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HORTICULTURAL AND SPECIAL CROPS SECTOR

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Introduction

Canada's horticultural and special crop production is limited to a few areas of the country which enjoy favourable micro climates. These include the Okanagan Valley of Southern British Columbia, parts of Southern Ontario, especially the Niagara Peninsula, and small areas in Quebec and the Atlantic Provinces (New Brunswick, Nova Scotia, and Prince Edward Island). Approximately 302,000 hectares—about 1.2 percent of Canada's improved land area—are in fruit and vegetable crops. In terms of farm receipts, these crops generate about \$600 million annually. In addition, special crops such as tobacco, sugarbeets, dry beans and peas, buckwheat, mustard, maple products, and honey annually contribute about \$265 million from approximately 242,000 hectares. In total, horticultural and special crops contribute about 11 percent of total Canadian farm receipts, as well as providing considerable employment in processing, distribution, and retailing. The industry produces almost one-half of the fruits and two-thirds of the vegetables consumed in Canada. It also produces two-thirds of Canadian sales of ornamentals. Tobacco production is more than sufficient to meet domestic consumption.

Production

About 37,000 Canadian farms (10 percent of the total) are involved in horticultural products. Of these, 40 percent produce fruit and 60 percent vegetables. Approximately 93,000 persons are employed in the primary sector including 5,500 temporary workers largely from the Caribbean and Mexico. Tobacco production provides an additional 30,000-35,000 seasonal jobs during the harvesting period in August and September.

Canada is self-sufficient in the production of apples and potatoes. An annual average apple production of 400,000 tonnes places Canada among the top ten major producing countries. Annual potato production of 2.4 million tonnes place Canada among the major potato producing countries of the world.

Although perhaps surprising to many visitors, Canada produces such crops as peaches, cherries, apricots, and grapes in quantity. These crops are confined to the Niagara Peninsula and Essex County in Ontario and to the Okanagan Valley in British Columbia. While not able to supply all of Canada's requirements for these commodities, the domestic industry is an important source of freshly harvested produce. Canada also has developed a substantial seed potato export industry based in New Brunswick and Prince Edward Island. With the continued introduction of new varieties and improved production and marketing practices, Canada's seed potato industry anticipates an expanded export market.

Over 48 percent of the value of Canada's horticultural production originates in Ontario. Quebec and British Columbia, while much smaller producing regions, also have substantial horticultural activity. Apples, raspberries, and tender fruits (peaches, pears, plums, and cherries) are major crops in British Columbia, while potatoes, apples, and blueberries are major eastern Canadian crops. Canada produces two-thirds of the limited world supply of maple products, mostly in Quebec. Canada's tobacco industry (over 113,000 tonnes in 1978, green weight) is concentrated in Ontario, with Quebec and the Maritimes producing small amounts. Many Canadian visitors are surprised to learn that Canada is a net exporter of tobacco.

In western Canada, honey is an important crop with rising production (30,000 tonnes in 1978) and exports. Mustard is also becoming an important crop in the

prairie provinces with approximately 100,000 hectares planted annually. Buckwheat at one time was grown principally in eastern Canada, but production is now concentrated in Manitoba.

Market Structure and Marketing

Most primary production units in horticulture are family farms. There are, however, a number of individual, large corporate farms and large farms operated by processing firms. Both private and corporate producers have associations to represent their interests with the government and the public.

The Canadian fruit and vegetable marketing system includes direct to consumer farm sales, open wholesale markets, negotiated prices, contracted prices, and commission sales. All are used to varying degrees for most commodities. Florist products are marketed directly by producers to retailers, wholesale commission houses, chain store operators, auctions, or directly to the public. At the retail level, mass merchandising of flowers in traditional and chain stores has become a new marketing system with its full potential yet to be realized.

Intermediaries in the market structure for fruit and vegetables are 35 provincial marketing boards, 860 wholesalers, 51 food brokers, 140 farmer's markets, 3 auctions, 62 cooperatives, 26,216 food stores, 3,221 chain stores, and 19,140 independent stores.

Cooperative producer marketing is a major factor in both the horticultural and special crops industries. Annual sales of fruit and vegetable cooperatives are close to 12.5 percent of total Canadian sales with 17 British Columbia cooperatives accounting for two-thirds of the total. Cooperative sales of honey and maple syrup are also important.

The producer marketing boards involved in marketing horticultural and special crops have a variety of powers which range from negotiation only to full agency powers under which boards take title to the product and handle all sales. Some boards can set prices while others only promote the product. Every province has legislation and a controlling body to regulate the operation of marketing boards.

Producer marketing boards have been widely adopted in Canada under provincial legislation, beginning as far back as 1929. When a provincial marketing board is established, all producers of a certain minimum size are bound by the regulations established by the board. Major objectives include maintaining or increasing incomes, stabilizing production, and standardizing the terms of sale. The British Columbia Tree Fruit Marketing Board and the Ontario Flue-Cured Tobacco Growers' Marketing Board are two of the better known full agency boards. Of the 35 horticultural and special crops marketing boards functioning in Canada, 9 are for fruit, 14 for vegetables, 6 for tobacco, 1 for dry beans, and 1 for honey.

Technology and Research

Technologically, Canada's horticultural and special crops industry has benefited from new varieties, better insect, disease, and weed control, improved equipment, and mechanical harvesting. Canadian plant breeders have produced a productive variety of strawberry for Canadian growers (Redcoat), a new variety of apple which is suitable to Canadian conditions (Spartan), and new peach varieties adapted to Canadian climatic conditions. Better grading equipment, storage facilities, and qualitative instruments have assisted in improving product quality. Improved storage techniques, notably controlled atmosphere storage for apples and jacketed storage for carrots, have allowed producers to extend their marketing season considerably.

The greenhouse industry, especially the floriculture segment, practices a high level of technology. Controlled growing environments, wide use of chemical

growth regulators, tissue culture for virus control and plant propagation, and precise maintenance of soil fertility levels are the key technological factors. Canada's virus free programmes have also assisted in propagating crops such as berries, grapes, and cherries.

Canada's horticultural industry has become increasingly mechanized in recent years as a replacement for more costly or unavailable seasonal labour. Harvesting, weeding, thinning, grading, and packaging have all been assisted by mechanical or chemical technology.

Government Assistance Programmes

There are few government programmes specifically designed for horticultural and special crops. The federal government has had a fruit and vegetable storage construction financial assistance programme since December 1973. This programme assists producer groups in constructing or modifying specialized storage facilities for fruits and vegetables. Modest tariff and anti-dumping regulations protect domestic producers of fruits, vegetables, and honey from low priced imports during the marketing season for the domestic product.

Other more general programmes which apply to the horticultural sector include a federal market development programme to expand or improve markets for Canadian products. This programme has assisted in determining consumer requirements for apples, and in promotion of raspberry, fresh fruit, and vegetable consumption. The Agricultural Stabilization Act provides price stabilization for agricultural commodities during periods of market stress. Under this programme, price supports for horticultural products are generally provided at 90 percent of the previous five-year average return, with an adjustment for increased production costs.

Considerable government assistance in the form of research and advisory services is provided to the fruit and vegetable industry by the federal and provincial governments. The areas of research include the development of virus free fruit and vegetable stocks by federal research stations, while provincial extension services provide producers with information on husbandry practices. General market outlook information is provided by both levels of government.

Competitiveness

Canada is competitive in season for most cool climate fruits and vegetables, particularly in the fresh market. Total product disappearance, however, is increasing more rapidly than domestic production, and, as a result, imports are taking a large share of most expanding markets. Canada continues to retain a large share of some of the storage vegetable market, especially for onions, carrots, and cabbage. Despite a certain degree of inefficiency resulting from small production units, Canada's best production areas have costs comparable to those of the United States. Crop yields are also generally equal, except tender fruits which generally do not yield as well in Canada as in California, Australia, or South Africa. Some apple producing areas (for example, the Okanagan Valley of British Columbia) are also at a disadvantage because of higher labour and land costs and lower crop yields than in the northwestern United States. In recent years, Canadian imports of apples have surpassed exports.

Mushrooms and greenhouse tomatoes are relatively expensive to produce in Canada and consequently face stiff import competition. Since canned mushroom imports are very competitive, Canada's mushroom industry now concentrates entirely on the fresh market. Greenhouse vegetable production experiences stiff competition from both field grown imports and early domestic production. Cut flower imports have increased in recent years, forcing a shift in domestic production to potted plants.

Raw cane sugar is Canada's largest import item in the horticultural and

special crops product line, supplying about 90 percent of the country's annual sugar disappearance. Production of sugarbeets is concentrated in Manitoba and Alberta, which benefit from the high transportation cost of the competing product.

Canada's horticulture and special crop exports, while usually priced above those of most competitors, have a very good reputation for quality on world markets. Canada's northern climate, which limits the number of commodities produced, can result in a high quality for those commodities which can be produced. Tobacco is the most important export item. Blueberry exports have increased in both volume and value as Canadian production increases and world markets have expanded. Fresh apple exports are a major factor in marketing the domestic crop each year. A north-south trade in potatoes between Canada and the United States results in a significant volume of trade although the net result in terms of exports is relatively minor. Canada sells into the eastern United States while the United States sells to all of Canada when Canadian stocks are down.

Industry Structure

There are about 500 plants, employing about 38,000 persons, processing horticultural food products in Canada. In 1978, approximately 300 of these plants were registered for interprovincial and international trade and about 100 of them pack only for local or regional distribution within their own provinces. Another 100 plants produce partially processed products, such as chilled fruits and fresh cut potatoes for restaurants and institutions. There are 14 plants making Saratoga style potato chips, two major distilleries making fruit liqueurs, 31 wineries, and several cideries.

The majority of registered fruit and vegetable processing plants are located in Ontario (148) and Quebec (71), followed by British Columbia (53), the maritimes (48), and the prairie provinces (11). Ontario and Quebec supply approximately 65 percent of the Canadian processed food products market.

The processors obtain raw products in a number of ways including the open market, contracting, and producing some of the raw product themselves. Most vegetables are purchased on a contract basis either through marketing boards or individual growers. Imported raw products are usually purchased by processors on the open market.

Over one-quarter of Canadian fresh fruit and vegetable production is processed to some degree before sale to the consumer. The processing includes canning, freezing, dehydrating, and producing of a variety of products using fruits and vegetables as major ingredients. Basic fruit and vegetable products (canned and frozen fruits, vegetables, and juices) comprise about 40 percent of industry shipments, while formulated and other products (soups, baked beans, and frozen specialties) make up the balance.

Canada imports a large quantity of processed fruit products, especially canned juice and juice concentrate. Even so, domestic fruit processing is not expanding, except for blueberries and apple products. Fruit exports are mainly frozen blueberries, raspberries, and apple products.

Vegetable products imported are mainly canned tomato products, canned mushrooms, dried vegetables, and preserved vegetables for reprocessing. Vegetable processing continues to expand slowly in products other than these. Fresh asparagus is imported in substantial volume for processing. Exports include frozen vegetables (mainly potatoes and sweet corn), canned sweet corn, peas, and asparagus, dried potato products, infant foods, and frozen prepared dinners.

Many imported products continue to gain an ever larger share of the domestic market, as shown by the following data:

<u>Imported Commodity (Canned)</u>	<u>1963-67</u>	<u>Percent of Market</u>	
		<u>1974-75</u>	<u>1977</u>
Carrots	2.8	27.4	33.3
Mushrooms	12.4	59.0	84.1
Tomato paste	72.0	95.3	93.5
Apricots	45.6	73.0	80.1
Peaches	52.7	79.5	82.7
Pears	17.0	31.9	40.2

Imports of these six products, all producible in Canada, have sharply increased their share of the Canadian market since 1963-67.

Technology

In recent years, the introduction of new machines for washing, peeling, blanching, and other preparation functions have reduced the volume of waste water, improved the quality of the product, and increased labour productivity. Water consumption has been reduced by reusing water and by replacing flume transfer with mechanical transfer. New blanchers and precook or partial cook machines have economized both energy and water use. Continuous pressure cooking and freezing facilities for fruits and vegetables allow for storage and initial handling in bulk lots. Year-round packaging activity is also scheduled in order to optimize the use of warehouse space, labour, and marketing. New types of containers such as polyethylene cans, two piece cans, drawn steel cans, and laminated pouches are under development. The industry is receptive to technological changes and has introduced many improvements in recent years.

Government Programmes

The principal legislation supportive of the processing sector is the protection provided under the anti-dumping tariff measures. These measures provide that duties may be levied when imports have been found to be causing or threatening to cause serious injury to Canadian industry. While few cases occur, one example is that dumping of foreign apple juice concentrate was found by the Anti-Dumping Tribunal in January 1972 to be causing serious injury to Canadian apple producers and processors. Imports of canned mushrooms, cherries, and canned tomatoes have also been controlled by this legislation.

The federal Agricultural Products Board Act empowers the Agricultural Products Board under Cabinet direction to assist in the marketing of processed food products of domestic origin which are in oversupply by buying, storing, selling, and distributing agricultural products. While not active every year, this programme has assisted in marketing such processed products as sour cherries, grape juice, canned solid pack apples, and Kieffer pears.

Trends and Prospects in the Industry

Consolidation, vertical integration, and contract processing are all increasing. There has been a decrease in the number of Canadian processing plants in recent years but the average capacity has increased. While the multinational firms continue to purchase plants in Canada, there is a trend toward other Canadian firms processing under contract for major retail chains.

A major review of Canada's fruit and vegetable tariff structure has been completed with a number of major recommendations implemented. Before this review, the existence of many parts of the industry was threatened, but now producers and processors look forward to growth and expansion.

Transportation facilities for perishable commodities are inadequate and

expensive because of the long distances and thin population distribution in Canada. Increased energy and equipment costs will necessitate a reappraisal of present marketing strategies by the industry. More consideration will have to be given to choosing specific markets and forms of packaging to meet these new constraints. While improved transportation often results in more competition from other countries, the rising costs of energy will make domestic products, especially local products, more price competitive.

Canada's horticultural and special crops industry will devote more time and effort in the near future to expanding exports and replacing imports where profitable to do so, especially for such commodities as blueberries, raspberries, tobacco, honey, dried beans, and seed potatoes.