Wholesale Opportunities in the Vegetable Industry of Newfoundland

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Summary

This three-tier research project polled twelve wholesalers as well as a small sampling of retailers and producers in order to determine the current size of the fresh vegetable industry in Newfoundland, prevailing attitudes toward local produce/producers and to reveal suggestions that would foster industry growth.

Research conclusions, based on quantitative and qualitative responses in all phases of this research can be summarized as follows:

- Little in the area of production and prevailing business practices has changed in the local vegetable industry since a similar study was completed in 1987.

- All wholesalers could source several reliable suppliers for all their fresh vegetable requirements from both local and out-of-province producers. Due to local small-scale production of most commodities, only green cabbage and rutabagas are purchased in significant quantities.

- Vegetables are very price sensitive and most consumers are not willing to pay a premium for local produce.

- Annual consumption of beet, cabbage, rutabaga, iceberg lettuce and celery has decreased since 1987 while broccoli, cauliflower, carrots, romaine lettuce, onions, potatoes and parsnips are increasing in consumption.

- There are many local producers attempting to supply a wide variety of vegetables, but are not producing significant quantities to interest wholesalers.

- Wholesalers require all produce to be washed, of uniform size and in attractive packages with labels indicating that the contents are Newfoundland grown. Historically, many local producers have not been meeting these standards.

- Development of additional acreage and investment in cold storage facilities is required for Newfoundland producers to achieve increased sales to wholesale market.

- Constant communication with wholesalers is vital for local producers looking to penetrate these markets. Two weeks notice must be given to buyers pertaining to what local produce will be available.
- Wholesale markets are lucrative as they allow producers to move large quantities of produce without investing the time and transportation required for selling to retail and direct to consumers.

Based on these conclusions, the following is recommended:

- Copies of this report should be made available to all interested/affected industry

personnel upon request. A summary of findings should be distributed to all producers and wholesalers via a dedicated newsletter, or existing publication. In addition, highlights could be presented during area grower meetings.

- Farmers are encouraged to implement a quality control program to enforce standards demanded by wholesale buyers. Oversized or odd-shaped produce could be used in secondary processing, cut and/or prepared for sampling or sold to institutions or the food service sector, provided that grading regulations are met.

- Farmers should ensure a market for their vegetables before producing. This could be achieved through better communication between producer and wholesaler.

- Producers should invest in additional acreage and cold storage facilities. To achieve maximum market share, additional land must be allocated for production of broccoli, carrots, lettuce varieties, onions, parsnips and potatoes. In order to supply products to the wholesale market in the off-season, cold storage facilities and preservation techniques must be utilized. Before any expansion is undertaken, each producer must first weigh the investment costs against the long term profit potential to determine feasibility.

- Wholesalers would buy more local products if they could secure a consistent supply from a few growers. Hence, the formation of grower cooperatives is recommended. This marketing method would allow the farmer to focus on production of vegetables while a marketing expert would locate buyers. Economies of scale could also be realized in the area of bulk purchases, central storage and transportation.

- More training on post-harvest handling is required at all levels in the marketing chain particularly for the small retailer. If staff were instructed on how to better store, display and maintain the vegetables there would be less spoilage and risk to the retailer. To maximize profits and to control costs to the end-consumer, it is vital to prolong the fresh, appealing appearance of the produce. This education could be achieved by producing and distributing brochures on post-harvest handling of vegetables.

- The Department of Forest Resources and Agrifoods in conjunction with producers, wholesalers and retailers should undertake regular "taste tests" for various vegetables as part of an ongoing strategic promotional plan. In-store promotion has proven to be effective for increasing sales of a product and is a relatively inexpensive form of promotion.

INTRODUCTION

Purpose

This report has been designed to update a study originally conducted in 1987 pertaining to wholesale opportunities for local fresh produce in the Newfoundland market. Wholesalers, retailers and producers were asked to participate in the survey so that their opinions and suggestions could be combined in aggregate form to offer an accurate representation of current industry issues and give insight to future trends for fresh local vegetables. The results of this survey will be distributed to all interested growers and produce buyers so that each group can benefit from the advice of their business associates.

Background

Vegetable farming is an integral part Newfoundland's agriculture industry. Production for 1995 was valued at $5.2 million, up 1 million over 1994 (Statistics Canada, 1996). Presently, there are more than 200 local commercial vegetable producers in addition to backyard gardeners involved in subsistence farming. Industry professional predict a growth in hobby farming as a result of poor economic conditions, an increasing number of people on government subsidy programs, and seasonal workers (e.g., teachers, carpenters, fishery workers, etc.).

Only 0.3% of all land in this province (approximately 100,000 hectares) is suitable for farming and only a small portion of this is presently in commercial production (Farmland Preservation). As a province that relies primarily on imports for vegetables, increased production would mean decreasing dependence on external sources of food supply, and controlled cost of food to the consumer.

Cold climate and challenging growing conditions are cited as deterrents to large scale vegetable production. However, the cool weather results in produce with a better flavor and with less stress.

Consumers prefer locally grown vegetables over the imported when available, this is evident by the growth of farmers markets and roadside stands in recent years. Despite the preference for local vegetables, this commodity is very price sensitive and consumers are not willing to pay a hefty premium if an imported variety is offered at a lower price. The region is sensitive to small changes in volume, regardless of source, and short-term surplus can result in drastic price drops which are slow to recover.

Consumer Trends

The average Newfoundland family (consisting of 3.18 members) spends an average of $5.31 per week on fresh vegetables [Statistics Canada Food and Expenditure Survey, 1992]. This amounts to approximately $50 million each year. Vegetables that are purchased most often include: cabbage ($3,261,622 per year), carrots ($5,311,784 per year), lettuce ($3,075,244 per year), onions ($4,379,892 per year), potatoes ($14,537,515 per year) and rutabagas ($5,032,217 per year).

Demographic trends that influence consumer purchasing patterns of vegetables include:

More dual income families who will seek convenience foods such as precut stir fries and prepared salads, and the luxury of being served at restaurants. People will have less time to make and bottle their own beets, jams or relishes and will look to sellers to provide these products.

Aging population who will look for smaller package sizes to ensure freshness, they will shop the "specials" and will also purchase more of the traditional commodities such as cabbage, turnip, and beet.

Increased ethnic population will result in producers increasing or changing their production to include commodities such as Bok Choy, Lo Bok, and other non-traditional vegetables. As we move toward a global economy, many styles of cooking are being introduced and are placing demands on farmers for a fresh, local supply.

Increased awareness of nutrition will cause consumers to look for more leafy green and orange/yellow vegetables for the health benefits. Popular selections in the growth stages of their life cycle include romaine lettuce, broccoli, carrots and onions.

There exists a long-term trend toward increased concern for health and nutrition. Vegetables have steadily increased in consumption over the last number of years because of the quest for a healthy lifestyle. While vegetable purchases are on the rise, so is the interest in ensuring a safe food supply (e.g., limiting the use of pesticides, demand for organically grown produce, etc.)

Scope

This survey was designed to obtain accurate data pertaining to the current size of the fresh vegetable market in Newfoundland and to determine what opportunities exist for local growers to capitalize on the wholesale trade. This study was threefold:

- Wholesalers were interviewed to determine the quantities of commodities purchased form various sources and their opinions pertaining to the local vegetable industry.

- Retailers were interviewed to determine the most popular vegetables in a particular area, their relationship with producers directly, and level of store commitment to promoting Newfoundland grown produce.

- Producers were surveyed to compare how their product selection meets the demands of the buying public in addition to noting their experiences in selling produce through various means.

Methodology

This survey was three-tier: polling the responses of wholesalers, retailers and

producers. All surveys included a number of quantitative and opinion questions. The survey design was based on the 1987 study so that comparisons could be made and changing trends could be noted.

There were 12 wholesalers interviewed for this study representing 100% of the population (refer to the Appendix A for a list of survey participants and the Wholesale Questionnaire in Appendix B). Of these, only nine were primary importers/buyers of fresh produce. Three companies surveyed purchased from other wholesalers and thus,their purchases were not included in determining market potential as it would result in a double count. All qualitative responses from the 12 participants were deemed suitable for inclusion.

The retail portion of this survey (Appendix C) included 12 retailers chosen to represent the various chains and independents located across the province. While selection was not done on a random basis, it is believed that the cross section of store size, geographic location and store suppliers would reflect accurate attitudes of the retail trade.

Both the wholesale and retail questionnaires were completed using personal interview data collection (with the exception of two wholesaler interviews which had to be done by telephone due to scheduling difficulties). All information was collected between November 13, 1995 and December 12, 1995.

Producer surveys (Appendix D) were conducted by phone, during the evenings of December 12 and 13, 1995, and included eight primary growers who have been identified as selling through retail and wholesale channels. Also, Central Vegetable Producers, a cooperative of five growers in central Newfoundland, were also polled in this portion of the survey.

Limitations

All who participated in this survey were assured that all information would remain confidential. All responses were accepted as accurate, although many figures may represent estimates on behalf of the respondent. One wholesaler would not disclose how much they purchased from either local or imported sources, and an estimate based on 1987 figures was used in this instance. Further, one retail chain would not respond to this questionnaire as it was their store policy to not disclose any information.

Significance

The data collected by this survey provides the Department of Forest Resources and Agrifoods with information about the size of the fresh vegetable industry in Newfoundland. Cross referencing demands with local supply, changing trends,wholesale requirements and current business practices, conclusions can be made on what commodities should be produced locally, in what amount and how it should be presented to the fresh produce buyer. This information will be useful to local producers as well as supplying the provincial government with details on the changing vegetable industry in Newfoundland.

Wholesalers' Perspective

Twelve wholesalers were interviewed for this report, nine of which were primary purchasers of fresh vegetables and the remaining three were re-sellers. Refer to Appendix A for a complete listing of wholesalers participating in this survey. Interviews were arranged through initial telephone contact with the wholesalers with subsequent personal interviews ranging from 30 minutes to one hour and forty minutes in duration.

Survey Analysis

The personal interview consisted of 10 questions aimed at determining the total purchases from all sources by the wholesaler, their attitudes about local producers/products, changing trends in the industry and the scope of their business. Each qualitative question and the corresponding results will be reviewed individually in this section of the report.

Which three commodities do you feel should be produced locally on a larger scale?

Wholesalers were asked to consider which commodities that they would purchase in greater quantities if it were offered to them. The following details the results weighted by frequency of response and by order cited by the wholesaler:

Lettuce (Head and Romaine)

Iceberg (head) and romaine lettuce are the most popular salad greens with consumers. Only small quantities are produced by a few local growers - but more producers add these commodities each year. When small quantities are harvested, farmers are more likely to sell roadside or direct to retailers as they would not have the necessary quantity to fill the wholesale requirements.

Locally grown lettuce could supply the local wholesale trade between late July and the beginning of November (15 weeks) if proper storage facilities were available. Wholesalers purchased 129 thousand cases of 24's (5.2 million pounds) of head lettuce and 68 thousand cases of 24's of romaine (two million pounds) in 1994. At present, local growers are only satisfying 5% of wholesale requirements for both varieties. Production of iceberg lettuce could potentially be increased to supply 29% of wholesale requirements (37,225 cartons or 1.5 million pounds) while romaine would withstand a 21% increase in production to supply 14,381 cartons (432 thousand pounds) to the wholesale market. Newfoundlander's consumption of iceberg lettuce has remained stable since 1987 (refer to Chart 7), and, while no comparative data is available for romaine, wholesalers indicate that consumption of romaine lettuce appears to be increasing.

Summary of Market Potential - Iceberg Lettuce

Lettuce	1994	1987	Comparison
Wholesale Purchases (lbs)	5,200,000	5,800,000	-600,000
Locally Supplied (lbs)	260,000	308,000	-48,000
Locally Supplied (%)	5%	5.3%	-0.3%
Market Potential (lbs)	1,500,000	1,700,000	-200,000
Wholesale Market Share Potential (%)	28.8%	29.3%	-0.5%

Lettuce is highly perishable and if in good condition can be stored for a maximum of three weeks (Vegetable Crops Production Guide, page 74). Rapid cooling and special care in cutting and handling is essential. Storage temperatures must be 0 C with a relative humidity of not less than 95%

Although the 24 carton (weighing approximately 40 pounds) is standard for both varieties for the wholesale market - an 18 and 30 count are occasionally offered by some suppliers. Lettuce varieties are considered "touchy" to grow and therefore command a higher profit margin than the traditional vegetables. In 1995,environmental disasters such as floods and fires caused wide fluctuations in lettuce prices. Wholesale paying prices (during the local season) for iceberg lettuce ranged for a low of $12.50 per case to a high of $20.00 per case. Similarly, prices for romaine lettuce in 1995 ranged from $11.00 per case to $20.00 per case.

Cabbage (Green)

Probably one of the oldest vegetables known, green cabbage is often used in coleslaw, cooked with Sunday dinner or as an ingredient of sauerkraut (Fresh Produce, page 68). Cabbage is one of a few vegetables that are produced on a large scale in Newfoundland. In 1994, there were 330 acres planted, yielding 5,378,000 pounds (Handbook of Selected Agricultural Statistics, page 28).

Challenges in growing cabbage include losses from disease, insects and wildlife, as well as human error in harvesting (poor cutting practices). However, it is considered one of the easiest crops to produce and the low cost of production allows the producer to get a good profit margin if they have cold storage facilities to store the harvest until after the "fall glut" is off the market. Some wholesalers complain that they are unable to purchase local cabbage at times during the fall because growers are "holding out" for better prices later in the year.

Wholesalers purchased a combined total of 10,860,000 lbs of green cabbage in 1994. Local product accounted for approximately 3,347,500 lbs or 31%. In comparison, the 1987 study cited wholesale purchases of eight million pounds with 2.3 million pounds (28.8%) supplied from local growers. After wholesalers were recontacted to verify 1994 figures, it is suspected that the 1987 estimates were low. Survey participants verified

that their cabbage purchases are on a decline.

Most wholesalers attempt to purchase 100% local cabbage when available. When storage temperature is 0 and relative humidity is held at 95-100%, local cabbage could be supplied for 35 weeks of the year, spanning the end of July to the end of March (Commerical Storage of Fruits and Vegetables, page 37). Hence, Newfoundland growers could potentially produce more than seven million pounds of cabbage to meet 67% of the wholesale trade requirements. Refer to chart 3 for a comparative summary of 1994 and 1987 statistics (note that the apparent increase in consumption is inaccurate).

Summary of Market Potential - Cabbage

Cabbage	1994	1987	Comparison
Whole Purchases(lbs)	10,860,000	8,000,000	+2,860,000
Locally Supplied (lbs)	3,347,500	2,300,000	+1,047,500
Locally Supplied (%)	31%	28.8%	+2.2%
Market Potential (lbs)	7,309,615	5,500,000	+1,809,615
Wholesale Market Share Potential (%)	67.3%	68.8%	-1.5%

Packaging for the wholesale market is usually the 50-lb sack. In 1995 the average wholesaler to producer price was $0.22 per pound ($11.00 per sack). Based on this figure, the potential farm revenue for cabbage is approximately $1.61 million.Diagram 3 shows price fluctuation for cabbage in the 1994 harvest season (Statistics Canada).

Beet

Cultivated since prehistoric times, beet was originally grown for its leaves. Beets are a favourite of Newfoundland families who prepare them most often by bottling in season so they can be enjoyed year round.

Wholesalers vary on their attitudes toward purchasing fresh beet. Two buyers surveyed indicated that they purchase no beet from local sources and felt that the market is moving away from this commodity. The remainder of those interviewed indicated that 30-75% of the beet that they purchase is grown in Newfoundland, with 100% purchased from area farmers whenever available.

Wholesalers purchased a total of 205,544 pounds of beet per year. At present,102,220 pounds (50%) is sourced from local producers. Local beets are normally available for 29 weeks with proper storage, spanning the end of July to the end of February

(Appendix F). Bunched beets can be stored up to two weeks at zero C and a relative humidity of 90 to 95%. Topped beets (bagged) can be stored up to three months under these controlled atmospheric conditions (Vegetable Crops Production Guide, page 49). Hence, there is potential to supply wholesalers with 114,630 pounds of beet per annum. Refer to Chart 1 to compare 1987 data with the 1994 analysis.

Summary of Market Potential - Beets

Beets	1994	1987	Comparison
Wholesale Purchases (lbs)	205,544	484,000	-278,456
Locally Supplied (lbs)	102,220	45,000	+57,220
Locally Supplied (%)	50%	9%	+41%
Market Potential (lbs)	114,630	363,000	-248,370
Potential (%)	56%	75%	-19%

Wholesalers' purchases have been greatly reduced since the 1987 study which cited 484,000 pounds purchased per annum. Ironically, production of beet has doubled in this time frame. This is probably a result of producers changing their marketing strategies and changing consumer trends resulting in less "at home" bottling of beets. When local beet becomes available, it is primarily sold direct to retailers and via roadside stands/farmers' markets, with only a fraction of total beet sold being distributed through wholesalers.

The 50-pound bag (topped) is the standard for the wholesale market. The average wholesale paying price in 1995 was $0.22 per pound, therefore, producers could expect to receive in the area of $25.2 thousand in revenue if producing to maximum market potential, pursuant to market factors. Wholesale to retail price for beet is depicted in diagram 1 (assume approximately 30% markup on price paid to the producer).

Rutabagas

Rutabagas resemble their cousin, the turnip, but are larger, rounder, denser and sweeter with a lower water content and a distinct flavour, however "turnips" and "rutabagas" are interchangeable terms to the average consumer. Rutabagas grow well in cool climates and thus, are produced in large quantities in Newfoundland. This vegetable is most often cooked with traditional dinner or as an ingredient in soups or stews.

Rutabagas are a relatively easy crop to grow in comparison to other vegetables. It can be held in storage for more than six months with a temperature of close to 0 C and relative humidity at 90% or more. Some believe that the flavour of rutabagas improves with storage as the starch converts to sugar during the chilling process.

Wholesalers purchased 6.8 million pounds of rutabagas in 1994. Of this total,31% (2.1 million pounds) was locally produced. Most buyers indicated that they will buy 100% local when available, but because of the fall glut resulting in alternative marketing schemes (e.g., roadside stands and door-to-door sales), less of this commodity is purchased by wholesalers between August and November than during other times of the year. Consumption of rutabagas has declined 25% since 1987 and production has also decreased by approximately 30%. Despite reductions in purchasing at the wholesale level, there exists an opportunity to increase production of rutabagas to obtain up to 87% market share (at production of 5,874,880 pounds per year). Refer to chart 11 for a comparative summary of 1994 and 1987 statistics.

Summary of Market Potential - Rutabagas

Rutabagas	1994	1987	Comparison
Wholesale Purchases (lbs)	6,788,750	9,000,000	-2,211,250
Locally Supplied (lbs)	2,097,750	3,000,000	-902,250
Locally Supplied (%)	31%	33.3%	-2.3%
Market Potential (lbs)	5,874,880	7,800,000	-1,925,120
Wholesale Market Share Potential (%)	86.5%	86.7%	-0.2%

The standard package size of rutabagas for the wholesale trade is 50 pounds. Buyers look for a washed and graded product containing no harvest damage (e.g.,cuts, bruises, etc.). The retail trade subsequently sells the product to consumers by the pound or priced individually. Wholesale paying prices in 1995 ranged from $0.15 to $0.22 per pound. Local farmers could expect farm revenue ranging from $88 thousand to $1.3 million, depending on market conditions, if producing to maximize market potential.

Potatoes (all varieties)

Newfoundlanders eat a lot of potatoes! They are readily available all year round at a reasonable price and numerous recipes/cooking methods are employed by consumers to add variety to their diet. Some potato dishes include: french fried, baked, boiled, mashed, casseroled, souped, stewed, salads, potato skins, pancakes . .. the list is endless!

Overshadowed by Prince Edward Island white potatoes, Newfoundland growers have persisted in producing this commodity attempting to specialize in blue and red varieties, which command a premium price. Unfortunately, local growers' cost of production is very high resulting in a low profit margin when selling through wholesale channels. As potatoes are a very price sensitive commodity, consumers are not willing to pay a premium for "local". Farmers are pressured to meet imported prices, yet many retailers

will increase their profit margin for the local variety. Hence, more PEI potatoes are sold at the retail level.

Potatoes are usually divided into early and late crops. Early potatoes are intended for consumption within a few weeks of harvest. They can be stored in temperatures up to 21 C and relative humidity between 85 - 90% . Late crop potatoes can be stored for up to nine months, depending on the end use requirements (e.g., various temperatures and humidity levels are preferred if the vegetable is deemed table stock vs. processed stock or seed stock). One of the hazards of potato production that is isolated to Newfoundland is canker, a disease of the soil that plagues potato crops. For this reason, exporting of vegetables is not permitted without field testing and approval from Agriculture and Agri-Food Canada's Food Production and Inspection Branch. Refer to chart 10 for a comparative summary of 1994 and 1987 statistics.

Summary of Market Potential - Potatoes (all varieties)

Potatoes	1994	1987	Comparison
Wholesale Purchases (lbs)	58,404,000	49,500,000	+8,904,000
Locally Supplied (lbs)	3,203,630	2,300,000	+903,630
Locally Supplied (%)	5.5%	4.6%	0.009
Market Potential (lbs)	50,657,884	43,000,000	+7,657,884
Wholesale Market Share Potential (%)	86.7%	86.9.6%	-0.2%

Note that the full market potential for potatoes is not considered achievable due to the stronghold of Prince Edward Island products in the Newfoundland market. PEI is able to produce and ship product into Newfoundland at prices below what localproducers are willing and able to accept.

Many sizes of potatoes are available at the retail level. The most common packaging sizes are 5, 10, 20 and 50 pounds. In 1995, wholesale paying prices ranged from a low of $6.25 for a 50-pound bag to a high of $10.00 for a revenue range from $0.13 to $0.20 per pound. With local potential for all potato varieties in excess of 50 million pounds, farm revenue from producing potatoes could amount to a maximum of $10 million depending on market factors. These figures must be evaluated against the cost of production before committing farm assets to producing this commodity. Consumption of potatoes has increased by approximately 10 million pounds since the 1987 study. Local production has also increased in this time frame, up one million pounds.

Carrots

A Newfoundland carrot is usually distinctive by its shape and color when compared to

the imported variety. Carrots are high in nutritional value and low in calories. They are often used in slaws, glazed, as a dip vegetable or with a cooked dinner.

Soil conditions in this province are ideal for carrot production and this commodity is one that has been identified by wholesalers as potential for increased production locally.

Wholesalers purchased 9.5 million pounds of carrots in 1994 with only 4% supplied from local sources. Carrots could be supplied from local producers for 35 weeks, given adequate storage at 0 C and a relative humidity of 95 - 98%. This seasonal supply could be further extended by utilizing technology such as "jacket storage." Hence, local farmers could potentially produce 6.3 million pounds (67%) of carrots for the wholesale market. Refer to chart 4 for a comparative summary of 1994 and 1987 statistics.

Summary of Market Potential - Carrots

Carrot	1994	1987	Comparison
Wholesale Purchases (lbs)	9,427,600	8,400,000	+1,027,600
Locally Supplied (lbs)	386,750	-	+386,750
Locally Supplied (%)	4%	-	+4%
Market Potentail (lbs)	6,345,500	5,700,000	+645,000
Wholesale Market Share Potential (%)	67.3%	67.9%	-.6%

Carrots are sold in various sizes at the wholesale and retail level. The standard package size for the producer to ship is 50lbs. With the average wholesale paying price of carrots in 1995 being $0.26 per pound, potential farm revenue could amount to $1.6 million.

Cauliflower

Production of cauliflower is challenging - it must be protected from the sun and continually monitored. Hence, market price for cauliflower is normally high . It is often used in stir-fries or cold as a vegetable dip.

At 0 C, cauliflower can be stored for up to two weeks, which could be extended if the storage atmosphere contained 5% carbon dioxide. The Newfoundland growing season would allow local producers to supply cauliflower to the wholesale markets for 15 weeks spanning the end of July to mid-November. Wholesalers indicate that they purchase approximately 1.12 million pounds of cauliflower each year, which has doubled since 1987. Local production accounts for less than 1% of this requirement (7500 lbs), only half what was produced in 1987. The survey data indicates that local production could supply 324 thousand pounds (29%) of cauliflower to the wholesale market. Refer to

chart 5 for a comparative summary of 1994 and 1987 statistics.

Summary of Market Potential - Cauliflower

Cauliflower	1994	1987	Comparison
Wholesale Purchases (lbs)	1,120,000	547,000	+573,000
Locally Supplied (lbs)	7,500	14,000	+6,500
Locally Supplied (%)	.01%	2.6%	-2.59%
Market Potential (lbs)	324,175	158,000	+166,175
Wholesale Market Share Potential (%)	28.9%	28.9%	Same

The standard package size for the wholesale market is 16 heads per carton. Each carton weighs approximately 25 pounds. Heads of cauliflower should be stored and transported downward in a carton or each head wrapped in cellophane to allow for presentation of the vegetable. With the average wholesale paying price in 1995 being $11.50 per carton, producers could expect to receive up to $150 thousand in farm revenue, depending on market conditions.

Broccoli

Broccoli, a member of the cabbage family, has enjoyed a continuous increase in popularity in recent years (Fresh Produce, page 64). This vegetable remains in the growth stage of its life cycle as more consumers look for food choices with high nutrition and low calories.

Local broccoli is favored over its imported competitor because of its flavour. Broccoli grows well in Newfoundland as a result of the cool weather conditions.

Total wholesale purchases of broccoli were approximately 103,244 cartons (packaged in 18's) or 2.8 million pounds in 1994. With proper icing, packaging and controlled storage, broccoli could be supplied from local sources from mid July to mid-November. During this 17-week period, wholesalers indicated that they would buy all that is offered. However, few growers have adopted this vegetable as part of their commodity mix. Therefore, local broccoli accounts for less than 3% of the total wholesale requirements (up from .2% in 1987). The market potential for broccoli from local sources is 33,753 cartons (911,331 lbs). Refer to chart 2 for a comparative summary of 1994 and 1987 statistics.

Summary of Market Potential - Broccoli

Broccoli	1994	1987	Comparison
Whole Purchases(lbs)	2,800,000	2,000,000	+800,000
Locally Supplied (lbs)	84,000	3,000	+81,000
Locally Supplied (%)	3%	.2%	0.028
Market Potential (lbs)	911,331	638,000	+273,331
Wholesale Market Share Potential (%)	32.5	31.9%	0.006

Field heat must be removed from broccoli immediately after harvesting. A temperature of 0 C and a relative humidity of 90 - 97% will help maintain freshness for up to three weeks in cold storage. Broccoli requires refrigeration during transit and continuous icing while on display at the retail store to reduce wastage. Controlled Atmosphere (CA) utilizes gases (nitrogen, oxygen and carbon dioxide in specific amounts) during storage to prolong the life of this vegetable for up to two additional weeks (Commercial Storage, page 36).

With a carton of 18 averaging $16.50 in 1995, each head weighing approximately 1.5 pounds for a carton weight of 27 pounds, producers could expect to receive approximately $557 thousand in farm revenue if produced to market potential. The chart below depicts price fluctuations in the wholesale to retail price for the 1994 broccoli crop.

Onions (Green and Yellow)

Onions are often used to add a bit of zesty flavor to dishes. There are many different varieties of onions available, but this report focuses on the green and yellow (regular) variety.

Green onions are harvested "green" after they have developed a bulb formation. They are often served raw in salads or cooked in stir-fries. Green onions have a short storage life (up to two weeks) and require a temperature of 0 C and a relative humidity between 95 - 100%. Field heat must be removed immediately after harvesting by hydro cooling or icing. Wholesalers purchase 32 thousand cartons of 48's per year (480 thousand pounds) with no supply from local farmers. Green onions could be available from local producers for up to 10 weeks resulting in a potential market share of 19% (92,000 pounds). The average wholesale paying price for green onions in 1995 was $13.00 per carton of 24 count (weighing approximately 15 pounds) or $.87 per pound.

"Regular"or dry onions are a main staple of Newfoundlanders' diets. This vegetable must be monitored in storage for premature sprouting which destroys the onion. Sprout

inhibitor sprays are available to extend the life of regular onions from the usual four months to five or more months depending upon temperature, humidity and other factors . Due to low heat units and heavy soil in Newfoundland it may be difficult to grow the quality of onion that consumers have been accustomed to purchasing in grocery stores. Wholesalers purchase more than seven million pounds per year of which none are local. With a harvest and storage season of 30 weeks, local farmers could supply 57.7% (4,101,450 pounds) of wholesale requirements of regular onions. Chart 8 summarizes the collected 1994 data for both green and yellow onions.

Summary of Wholesale Purchases 1994

	Green Onions 1994	Yellow Onions 1994
Wholesale Purchases (lbs)	480,000	7,109,180
Locally Supplied (lbs)	-	-
Locally Supplied (%)	-	-
Market Potential (lbs)	92,000	4,101,450
Wholesale Market Share Potential (%)	12.9%	57.7%

Many package sizes are common to the wholesale and retail trade including 2, 5 and 50 pound master bags. Based on the 50-pound size, the average wholesale paying price in 1995 was $10.50 ($0.21 per pound).

Celery

Originally celery was grown as a medicine - but soon became a favorite snack . It is often eaten cold with a dip or spread or as an ingredient in a stir fry.

Wholesalers purchased approximately 33 thousand cartons (1.32 million lbs.) of celery in the past year, none of which was supplied from local sources. This amount is only half of what wholesale buyers purchased in 1987. In addition to reduced consumption, commercial production of celery has ceased since 1987, according to provincial statistics.

Celery is highly perishable and could be stored for a maximum of two months in ideal conditions with 0 to 1 C and 98 to 100% relative humidity. Because celery is extremely prone to wilting, immediate cooling after harvest is mandatory. Icing and other forms of hydro cooling are the usual methods but vacuum cooling is increasing in popularity among large scale growers. Newfoundland growers could potentially supply celery to the wholesale trade for 11 weeks of the year spanning mid September to the end of

November resulting in up to 7045 cartons per annum (282 thousand pounds) and satisfying 21% of wholesale requirements. Refer to chart 6 for a comparative summary of 1994 and 1987 statistics.

Summary of Market Potential - Celery

Celery	1994	1987	Comparison
Wholesale Purchases (lbs)	1,320,000	250,000	-1,180,000
Locally Supplied (lbs)	-	32,000	32,000
Locally Supplied (%)	-	1.3%	-1.3%
Market Potential (lbs)	282,000	539,000	-257,000
Wholesale Market Share Potential (%)	21.4%	21.6%	-0.2

Standard packaging for celery for the wholesale markets are cartons of 36 (weighing approximately 40 pounds per carton) but other popular carton sizes include 24's, 30's and 50's. In 1995, the average wholesale to producer price was $0.38 per pound based on cartons of 36. Maximum potential revenue for producers of this commodity is $107 thousand, depending on market conditions.

Parsnips

Parsnips resemble a carrot but have a sweet, nutty taste. They are often used in soups or served raw with a dip.

Parsnips require a long, cool growing season and are generally harvested in late autumn, after the first frost. This vegetable has a storage life of two to four months when conditions are at 0 C and relative humidity maintained at 95-100%. Harvesting and handling of this commodity is much the same as carrots. Parsnips grow well in Newfoundland, but few producers have opted to add this vegetable to their product mix. In fact, wholesalers indicate that none of their supply is from local sources but they would certainly purchase a Newfoundland grown variety if offered in sufficient quantity. During 1994, wholesalers imported 52 thousand cartons (24's averaging 50 pounds per carton) or 2.6 million pounds of this cool-climate vegetable. Parsnips could be supplied by local growers from late September to the middle of February (approximately 20 weeks) resulting in a potential market share of 38.5% (i.e., one million pounds). Refer to chart 9 for a comparative summary of 1994 and 1987 statistics.

Summary of Market Potential - Parnips

Parsnips	1994	1987	Comparison
Wholesale Purchases (lbs)	2,600,000	1,400,000	+1,200,000
Locally Supplied (lbs)	-	-	-
Locally Supplied (%)	-	-	-
Market Potential (lbs)	1,000,000	540,000	+460,000
Wholesale Market Share Potential (%)	38.5%	38.6%	-0.1%

The standard packaging size for the wholesale trade is cartons of 24, divided into one pound bags for the retail sector. The 1995 wholesale-to-producer average price for parsnips is $15.00 per carton of 24, or $0.30 per pound.

Bok Choy

Bok Choy is also referred to as Chinese chard cabbage. It was once purchased primarily for Asian cuisine but has become popular in conventional recipes as well. Wholesalers indicated that they purchased 44,200 pounds during 1994 with no local offered. As bok choy has a short storage life, it would be available locally up to eight weeks spanning mid-August to mid-October (Kayler, 1995). During this short season, growers have the potential to produce 6800 pounds or 15% of total wholesale requirements.

As this is a relative newcomer to retail produce departments, historical data is not available for comparison and trend analysis. Current retail prices range from $0.99 to $1.99 per pound. The wholesale paying price for 1995 was $0.65 per pound. Revenue potential for producing this vegetable would be approximattely $4420, depending on market conditions, if producing to maximum market potential.

Others

Other commodities included in this survey included: asparagus, Brussels sprouts, red cabbage, greens, kale, kohlrabi, leeks, nappa, peppers, spinach, squash,Swiss chard, lo bok, gai lan, and sui choy. These vegetables are purchased in small quantities or only by specific wholesalers and/or retailers as there is not a large consumer demand for them (refer to **Appendix E** for specific quantities purchased). It was suggested that if consumers were educated on how to prepare these vegetables it may create a market for them locally.

While wholesalers indicated that they would be interested in obtaining more local supply of these vegetables, they are reluctant to deal in small quantities/large number of suppliers. Most wholesalers deal with three to eight producers on a regular basis. Furthermore, purchases of these commodities would increase only if the producer could ensure a quality product, washed and graded, and in attractive packaging.

Each of these commodities is examined in detail for their market potential and production requirements later in this report.

On a scale of one to five, one being unfavourable and five being very favourable,please rate the following: your business relationship with local producers; the quality of local product; the quantity of local product available; the lead time given on expected level of supply; and, on time delivery.

Wholesalers rated their relationship with local producers in the range of 4 - 5 (somewhat to very favourable) with the average of all wholesalers being 4.62. This high rating reflects the strong rapport that has obviously been developed between business associates. "It is easy to sell me a bad load once"; said one buyer. Hence, producers who supply consistent quality are more successful in penetrating wholesale markets. A few wholesalers (who are locally owned) have little dealings with local farmers as their preferred method of business is to have area farmers contact retail produce managers directly.

The quality of local product received scores from 3 - 5 (moderate to very satisfied) from the wholesale buyers with an average score of 4.2. Survey participants suggested improvements be made in the areas of cutting, washing and grading of the product. Most of their "regular" suppliers conform to expected standards, but they are often approached by other producers who may not have a quality assurance program implemented (e.g., instances have been quoted of cabbage being delivered in a feed bag containing various sizes). Wholesalers expect new, printed packages designed to extend the product life (e.g., poly bags for potatoes are preferred so they will not be affected by the florescent lights of the retail store), and cooling methods applied or breathable cartons utilized as required (e.g., icing of broccoli cartons).

The quantity of local produce rated between 1 and 5 (very unsatisfied to very satisfied) in this survey with an average score of 3.7. The wholesale market is willing to pay the local producer the equivalent price paid for imported vegetables, giving them the advantage of freight. Rarely will any produce buyer pay a premium for local products despite that it may be sold at a higher profit margin. As many producers are reluctant to be merely "price takers" they opt to sell direct to consumers or to retail stores to obtain a higher price for their vegetables. For obvious reasons, all wholesalers would like to see more local products channelled through them instead of these alternate marketing techniques.

All buyers stressed the importance of lead time when dealing with Newfoundland farmers. They would like to know what will be available from the local grower in advance of placing orders for imported vegetables. It is not reasonable for a grower to

call a wholesaler with his daily harvest totals and expect a sale. Mainland produce can be available in 4 days and wholesalers must determine their needs at least one week in advance. Survey results rating local lead time given by producers on anticipated suppy levels ranged from 3 - 5 (moderate to very satisfied) with an average score of 3.8.

Finally, many of the wholesalers pick up local products direct from the farm eliminating the need for delivery. However, in instances where delivery is required,most buyers are pleased with when it is received. The survey results indicated a range of 3 - 5 (moderately satisfied to very satisfied) when rating on-time delivery with an average score of 4.55.

In recent years, prices paid for certain commodities (broccoli and romaine lettuce) have been reduced, do you know of any market factors that may have influenced this decline?

All respondents indicated that they now have several alternatives for purchasing the once scarce vegetables such as romaine lettuce, broccoli and cauliflower. As the supply increases and the demand stays relatively stable, the price will decline. The market price is dictated by the mainland price which has been steadily dropping over the last few years, probably as a result of more Canadian growers selling to the market and wholesalers getting a better return on their dollar than if they had to look to the United States. Furthermore, with the increasing advancements in refrigerated transportation, these commodities are less risky in terms of perishability during transit.

Comments on the quality and quantity of local promotions? Suggestions for future promotions for local vegetables.

There is a big demand for more point of sale promotions at the retail level. Many of the produce buyers, both at the wholesale and retail levels, are unfamiliar with any promotions pertaining to local vegetables over the past few years. It was suggested that future distribution of promotional material be channelled through wholesalers to ensure complete coverage of all retail stores in this geographically dispersed province.

1. Educate consumers on how to cook new varieties of vegetables. This could be done by producers at their roadside stands or by providing recipe cards/tips at the retail level for customers.

2. Print advertising such as posters and brochures for circulation in grocery stores, schools and at agricultural exhibitions;

3. More in-store demonstrations and taste tests to illustrate product attributes; and,

4. Media advertising via newspapers, radio and television aimed at promoting local produce.

Further, most produce buyers agreed that a better job of self-promotion on the part of the grower is required. Often vegetables are packaged in plain,clear plastic bags with only a small tag enclosed by the grower, or merely handwritten product information on the bag. An attractive bag design detailing the farm name/grower, product information

(weight, size, variety and date harvested), local grown logo or other graphics would be preferred by wholesalers and has proven to be a better seller at the retail level, "eye appeal is buy appeal."

Do you purchase any secondary processed vegetables from local producers? Do you see this segment growing in the future?

Jean's and Nightingale's are two commonly cited brands of secondary processed vegetables carried at the retail level. These products are considered "grocery" items more often than produce commodities. None of the wholesalers interviewed has been approached by local growers or small processors to represent these products to their accounts at large. This may be the result of insufficient quantity to supply thewholesale markets or target marketing by processors to specific areas of the province or consumer segments (e.g., tourism trade).

Wholesalers feel that this type of product is too expensive and that it is not a growing segment. However, retailers disagree and view secondary processing as a growing industry. Numerous produce managers would be willing to purchase more value-added products direct from producers, such as salad mixes, and stir-fries, if they were offered at competitive prices. At present, many retail stores do their own vegetable platters, diced carrots etc.

Comments on the practice of farmers' markets, roadside stands and door-to-door sales:

- Wholesalers are not in favour of roadside stands or door-to-door sales because "you can only sell a head of cabbage once." Most wholesalers state that they will buy 100% of their requirements from local producers when it is available. They pay the landed price of the imported vegetables and are not willing to pay a premium for local.

- On the retail side, most buyers are opposed to this form of marketing as well. Most produce buyers will not purchase from a grower who sells direct. They will not condone their supplier also being their competitor. "They are biting the hand that feeds them when they sell to us and then sets up shop a block down the road," commented one retailer. When local vegetables come on the market, retailers find their business declines until the surplus is off the market. Most produce managers accept that farmer direct marketing is inevitable. However, they feel that direct sellers should be governed by regulations on where to sell and that they are made accountable for these profits (e.g., Income tax). Door-to-door sales as a fund raiser for a charity or sporting group is generally permissible by retailers.

- Many of those interviewed for this report felt that regulations on imported produce sold on roadside stands had to be enacted by the government. While many produce buyers could accept local producers selling door-to-door, roadside and at farmers markets, they were appalled by the practice of imports by the

truckload looking to undercut the prevailing price offered in retail stores.

- Producers feel that they are forced to street peddle vegetables because the large buyers will not purchase their total harvest.

How could producers modify their present business practices to ensure a better working relationship with local wholesalers?

Suggestions to improve wholesaler/producer relationships offered by the survey respondents included:

- Product Quality is imperative and close attention should be paid to the trim of the produce ensuring that there is no damage in the harvesting procedure. All vegetables should be thoroughly washed and sorted into like sizes.

- Packaging is the second most important factor to consider following quality. The consensus from this survey is that local growers do a fair to a poor job on packaging their product.

- Communication channels need to be kept open. Growers must call the wholesaler two weeks in advance and let them know what they will have available. The farmers that are presently practising this business policy are usually successful in penetrating the wholesale market.

- Diversify Product Mix to include vegetables other than rutabagas, cabbage,carrots and beet. Wholesalers indicated that they would be open to purchasing any commodity grown locally offered at prevailing market prices.

- Unite as Sellers to form marketing cooperative so that the growers can focus on producing while letting a sales expert deal with the movement of products through various channels. Wholesalers praised the work of Central Vegetable Producers, a cooperative of five growers in Central Newfoundland. They would prefer to deal with one person on a regular basis than five individuals. With many small to medium size growers and limited quantities of different vegetables, forming a marketing group may be the only possibility of entering the wholesale market on a large scale.

What area of the province do you serve? How many employees do you have in your wholesale operation?

All areas of the province are covered by the wholesalers surveyed for this report with some overlap servicing the major centres. The size of their customer base positively corresponds with the number of people employed at the wholesale operation.

Market Potential and Requirements

The following commodities have been identified by wholesalers and retailers as having potential for increased local production. Product purchases for each wholesaler were totalled to determine the approximate size of the fresh vegetable industry in Newfoundland. As all wholesalers participated in this questionnaire, the results are considered to be an accurate reflection of total fresh produce activity on the island. Following the analysis of data, 12 vegetables were selected to examine for their market potential. Factors that determined which commodities should be reviewed in depth included: present levels of wholesale purchases, present levels of production, length and conditions of the growing season, in addition to cost and ease of production. Before any diversification is attempted by the producer, they should consult with their buyers to confirm that there is a market for the considered vegetable, and the size of this market (i.e., not all vegetables are purchased by all wholesalers - it depends on the customers they serve). Note that wholesale prices listed in the preceding section vary from year to year baed on supply and demand.

Production Requirements

All wholesalers surveyed indicated that they would purchase local produce in larger quantities if:

- product quality and packaging standards are comparable to their imported competition,
- local produce is sold at landed, imported prices;
- there exists a stable supply (quantity and variety) of local produce from a few reliable sources; and,
- communication between the producer and the wholesaler were to be enhanced so that the wholesaler is informed, in general, supply levels expected for the season and specifically, the anticipated harvest at least two weeks prior to ordering.

When evaluating market potential, essential factors to be examined include the average yield per acre and the total acres required to supply wholesale markets. This must be compared to the number of acres that are already in production to determine if an increase in acreage is necessary. Refer to chart 12 for details on acreage that must be in production to meet the identified wholesale market potential.

The average yield per acre quoted in chart 12 is representative of the Atlantic provinces as a whole (rounded to the nearest hundred). Individual producer yields may differ. Furthermore, the acreage planted is not consistently equal to the harvested yield. Factors such as disease, pest and wildlife damage as well as human error in harvesting may substantially reduce the quantity of marketable produce.

Figures on acreage presently in production in Newfoundland would be restricted to

commercial farmers and would not include the hobby farmer. All produce is distributed through various means (wholesale, retail, and direct methods) and therefore, an increase in acreage may still be required to supply wholesale markets (e.g., cabbage and rutabaga) regardless of existing acreage already exceeding what wholesalers require.

Production Requirements to Achieve Maximum Market Share for Selected Local Vegetables

Commodity	Market Potential (lbs)	Average Yield per Acres (lbs)*	Acres Required to supply Wholesale Markets	# Acres presently in Production**	Increase in Acreage Required
Beet	114,630	18,000	6.4	95	-
Broccoli	911,331	13,600	67.0	45	22.0
Green Cabbage	7,309,615	27,000	270.0	315	-
Carrots	6,345,500	18,000	353.0	185	168.0
Cauliflower	324,175	17,000	19.01	20	-
Celery	282,000	36,000	7.8	5	2.8
Head Lettuce	1,500,000	14,600	103.0	30	73.0
Romaine Lettuce	432,000	18,200	23.7	10	13.7
Green Onions	92,000	19,600	4.7	0	4.7
Regular Onions	4,101,450	25,900	158.4	0	158.4
Parsnips	1,000,000	22,000	45.0	10	35.0
Potatoes	50,657,884	20,000	2533.0	700	1833.0
Rutabagas	5,874,880	31,200	188.0	400	-
Bok Choy	6,800	20,000	0.34	n/a	n/a

* *Vegetable Crops Production Guide*
** *Statistics Canada. 1995 production of Principal Field Crops in Canada.*

Retailers' Perspective

- Although the focus of this report concentrates on the opportunities to sell produce to the wholesale market, alternative forms of marketing are also employed by local producers. Motivated by getting a higher profit margin, farmers often bypass the wholesalers and attempt to sell direct to the retailer, obtaining approximately 30% higher markup for their products. However, this 30% extra they obtain is not all profit, allowances must be made for time and transportation costs involved in their numerous grocery store visits. Refer to **Appendix A** for a detailed list of retail stores participating in this study.

The second tier of this report examines the relationship between the producer and the retailer. Many wholesalers, specifically those who are locally owned, encourage local growers to solicit business direct from the retail produce manager. Other wholesalers despise this practice and boycott producers who do not market through traditional channels.

A wide array of relationships exists at this level ranging from excellent to poor. It is dependent on the personalities and business practices of the retailers and producers involved in the negotiating process.

Vegetable commodities contained in the questionnaire administered to retailers were carried by most of those polled with some variance by geographic region. Retail produce managers were asked to itemize their "best sellers" and their responses were weighted according to frequency and in order cited. They are **cabbage**, **rutabaga**, **carrots**, **potatoes**, **iceberg lettuce**, tomatoes, **broccoli**, green peppers, **beets**, and **parsnips**.

Produce managers considered the liaison between retailers and producers to be mutually beneficial. In most instances they were very satisfied with business interactions between the two parties.

Retailers will generally not buy from producers who also sell direct. "I don't like it, but there's nothing I can do about it" is the common response from retailers when discussing farmers' markets and roadside stands. Retail managers feel that a few local producers have a "bad attitude" and try to dictate prices to them. "This is the only industry where the tail figures it can wag the dog" commented one buyer. "I guess local farmers are upset if we don't buy so they figure æif you can't beat em', join em' - and sell direct to consumers."

Most stores promote local vegetables in-store by indicating "LOCAL" on their signage, some use product positioning techniques such as giving local produce a prominent position within the department, and some utilize posters and other point of sale material that they can obtain though various sources. All retail produce managers agreed that there is a need for more promotional materials (print advertising) and events (e.g., taste tests) to increase consumer awareness of local vegetables.

The produce departments of the stores surveyed occupy 10 - 15% of total store floor

space and they are responsible for the same percentage of store sales. Despite these statistics, each grocery store department operates on a variety of gross margins that, in combination, will turn a profit for the operation. The following chart depicts the average margins for grocery stores nation wide.

Canadian Grocery Sector Gross Margins

	Grocery	Meat	Produce	Bakery	Total
Percent of store sales	67 - 69%	20 - 22%	9 - 11%	2 - 3%	100%
Gross Margin	16 - 18%	20 - 22%	29 - 31%	37 - 39%	19-21%

Source: Canadian Council of Grocery Distributors

Producers' Perspective

The third and final tier of this research involved polling a geographical cross section of vegetable producers to determine attitudes and prevailing business practices and how they compare to what is demanded by the buyers of fresh produce. Appendix A details the producers who were invited to participate in this phase of the study.

A wide variety of products are grown in Newfoundland and the product mix and acreage is usually determined by the producers' method of marketing (e.g., large producers concentrating on a large amount of few commodities for the wholesale market and small roadside vendors planting a small amount of a large number of commodities).

Factors cited as influencing the planting mix include:

- **Consumer demand**

Most producers based their yearly commodity mix on what they sold in previous years through their chosen marketing methods. If they were requested by a specific group or major buyer (wholesaler or retailer) they would start off with a small production to determine if the new vegetable would be feasible for them to grow.

- **Tradition**

Some growers produce what they know will grow well for them as they have produced that mix for a number of years.

- **Crop rotation**

Growers analyze their fields yearly to determine the most appropriate crop to plant for the soil.

- **Wildlife damage/insect damage/disease**

If producers experienced pests and/or disease in growing a certain commodity they may discontinue that vegetable from their future product offering.

- **Cost of production/efficiency of labour**

If special equipment, constant monitoring or technical expertise is required to grow a vegetable, fewer farmers will add it to their product mix. Cost of production for cabbage and turnip is low in comparison to potatoes, broccoli and cauliflower.

- **Ease of getting a quality product**

Vegetables vary according to their ease of handling. Some producers indicated that they planted a specific crop but did not harvest due to excess weeds and/or mildew. Other concerns of producers include probability of brusing, sunburn, premature wilting, and employee handling/cutting error.

- **Cold storage capacity**

If no cold storage is available to a producer, they will only grow what they can sell immediately after harvest. Prices are lower in the fall of the year when an abundance of produce is available locally or though import channels. Hence, it is in the best interest of the local grower to store a portion of his harvest until the surplus has diminished.

The majority of the farmers surveyed indicated that their product mix has changed very little over the past 10 years. Most have increased their acreage of crops in production. However, while one farmer is now planting more cabbage to meet wholesale requirements, another farmer is trying to reduce the amount of cabbage grown (as a result of heavy wildlife damage and declining demand in his trade area). Farmers opting to sell via farmers' markets want more variety to offer consumers and thus, are diversifying their product mix, this is evident more in highly populated markets such as St. John's and Bay Roberts.

The commodities receiving the highest profit margin (i.e., selling price minus cost of production) for the producers surveyed weighted by frequency of response and order cited are rutabagas, cabbage, beets, carrots, potatoes, oriental vegetables (bok choy,lo bok), broccoli, romaine lettuce, and cauliflower. Farmers were then asked how they distributed their produce, about half (44.1%) is channelled through wholesalers, 18.1% is direct to retailers, 31% is sold via roadside stands, 6% sold through door-to-door sales and all other combined marketing methods accounting for less than 1 percent (e.g., sold to other farmers, payment in kind, personal use, etc.). Diagram 7 details the initial purchasers of local products for those farmers surveyed.

The producers surveyed have established a rapport with regular buyers and thus, in most instances, describe their relationships with wholesalers and retailers as "good." However, penetrating new accounts has proven to be difficult for local producers. The business of selling vegetables is described as "increasingly competitive" over the last number of years with local growers becoming price takers rather than serious negotiators. Wholesalers and retailers attempt, according to producers, to "play one farmer off against another" and "try to get the product for nothing." Unfortunately, with

so many small part-time farmers looking to turn a fast profit, the buyer is usually the winner. Even though wholesalers or retailers may obtain the product for a low price,this savings is not necessarily extended to the consumer. As local vegetables are perceived as fresher, tastier and purchasing them would aid the provincial economy,many produce managers charge a premium for local produce despite paying the same price for the local and the imported. Hence, the profit margin for local vegetables would be significantly higher for the retailer.

Many attempts have been made over the years to unite Newfoundland vegetable producers with the goal of cooperative marketing. This concept would allow the farmer to focus on producing a quality product while a marketing expert negotiates a price for their products through wholesalers and retailers. All of these efforts, with the exception of Central Vegetable Products in Bishop Falls, were later abandoned. Survey participants were polarized in opinions offered on this issue. Comments ranging from "it's a waste of time, an outdated idea" to "it's the only way to go" indicate that a cooperative philosophy would be a difficult sell to the industry at large.

Promotional efforts on the part of vegetable producers are minimal. A few growers now have printed bags or cartons, other use roadside signage, but most merely stamp a label and insert with the produce. No individual producer initiatives have been undertaken in the media (television, radio, print ads), or at the retail level (taste tests, displays). Consumer awareness campaigns are undertaken only when government funds and expertise are available.

Producers indicated that their biggest marketing challenge is getting a fair price for their product. While they do not feel that government legislation can force the buyers to pay more, they feel that some regulations could be implemented to control imported products via roadside stands, to restrict the hobby farmer from undercutting prevailing market prices, and to offer protection to bona fide farmers from new entrants.

In their attempt to diversify and ensure long-term viability, many local producers are looking to secondary processing. These value added products includes jams, pickles, beets, diced carrots, peeled turnip and carrot, premixed salads and slaws as well as stir-fries and vegetable platters. The fresh produce processing business has filled a gap in produce departments, catering to a growing number of consumers looking for quality and convenience in one package. However, experts in the United States feelthat the industry is far from its peak. According to one USA census, about 5 - 15% of all produce department space is reserved for fresh cut products. It is anticipated that this will grow and retailers will be devoting 20 - 30% of their shelf space in the future to precut products (Saunders, 1993). However, local producers will have to confirm demand with their local buyers and examine the costs of capital equipment and labour before entering this sector of the fresh vegetable industry.

Local producers were asked how they would describe the future of vegetable farming in Newfoundland and Labrador. Both optimistic and pessimistic views of the future were offered.

The following is verbatim of opinions from local vegetable farmers:

- "Farmers are not future oriented, and they are not making plans to deal with year to year changes."
- "The future of farming in Newfoundland is very strong."
- "All the fishermen are becoming farmers, now everybody can grow vegetables, we (farmers) need some protection from the government."
- "Cost of production is increasing and commodity prices are decreasing - it's making it difficult to stay at farming."
- "Farmers must do something collectively to control wholesalers."
- "The future of vegetable farming will see only small and large farms with competitive advantages existing. It will be a poor future for the medium sized farm."
- "Farming in the future will be survival of the fittest."
- "Ten years from now there will be no local farmers if something is not done about market prices."
- "The farming industry in Newfoundland is stagnant."

Conclusion

On the basis of the surveys conducted with wholesalers, retailers and producers as well as other research, the following has been concluded:

Very little has changed in the area of production and prevailing business practices in the local vegetable industry since 1987.

All wholesalers could source several reliable suppliers for all their fresh vegetable requirements from both local and out-of-province producers. Due to local small-scale production of most commodities, only green cabbage and rutabagas are purchased in significant quantities.

Vegetables are very price sensitive and most consumers are not willing to pay a premium for local produce.

Annual consumption of **beet**, **cabbage**, **rutabaga**, **iceberg lettuce** and **celery** has decreased since 1987 while **broccoli**, **cauliflower**, **carrots**, **romaine lettuce**, **onions**,**potatoes** and **parsnips** are increasing in consumption.

There are many local producers attempting to supply a wide variety of vegetables and not producing significant quantities to interest wholesalers.

Wholesalers require all produce to be washed, of uniform size and in attractive packages with labels indicating that the contents are Newfoundland grown. Historically, many local producers have not been complying with these standards.

Development of additional acreage and investment in cold storage facilities is required for Newfoundland producers to achieve increased sales to wholesale markets.

Constant communication with wholesalers is vital for local producers looking to penetrate these markets. Two weeks notice must be given to buyers pertaining to what local produce will be available.

Wholesale markets are lucrative as they allow producers to move large quantities of produce without investing the time and transportation required for selling to retail and direct to consumers.

Recommendations

Based on the qualitative and quantitative responses from wholesalers, retailers and producers obtained through this research project, the following is recommended:

Information Dissemination

Copies of this report should be available to all interested/affected industry personnel upon request. A summary of findings should be distributed to all producers and wholesalers via a dedicated newsletter, or existing publication (e.g., Farm Forum - distributed monthly by the provincial Department of Forest Resources and Agrifoods, The Pioneer - a bimonthly magazine from the Newfoundland and Labrador Federation of Agriculture, or Grower News - the monthly newsletter of the Newfoundland and Labrador Vegetable Producers' Association). In addition, highlights could be presented during area grower meetings (Annual General Meetings of associations, cooperatives, or regional producer groups).

Quality Control

Local producers must ensure that all produce delivered to wholesalers is washed, of uniform size, in attractive packaging (containing all the required information), and free from any evidence of disease, pests or poor harvesting. Farmers are encouraged to implement a quality control program to enforce these strict standards. Imperfect produce could be used in secondary processing, cut and/or prepared for sampling or sold to institutions or the food service sector where the customer does not view the harvested vegetable. It is recommended that the Department of Forest Resources and Agrifoods determine specific training requirements in this area and develop seminars and/or information packages to address the problem of inferior quality produce.

Communication

Local farmers should aspire to raise produce that their customers want, rather than trying to find customers for the produce that they grow. This can be achieved by the producer contacting the wholesalers they conduct business with prior to planting to determine their requirements for the season. Contact at regular intervals is imperative to inform the buyer about crop development and quality status. Two weeks notice on available produce is required by wholesalers in order to plan for market activity and secure alternative supply if necessary.

Diversification

Wholesalers can access a good supply of cabbage, rutabagas, and beets from local sources. Other commodities are available in small quantities that would not be sufficient for wholesale consideration. To increase sales to wholesale markets, producers should branch into the untraditional vegetables such as **broccoli**, **cauliflower**,varieties of **lettuce** and **onions**. All diversification should be attempted with caution after first analysing the production costs and the capabilities of the grower.

Capital Investment

In order for local farmers to capture a greater share of the wholesale market they will have to invest in additional acreage and cold storage facilities. To achieve maximum market share, additional land must be allocated for production of **broccoli**, **carrots**, **lettuce varieties**, **onions** and **potatoes**. In order to supply products to the wholesale market in the off-season, cold storage facilities and preservation techniques must be utilized. Before any expansion is undertaken, each producer must first weigh the investment costs against the long term profit potential to determine feasibility.

Organization

Wholesalers would buy more local products if they could secure a consistent supply from a few growers. Hence, the formation of grower cooperatives is recommended. This marketing method would allow the farmer to focus on production of vegetables while a marketing expert would locate buyers. Economies of scale could also be realized in the area of bulk purchases, central storage and transportation. The Department of Forest Resources and Agrifoods should facilitate one or more sessions with growers on the logistics of marketing cooperatives.

Education

More training on post-harvest handling is required at all levels in the marketing chain particularly for the small retailer. If staff were instructed on how to better store,display and maintain the vegetables there would be less spoilage and risk to the retailer. To maximize profits and to control costs to the end-consumer, it is vital to prolong the fresh, appealing appearance of the produce. This education could be achieved by producing and distributing brochures on post-harvest handling of vegetables and/or developing and implementing training sessions on quality control/post-harvest handling.

Promotion

Further to rectifying production issues to supply the wholesale markets of Newfoundland, promotion of local produce should intensify and a strategic promotional plan implemented. The Department of Forest Resources and Agrifoods, in conjunction with producers, wholesalers and retailers should undertake regular "taste tests" for various vegetables as part of this plan. In-store promotion has proven to be effective for increasing sales of a product giving validity to the statement "once they try, they'll buy" and is a relatively inexpensive form of promotion. Producers must be actively involved in such promotions to ensure a fresh and ample supply is available to the retail stores. Direct marketing ventures can also use this technique to encourage add-on sales and utilize produce that may have been deemed unsaleable due to being oversized or odd-shaped.

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