportunities identified for the various products and markets. This should include encouraging new firms to begin exporting as well as assisting existing exporters to develop new markets. Federal and provincial governments should also continue to give a high priority to co-ordinating their export marketing efforts in order to ensure maximum impact and effectiveness.

(b) Since raspberries have been identified as a promising export opportunity, an assessment should be made by the Federal and B.C. governments in conjunction with the B.C. Raspberry Growers' Association to determine if there are any further ways to assist the development of the raspberry industry in addition to what is currently underway. All aspects of the industry should be considered including growing, harvesting, processing, product development and domestic and export marketing.

(c) In order to capitalize on export opportunities for processed apples, factors affecting the supply of raw product for processing must be examined and appropriate industry action taken. It is anticipated that the current AGMAP funded study on apples and apple products will give the industry guidance for long term planning. If this study identifies the need for additional information, it is proposed that further research should be undertaken.

(d) A comprehensive study of the future export prospects for processed corn in Europe should be undertaken. Processed corn is the industry's most important export comprising some 40% of shipments in 1978. A wide range of products are exported including frozen kernel corn, frozen corn-on-the-cob, canned kernel corn, canned cream style corn, and canned corn-on-the-cob. Each product has its own unique problems and opportunities. The European market for processed corn is already large but still highly underdeveloped in most countries. At present, imports fill the large majority of market requirements and Canada is a major supplier. Canadian production is approaching capacity for some corn products and there is a need for market information to assist in making appropriate long-term investments decisions. Information required includes projected consumption trends for each corn item, Canada's ability to meet competition from other suppliers (e.g. Israel, South Africa, U.S.), the potential for and commitment to development of production facilities within the EEC both by local companies and TNE's, and the impact of the reduction in the EEC tariff as a result of the Multi-lateral Trade Negotiations. A perspective on market opportunities is important not only to processors but also to growers who have been closely co-operating with the industry by means of a two price structure for raw product.

Annex I

Exports as a percentage of total production

frozen vegetables	exports as percentage of production-ave. last 5 years
green & wax beans	20%
corn	50
peas	10
potatoes	8
carrots	N/A
canned vegetables	
asparagus	25
green beans	2
wax beans	5
corn*	9
peas	2
potatoes	8
processed fruit	
apple juice	3
apple juice concentrate	-
canned apples, including applesauce	7
frozen fruit (except blueberries)	10
canned sweet cherries	50
canned raspberries	N/A

* 75% + of canned corn-on-the-cob production is exported

SUMMARY - CANADIAN EXPORTS BY PRODUCT (lbs. 000's)

(Processed Fruit & Vegetable Products under study)

Frozen Vegetables	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
green and wax beans	1,225	673	51	340	459	711	1,239	1,758	6,391	5,023
corn	8,109	6,292	4,955	11,060	16,077	14,330	10,974	15,329	17,916	26,045
peas	6,274	1,618	482	1,770	4,728	2,101	2,864	2,788	12,918	10,590
potatoes	20,413	28,229	10,853	16,834	17,624	23,346	31,546	52,706	31,103	25,752
Total Frozen	36,021	36,812	16,341	30,004	38,888	40,488	46,623	72,580	68,328	67,410
Canned Vegetables										
asparagus	1,543	1,432	1,393	1,255	1,597	2,045	2,385	1,371	3,577	3,870
green beans	1,255	2,437	1,508	412	605	114	372	1,393	1,204	398
wax beans	17,801	23,544	15,759	9,016	1,720	682	344	3,865	321	1,710
corn	13,427	15,867	18,746	25,225	24,410	12,262	8,083	12,094	15,151	12,880
peas	908	3,646	2,812	719	255	958	4,621	2,306	676	2,124
potatoes	296	4	46	11	9	6	115	1,263	1,264	34
Total Canned Vegetables	35,230	46,930	40,264	36,638	28,596	16,067	15,920	22,292	22,193	21,016
Processed Fruit										
canned apple juice	3,491	3,850	2,247	4,768	5,072	2,841	2,147	1,750	6,760	7,319
apple juice concentrate	285	439	1,328	161	1,023	309	720	666	453	33
canned apples, incl. sauce	7,477	4,897	4,721	6,539	3,778	1,951	943	5,113	2,105	1,826
Total Apple Products	11,253	9,186	8,296	11,468	9,873	5,101	3,810	7,529	9,318	9,178
Frozen fruit (except blueberries)	1,699	3,082	2,757	4,057	5,490	4,411	1,801	1,875	2,760	9,013
Canned sweet cherries	3,573	960	1,668	1,875	5,738	4,992	3,001	4,351	3,515	4,600
Total All Products	87,776	96,970	69,326	84,042	88,585	71,059	71,165	108,627	106,114	111,217

SUMMARY - CANADIAN EXPORTS BY PRODUCT ($ 000's)

(Processed Fruit & Vegetable Products under study)

Frozen Vegetables	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
green and wax beans	$ 213	$ 137	$ 15	$ 77	$ 104	$ 152	$ 310	$ 386	$1,714	$ 1,307
corn	1,301	1,000	745	1,692	2,939	3,647	3,082	3,884	4,547	7,045
peas	963	255	63	324	834	480	702	697	3,079	2,702
potatoes	2,655	3,743	1,506	2,532	2,878	4,705	6,145	10,789	5,409	5,707
Total Frozen	5,132	5,135	2,329	4,625	6,755	8,986	10,239	15,756	14,749	16,761
Canned Vegetables										
asparagus	728	634	728	693	912	1,334	1,314	1,099	2,674	4,031
green beans	169	353	231	69	107	26	86	359	241	104
wax beans	1,849	2,407	1,546	940	255	118	65	693	59	374
corn	2,785	3,426	4,139	5,311	7,459	4,153	3,648	6,331	5,415	5,917
peas	154	501	501	119	46	230	1,092	519	137	601
potatoes	33	--	2	2	1	1	18	219	225	18
Total Canned Vegetables	5,718	7,321	7,147	7,134	8,780	5,862	6,223	9,220	8,751	11,045
Processed Fruit										
canned apple juice	313	328	242	394	721	318	289	240	775	815
apple juice concentrate	66	85	236	52	409	136	184	214	140	15
canned apples, incl. sauce	837	545	475	701	650	446	214	583	484	512
Total Apple Products	1,216	958	953	1,147	1,780	900	687	1,037	1,399	1,342
Frozen fruit (except blueberries)	449	547	461	650	1,019	1,399	517	590	787	1,956
Canned sweet cherries	901	264	432	505	1,609	1,804	1,247	1,674	1,555	2,556
Total All Products	$13,416	$14,225	$11,322	$14,061	$19,943	$18,951	$18,913	$28,277	$27,241	$33,660

lbs (000's) CANADIAN EXPORTS BY PRODUCT Apple Juice

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	691	772	814	889	867	9	114	111	44	92
United States	1527	921	140	2502	2808	1751	1092	783	5564	5859
Other Europe	260	168	81	80	76	128	130	100	113	118
Central America & Antilles	878	1747	998	1165	1124	740	627	493	893	770
Oceania	—	—	—	—	—	—	—	—	—	—
Other Asia	—	—	3	22	48	100	68	50	78	24
South America	68	116	87	—	—	—	—	—	—	—
Other Africa	4	—	23	—	7	3	7	—	—	—
Middle East	12	24	35	21	61	69	71	157	13	397
Total	3491	3850	2247	4768	5072	2841	2147	1750	6760	7320

lbs (000's) — CANADIAN EXPORTS BY PRODUCT — Apple juice concentrates

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	—	—	—	—	—	—	—	35	4	8
United States	278	368	1264	42	931	98	552	503	270	6
Other Europe	—	—	—	—	—	—	—	—	—	—
Central America & Antilles	7	6	31	108	87	195	144	122	156	11
Oceania	—	—	—	—	—	—	—	—	—	—
Other Asia	—	30	—	—	—	—	—	—	—	8
South America	—	35	33	11	—	15	13	—	20	—
Other Africa	—	—	—	—	—	—	—	—	—	—
Middle East	—	—	—	—	—	—	—	5	—	—
Total	285	439	1328	161	1023	309	720	666	453	33

lbs (000's) CANADIAN EXPORTS BY PRODUCT **Canned apples, including sauce**

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	4615	2491	1756	4812	300	71	106	4038	330	653
United States	2604	2142	2659	1456	3225	1690	720	951	1606	992
Other Europe	35	10	3	78	—	—	—	—	—	33
Central America & Antilles	200	219	289	192	235	171	108	101	156	149
Oceania	8	13	4	—	—	—	—	18	3	—
Other Asia	—	—	—	—	—	4	4	3	7	—
South America	—	—	—	—	—	—	—	—	—	—
Other Africa	—	—	—	—	—	—	—	—	—	—
Middle East	—	—	—	—	—	—	—	—	—	—
Total	7477	4897	4721	6539	3778	1951	943	5113	2105	1827

lbs (000's) CANADIAN EXPORTS BY PRODUCT Frozen fruits & berries, (except blueberries)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	626	1188	926	1810	1131	2422	720	314	548	529
United States	667	1730	1545	2225	4155	1740	627	699	2103	8262
Other Europe	328	160	—	—	61	174	448	819	—	75
Central America & Antilles	11	2	279	18	135	6	1	4	1	33
Oceania	45	—	6	2	—	31	—	28	39	—
Other Asia	—	—	—	3	—	32	4	9	67	114
South America	—	—	—	—	—	—	—	—	—	—
Other Africa	—	—	—	—	—	—	—	—	—	—
Middle East	—	—	—	—	—	—	—	—	—	—
Total	1699	3082	2759	4057	5490	4411	1801	1875	2760	9013

lbs (000's) CANADIAN EXPORTS BY PRODUCT **canned sweet cherries**

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	1488	329	970	591	4589	3291	1927	786	1926	2812
United States	1	45	23	35	—	445	134	—	—	—
Other Europe	1627	438	346	1020	709	126	387	233	8	16
Central America & Antilles	191	70	168	193	83	46	18	45	20	46
Oceania	220	17	70	32	341	1046	374	3247	1493	1569
Other Asia	—	—	—	—	—	—	—	—	—	51
South America	2	6	6	—	—	—	4	—	—	—
Other Africa	36	48	57	—	22	34	158	23	38	103
Middle East	—	—	—	—	—	—	—	—	—	—
Total	3573	960	1668	1875	5738	4992	3001	4351	3515	4601

Annex III

lbs (000's) — CANADIAN EXPORTS BY PRODUCT — **frozen green & wax beans**

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	1100	103	—	54	127	144	—	181	157	—
United States	70	84	13	159	52	506	1085	735	5254	4196
Other Europe	23	435	—	14	—	—	41	781	895	698
Central America & Antilles	24	31	28	88	44	49	112	69	80	103
Oceania	—	—	—	—	186	—	—	—	—	—
Other Asia	—	13	9	23	39	4	2	—	1	13
South America	—	—	—	—	—	—	—	—	—	16
Other Africa	—	—	—	—	—	—	—	—	—	—
Middle East	—	—	—	—	—	—	—	—	—	—
Total	1225	673	51	340	459	711	1239	1758	6391	5023

Annex III

lbs (000's) — CANADIAN EXPORTS BY PRODUCT — frozen corn

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	6351	5203	4236	7272	10,733	13,061	8591	10,194	12,074	16,314
United States	20	--	260	2577	1,483	--	393	1,624	984	1,109
Other Europe	184	307	308	461	2,075	808	1976	2,745	3,119	7,154
Central America & Antilles	124	16	149	258	43	192	9	132	847	599
Oceania	163	59	--	40	150	--	--	--	--	139
Other Asia	1263	705	--	448	1,440	266	--	632	969	727
South America	--	--	--	--	150	--	--	1	--	--
Other Africa	--	--	--	--	--	--	--	--	--	--
Middle East	--	--	--	--	--	--	--	--	21	--
Total	8109	6292	4955	11,060	16,077	14,330	10,974	15,329	17,916	26,045

lbs (000's) CANADIAN EXPORTS BY PRODUCT **frozen peas**

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	6018	790	112	303	85	142	--	79	4872	--
United States	151	1	22	573	1118	480	640	37	4196	4576
Other Europe	--	44	224	336	1760	410	--	--	119	--
Central America & Antilles	16	51	114	63	159	175	117	209	847	1614
Oceania	--	--	--	--	--	--	--	--	--	--
Other Asia	25	477	11	5	751	332	--	491	970	1260
South America	60	--	--	489	851	564	2104	1971	1913	3075
Other Africa	--	249	--	--	--	--	--	--	--	62
Middle East	--	--	--	--	--	--	--	--	--	--
Total	6274	1618	482	1770	4728	2101	2864	2788	12,918	10,590

lbs (000's) — CANADIAN EXPORTS BY PRODUCT — **frozen potatoes**

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	13,710	14,057	2,722	2,121	21	60	17,203	37,862	17,941	3,670
United States	3,013	8,691	6,122	12,059	10,959	5,540	4,071	2,221	878	7,604
Other Europe	—	862	—	—	—	—	65	8,354	6,908	2,908
Central America & Antilles	1,766	2,110	1,896	2,336	2,295	2,204	2,792	3,324	3,649	6,378
Oceania	1,921	2,367	51	67	3,409	13,732	7,205	—	—	—
Other Asia	2	144	54	248	903	1,783	307	940	1,525	5,008
South America	—	—	—	—	18	—	—	—	—	64
Other Africa	—	—	—	—	—	—	—	—	—	—
Middle East	—	—	—	—	—	—	—	—	—	120
Total	20,413	28,229	10,853	16,834	17,624	23,346	31,546	52,706	31,103	25,752

lbs (000's) CANADIAN EXPORTS BY PRODUCT canned asparagus

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	1430	1351	1352	1214	1506	1292	1942	558	1532	1127
United States	--	--	--	--	--	--	--	--	166	52
Other Europe	65	42	13	4	65	168	10	4	36	33
Central America & Antilles	36	31	34	34	30	10	22	28	13	14
Oceania	--	--	--	--	--	556	406	779	1813	2644
Other Asia	--	--	--	--	--	--	--	--	--	--
South America	4	--	--	--	--	--	--	--	--	--
Other Africa	--	--	--	--	--	--	--	--	13	--
Middle East	--	--	--	--	--	--	--	--	--	--
Total	1543	1432	1393	1255	1597	2045	2385	1371	3577	3870

lbs (000's) — CANADIAN EXPORTS BY PRODUCT — **canned green beans**

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	982	1931	1136	280	436	42	302	466	42	57
United States	—	—	—	—	—	1	—	1	61	39
Other Europe	119	340	29	5	71	—	4	764	1013	207
Central America & Antilles	86	129	97	114	96	52	32	35	65	66
Oceania	60	32	49	9	—	11	28	124	21	—
Other Asia	1	—	195	—	—	—	—	—	—	27
South America	—	—	—	—	—	—	—	—	—	—
Other Africa	—	—	—	—	—	—	—	—	—	—
Middle East	—	—	—	—	—	—	—	—	—	—
Total	1255	2437	1508	412	605	114	372	1393	1204	398

lbs (000's) CANADIAN EXPORTS BY PRODUCT **canned wax beans**

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	—	89	22	—	173	27	—	—	—	40
United States	—	—	—	—	—	—	—	—	—	—
Other Europe	17,638	23,303	15,241	8977	1483	567	296	3839	303	1640
Central America & Antilles	26	78	40	16	18	29	23	8	17	30
Oceania	120	70	74	17	43	52	24	6	—	—
Other Asia	—	—	378	—	—	—	—	—	—	—
South America	5	—	—	—	—	—	—	—	—	—
Other Africa	—	—	—	—	—	—	—	—	—	—
Middle East	—	—	—	—	—	—	—	6	—	—
Total	17,801	23,544	15,759	9016	1720	682	344	3865	321	1710

lbs (000's) CANADIAN EXPORTS BY PRODUCT **canned corn**

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	10,744	12,933	14,362	16,954	20,624	9,431	5,435	9,535	10,059	7,162
United States	372	179	123	2,270	30	6	39	118	1,533	703
Other Europe	1,349	1,576	2,670	5,365	3,312	2,490	2,308	1,948	3,134	4,560
Central America & Antilles	602	1,031	1,497	518	382	250	290	280	405	427
Oceania	—	—	—	—	—	—	—	2	—	—
Other Asia	64	1	—	69	3	6	—	196	3	2
South America	270	113	66	19	11	3	5	—	—	—
Other Africa	—	—	—	—	19	3	—	—	—	—
Middle East	4	5	—	—	7	7	—	—	10	20
Total	13,427	15,867	18,746	25,225	24,410	12,262	8,083	12,094	15,151	12,880

lbs (000's) CANADIAN EXPORTS BY PRODUCT canned peas

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	--	--	--	--	--	--	--	--	265	--
United States	--	2774	2016	--	--	744	4515	2202	294	1981
Other Europe	29	22	18	7	--	71	--	39	--	3
Central America & Antilles	561	549	381	399	93	90	42	35	103	54
Oceania	--	--	--	--	--	--	--	--	--	--
Other Asia	--	--	120	--	5	--	--	--	--	--
South America	298	283	256	303	146	36	62	27	--	82
Other Africa	--	--	--	--	--	--	--	--	--	--
Middle East	--	--	--	--	--	--	--	--	--	--
Total	908	3646	2812	719	255	958	4621	2306	676	2124

lbs (000's) CANADIAN EXPORTS BY PRODUCT **canned potatoes**

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	292	—	—	—	—	—	106	1263	1257	—
United States	—	—	—	—	—	—	—	—	—	29
Other Europe	—	—	—	—	—	—	—	—	—	—
Central America & Antilles	3	4	45	8	9	4	8	—	7	5
Oceania	—	—	—	—	—	—	—	—	—	—
Other Asia	—	—	—	—	—	—	—	—	—	—
South America	—	—	—	—	—	—	—	—	—	—
Other Africa	—	—	—	—	—	—	—	—	—	—
Middle East	—	—	—	—	—	—	—	—	—	—
Total	296	4	46	11	9	6	115	1263	1264	34

Annex IV

SUMMARY - CANADIAN EXPORTS BY MARKET (lbs. 000's)

(Processed Fruits & Vegetable Products Under Study)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	48,047	41,237	28,408	36,300	40,592	29,992	36,446	65,422	51,051	32,464
United States	8,703	16,935	14,187	23,896	24,761	13,001	13,868	9,874	22,909	35,408
Other Europe	21,657	27,707	18,947	16,333	9,612	4,952	5,665	19,626	15,648	17,445
Central America & Antilles	4,511	6,078	6,048	5,510	4,833	4,213	4,345	4,885	7,259	10,299
Oceania	2,537	2,558	254	167	4,129	15,428	8,037	4,204	3,369	4,352
Other Asia	1,355	1,370	770	818	3,189	2,527	385	2,321	3,620	7,234
South America	707	553	448	822	1,176	618	2,188	1,999	1,933	3,237
Other Africa	40	297	80	—	48	40	165	23	51	165
Middle East	16	29	35	21	68	76	71	168	44	537
TOTAL	87,776	96,970	69,326	84,042	88,585	71,059	71,165	108,627	106,114	111,217

SUMMARY - CANADIAN EXPORTS BY MARKET ($ 000's)

(Processed Fruits & Vegetable Products under study)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
United Kingdom	$ 8,049	$ 6,986	$ 5,756	$ 6,840	$11,048	$ 9,586	$10,279	$17,497	$13,355	$11,550
United States	1,184	2,295	1,935	3,450	4,303	2,826	3,048	1,887	5,097	7,177
Other Europe	2,714	3,193	2,191	2,417	2,046	1,309	2,330	4,838	3,602	5,684
Central America & Antilles	770	961	1,215	1,051	1,095	1,084	736	1,101	1,819	2,629
Oceania	393	463	43	32	628	3,450	1,817	1,882	2,009	3,754
Other Asia	189	194	90	128	613	533	81	510	777	1,869
South America	103	78	73	140	189	137	552	523	539	860
Other Africa	12	52	16	—	11	11	55	9	27	74
Middle East	2	3	3	3	10	15	15	30	16	32
Total	$13,416	$14,225	$11,322	$14,061	$19,943	$18,951	$18,913	$28,277	$27,241	$33,660

Annex V

lbs. (000's) — CANADIAN EXPORTS BY MARKET — **United Kingdom**

Frozen Vegetables	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
green and wax beans	1,100	103	--	54	127	144	--	181	157	--
corn	6,351	5,203	4,236	7,272	10,733	13,061	8,591	10,194	12,074	16,314
peas	6,018	790	112	303	85	142	--	79	4,872	--
potatoes	13,710	14,057	2,722	2,121	21	60	17,203	37,862	17,941	3,670
Total Frozen	27,179	20,153	7,070	9,750	10,966	13,407	25,794	48,316	35,040	19,984
Canned Vegetables										
asparagus	1,430	1,351	1,352	1,214	1,506	1,292	1,942	558	1,532	1,127
green beans	982	1,931	1,136	280	436	42	302	466	42	57
wax beans	--	89	22	--	173	27	--	--	--	40
corn	10,744	12,933	14,362	16,954	20,624	9,431	5,435	9,535	10,059	7,162
peas	--	--	--	--	--	--	--	--	265	--
potatoes	292	--	--	--	--	--	106	1,263	1,257	--
Total Canned Vegetables	13,448	16,304	16,872	18,448	22,739	10,792	7,785	11,822	13,155	8,386
Processed Fruit										
canned apple juice	691	772	814	889	867	9	114	111	44	92
apple juice concentrate	--	--	--	--	--	--	--	35	4	8
canned apples, incl. sauce	4,615	2,491	1,756	4,812	300	71	106	4,038	330	653
Total Apple Products									378	753
Frozen fruit (except blueberries)	626	1,188	926	1,810	1,131	2,422	720	314	548	529
Canned sweet cherries	1,488	329	970	591	4,589	3,291	1,927	786	1,926	2,812
Total All Products	48,047	41,237	28,408	36,300	40,592	29,992	36,446	65,442	51,051	32,464

lbs. (000's) CANADIAN EXPORTS BY MARKET U. S.

Frozen Vegetables	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
green and wax beans	70	84	13	159	52	506	1,085	735	5,254	4,196
corn	20	--	260	2,577	1,483	--	393	1,624	984	1,109
peas	151	1	22	573	1,118	480	640	37	4,196	4,576
potatoes	3,013	8,691	6,122	12,059	10,959	5,540	4,071	2,221	878	7,604
Total Frozen	3,254	8,776	6,417	15,368	13,612	6,526	6,189	4,617	11,312	17,485
Canned Vegetables										
asparagus	--	--	--	--	--	--	--	--	166	52
green beans	--	--	--	--	--	1	--	1	61	39
wax beans	--	--	--	--	--	--	--	--	--	--
corn	372	179	123	2,270	30	6	39	118	1,533	703
peas	--	2,774	2,016	--	--	744	4,515	2,202	294	1,981
potatoes	--	--	--	--	--	--	--	--	--	29
Total Canned Vegetables	372	2,953	2,139	2,270	30	751	4,554	2,321	2,054	2,804
Processed Fruit										
canned apple juice	1,527	921	140	2,502	2,808	1,751	1,092	783	5,564	5,859
apple juice concentrate	278	368	1,264	42	931	98	552	503	270	6
canned apples, incl. sauce	2,604	2,142	2,659	1,456	3,225	1,690	720	951	1,606	992
Total Apple Products										
Frozen fruit (except blueberries)	667	1,730	1,545	2,223	4,155	1,740	627	699	2,103	8,262
Canned sweet cherries	1	45	23	35	--	445	134	--	--	--
Total All Products	8,703	16,935	14,187	23,896	24,761	13,001	13,868	9,874	22,909	35,408

lbs. (000's) | CANADIAN EXPORTS BY MARKET | Other Europe

Frozen Vegetables	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
green and wax beans	23	435	14	—	—	—	41	781	895	698
corn	184	307	308	461	2,075	808	1,976	2,745	3,119	7,154
peas	—	44	224	336	1,760	410	—	—	119	—
potatoes	—	862	—	—	—	—	65	8,354	6,908	2,908
Total Frozen	207	1,648	546	797	3,835	1,218	2,082	11,880	11,041	10,760
Canned Vegetables										
asparagus	65	42	13	4	65	168	10	4	36	33
green beans	119	340	29	5	71	—	4	764	1,013	207
wax beans	17,638	23,303	15,241	8,977	1,483	567	296	3,839	303	1,640
corn	1,349	1,576	2,670	5,365	3,312	2,490	2,308	1,948	3,134	4,560
peas	29	22	18	7	—	71	—	39	—	3
potatoes	—	—	—	—	—	—	—	—	—	—
Total Canned Vegetables	19,200	25,283	17,971	14,358	4,931	3,296	2,618	6,594	4,486	6,443
Processed Fruit										
canned apple juice	260	168	81	80	76	128	130	100	113	118
apple juice concentrate	—	—	—	—	—	—	—	—	—	—
canned apples, incl. sauce	35	10	3	78	—	—	—	—	—	33
Total Apple Products										
Frozen fruit (except blueberries)	348	160	—	—	61	174	448	819	—	75
Canned sweet cherries	1,627	438	346	1,020	709	126	387	233	8	16
Total All Products	21,657	27,707	18,947	16,333	9,612	4,952	5,665	19,626	15,648	17,445

lbs. (000's) — CANADIAN EXPORTS BY MARKET — Central America & Antilles

Frozen Vegetables	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
green and wax beans	24	31	28	88	44	49	112	69	80	103
corn	124	16	149	258	43	192	9	132	847	599
peas	16	51	114	63	159	175	117	209	847	1,614
potatoes	1,766	2,110	1,896	2,336	2,295	2,204	2,792	3,324	3,649	6,378
Total Frozen	1,930	2,208	2,187	2,745	2,541	2,620	3,030	3,734	5,423	8,694
Canned Vegetables										
asparagus	36	31	34	34	30	10	22	28	13	14
green beans	86	129	97	114	96	52	32	35	65	66
wax beans	26	78	40	16	18	29	23	8	17	30
corn	602	1,031	1,497	518	382	250	290	280	405	427
peas	561	549	381	399	93	90	42	35	103	54
potatoes	3	8	45	8	9	4	8	--	7	5
Total Canned Vegetables	1,314	1,826	2,094	1,089	628	435	417	386	610	596
Processed Fruit										
canned apple juice	878	1,749	998	1,165	1,124	740	627	493	893	770
apple juice concentrate	7	6	31	108	87	195	144	122	156	11
canned apples, incl. sauce	200	219	289	192	235	171	108	101	156	149
Total Apple Products										
Frozen fruit (except blueberries)	11	2	279	18	135	61	1	4	1	33
Canned sweet cherries	191	70	168	193	83	46	18	45	20	46
Total All Products	4,511	6,078	6,048	5,510	4,833	4,213	4,345	4,885	7,259	10,299

lbs. (000's) — CANADIAN EXPORTS BY MARKET — Oceania

Frozen Vegetables	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
green and wax beans	—	—	—	—	186	—	—	—	—	—
corn	163	59	—	40	150	—	—	—	—	139
peas	—	—	—	—	—	—	—	—	—	—
potatoes	1,921	2,367	51	67	3,409	13,732	7,205	—	—	—
Total Frozen	—	—	—	—	—	—	—	—	—	—
	2,084	2,426	51	107	3,745	13,732	7,205	—	—	139
Canned Vegetables										
asparagus	—	—	—	—	—	556	406	779	1,813	2,644
green beans	60	32	49	9	—	11	28	124	21	—
wax beans	120	70	74	17	43	52	24	6	—	—
corn	—	—	—	—	—	—	—	2	—	—
peas	—	—	—	—	—	—	—	—	—	—
potatoes	—	—	—	—	—	—	—	—	—	—
Total Canned Vegetables	180	102	123	26	43	619	458	911	1,834	2,644
Processed Fruit										
canned apple juice	—	—	—	—	—	—	—	—	—	—
apple juice concentrate	—	—	—	—	—	—	—	—	—	—
canned apples, incl. sauce	8	13	4	—	—	—	—	18	3	—
Total Apple Products										
Frozen fruit (except blueberries)	45	—	6	2	—	31	—	28	39	—
Canned sweet cherries	220	17	70	32	341	1,046	374	3,247	1,493	1,569
Total All Products	2,537	2,558	254	167	4,129	15,428	8,037	4,204	3,369	4,352

lbs. (000's) — CANADIAN EXPORTS BY MARKET — Other Asia

Frozen Vegetables	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
green and wax beans	—	13	9	23	39	4	2	—	1	13
corn	1,263	705	—	448	1,440	266	—	632	969	727
peas	25	477	11	5	751	332	—	491	970	1,260
potatoes	2	144	54	248	903	1,783	307	940	1,525	5,008
Total Frozen	1,290	1,339	74	724	3,133	2,385	309	2,063	3,465	7,008
Canned Vegetables										
asparagus	—	—	—	—	—	—	—	—	—	—
green beans	1	—	195	—	—	—	—	—	—	27
wax beans	—	—	378	—	—	—	—	—	—	—
corn	64	1	—	69	3	6	—	196	3	2
peas	—	—	120	—	5	—	—	—	—	—
potatoes	—	—	—	—	—	—	—	—	—	—
Total Canned Vegetables	65	1	693	69	8	6	—	196	3	29
Processed Fruit										
canned apple juice	—	—	3	22	48	100	68	50	78	24
apple juice concentrate	—	30	—	—	—	—	—	—	—	8
canned apples, incl. sauce	—	—	—	—	—	4	4	3	7	—
Total Apple Products										
Frozen fruit (except blueberries)	—	—	—	3	—	32	4	9	67	114
Canned sweet cherries	—	—	—	—	—	—	—	—	—	51
Total All Products	1,355	1,370	770	818	3,189	2,527	385	2,321	3,620	7,234

lbs. (000's) | CANADIAN EXPORTS BY MARKET | South America

Frozen Vegetables	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
green and wax beans	--	--	--	--	--	--	--	--	--	16
corn	--	--	--	--	150	--	--	1	--	--
peas	60	--	--	489	851	564	2,104	1,971	1,913	3,075
potatoes	--	--	--	--	18	--	--	--	--	64
Total Frozen										
Canned Vegetables										
asparagus	4	--	--	--	--	--	--	--	--	--
green beans	--	--	--	--	--	--	--	--	--	--
wax beans	5	--	--	--	--	--	--	--	--	--
corn	270	113	66	19	11	3	5	--	--	--
peas	298	283	256	303	146	36	62	27	--	82
potatoes	--	--	--	--	--	--	--	--	--	--
Total Canned Vegetables										
Processed Fruit										
canned apple juice	68	116	87	--	--	--	--	--	--	--
apple juice concentrate	--	35	33	11	--	15	13	--	20	--
canned apples, incl. sauce	--	--	--	--	--	--	--	--	--	--
Total Apple Products										
Frozen fruit (except blueberries)	--	--	--	--	--	--	--	--	--	--
Canned sweet cherries	2	6	6	--	--	--	4	--	--	--
Total All Products	707	553	448	822	1,176	618	2,188	1,999	1,933	3,237

lbs. (000's) CANADIAN EXPORTS BY MARKET **Other Africa**

Frozen Vegetables	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
green and wax beans	--	--	--	--	--	--	--	--	--	--
corn	--	--	--	--	--	--	--	--	--	--
peas	--	249	--	--	--	--	--	--	--	62
potatoes	--	--	--	--	--	--	--	--	--	--
Total Frozen										
Canned Vegetables										
asparagus	--	--	--	--	--	--	--	--	13	--
green beans	--	--	--	--	--	--	--	--	--	--
wax beans	--	--	--	--	--	--	--	--	--	--
corn	--	--	--	--	19	3	--	--	--	--
peas	--	--	--	--	--	--	--	--	--	--
potatoes	--	--	--	--	--	--	--	--	--	--
Total Canned Vegetables										
Processed Fruit										
canned apple juice	4	--	23	--	7	3	7	--	--	--
apple juice concentrate										
canned apples, incl. sauce										
Total Apple Products										
Frozen fruit (except blueberries)	--	--	--	--	--	--	--	--	--	--
Canned sweet cherries	36	48	57	--	22	34	158	23	38	103
Total All Products	40	297	80	--	48	40	165	23	51	165

lbs. (000's) — CANADIAN EXPORTS BY MARKET — Middle East

Frozen Vegetables	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
green and wax beans	—	—	—	—	—	—	—	—	—	—
corn	—	—	—	—	—	—	—	—	21	—
peas	—	—	—	—	—	—	—	—	—	—
potatoes	—	—	—	—	—	—	—	—	—	120
Total Frozen										
Canned Vegetables										
asparagus	—	—	—	—	—	—	—	—	—	—
green beans	—	—	—	—	—	—	—	—	—	—
wax beans	—	—	—	—	—	—	—	6	—	—
corn	4	5	—	—	7	7	—	—	10	20
peas	—	—	—	—	—	—	—	—	—	—
potatoes	—	—	—	—	—	—	—	—	—	—
Total Canned Vegetables										
Processed Fruit										
canned apple juice	12	24	35	21	61	69	71	157	13	397
apple juice concentrate	—	—	—	—	—	—	—	5	—	—
canned apples, incl. sauce	—	—	—	—	—	—	—	—	—	—
Total Apple Products										
Frozen fruit (except blueberries)	—	—	—	—	—	—	—	—	—	—
Canned sweet cherries	—	—	—	—	—	—	—	—	—	—
Total All Products	16	29	35	21	68	76	71	168	44	537

LIST OF ORGANIZATIONS AND PEOPLE INTERVIEWED

NEWFOUNDLAND

Newfoundland Dept. of Forestry & Agriculture	Mike Stapelton

PRINCE EDWARD ISLAND

P.E.I. Dept. of Agriculture & Forestry	Reid Sangster Gerry Evans
Market Development Centre	Jim Whelan
C.M. McLean Ltd.	Mitchell McLean Vice-President
Campbell & Burns Ltd.	George Wright President

NOVA SCOTIA

N.S. Dept. of Agriculture & Marketing	Gordon Kinsman
M.S. Dept. of Development	Allan Millman
M.W. Graves Ltd.	Dave Leckie President
	Lad Javorek Export Manager
	Don McKenzie V.P. Marketing
Scotian Gold Ltd.	Dale McSween National Sales Manager

Annex VI

NEW BRUNSWICK

N.B. Dept. of Commerce & Development	Gilbert Ouellette Ron Searles
N.B. Dept. of Agriculture	Renald Cormier
McCain Foods Ltd.	Carl Morris V.P. Operations

QUEBEC

Quebec Dept. of Agriculture	Ray Vallieres Jim Dempster
David Lord Ltée.	Pascal Ditata Export Manager
Bar-well Foods Ltd.	Don Bartlett President
Snyder & Sons Ltd.	Bert Snyder President
A. Lassonde et Fils	Jean-Paul Barré President

ONTARIO

Ontario Ministry of Agriculture & Food	Doug Williams Henry Pauls
Ontario Ministry of Industry & Tourism	Adrian Bornemisa
Hardee Farms International Ltd.	Art Walker President
	Dave Richards Vice-President

Ontario Vegetable Growers Marketing Board	Tim Carrol Hank VanderPol Doug Flook
E.D. Smith Ltd.	Bill Ceroni Export Manager
Canadian Canners Ltd.	Barry Culbert V.P. Marketing
	Gary Reid Export Manager
Canada Packers Ltd.	Don Johnson Int'l Marketing
	Ellen Joe Int'l Marketing
Green Giant of Canada Ltd.	Maurice O'Flynn V.P. Marketing
Ontario Food Processors Association	Jim Cummings President
Canadian Food Processors Association	Elmer Banting Exec. V.P.

<u>MANITOBA</u>

Manitoba Dept. of Agriculture	Burt Waters

<u>ALBERTA</u>

Alberta Dept. of Agriculture	Wilf Walker

BRITISH COLUMBIA

B.C. Ministry of Agriculture	Barry Brown Jim Alcock
B.C. Ministry of Development	Eric MacDonald
Mrs. D.L. Milne Cannery Ltd.	Lorne Bloomfield Manager
S.H. Blackwell Co. Ltd.	Stan Blackwell President
B.C. Raspberries Growers Co-operative	Cornie Penner Manager
Abbotsford Growers Co-operative	Jake Martens Sales Manager
Sun-Rype Products Ltd.	Bill Smith Production Manager
	Lawrence Bates Sales Manager
Berryland Canning Ltd.	Bill Deacon President
Royal City Foods Ltd.	Ross McSorley V.P. Marketing
	Fred Mathews V.P. Finance
Barkwill's Ltd.	Bill Barkwill President
	Ray Holland Sales Manager
Fraser Valley Frosted Foods	Ron Meermans Comptroller