Wholesale and Other Opportunities In the Vegetable Industry of Newfoundland and Labrador

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EXECUTIVE SUMMARY

This document is the third provincial report on the wholesale opportunities in the vegetable industry in Newfoundland and Labrador. The intent of this report is to provide an update and review the changes in the vegetable industry in this province since the previous documents of 1987 and 1996, especially in the past decade.

Wholesalers, Retailers and Producers participated in the study and the information has been merged within each of the three sectors to ensure confidentiality for all participants. The report provides insight into the current situation in the vegetable industry and presents some recommendations for possible future development of the industry.

The total wholesale market opportunity for the 15 field grown vegetables that were discussed in this document represents approximately 45 million pounds of product which is equivalent to about 2,800 acres and 15.5 million dollars. In addition to the wholesale market, the retail, institution and secondary processing opportunity represents another 74.5 million pounds of produce, the equivalent of approximately 3,900 acres and $36 million. Collectively, this portion of the vegetable industry of the province has the potential to grow to approximately 6,700 acres with an equivalent value of 35.8 million dollars if the appropriate storage and processing facilities are available.

The fresh potato market in this province represents approximately 46.7 million pounds which equates to 2,611 acres. The consumption capacity for fresh potatoes in this province is over 4 times the current harvested volume. The value-added market represents another 42.6 million pounds which equates to an additional 2,381 acres of potato production.

The market potential for particular greenhouse crops mentioned by the Wholesalers that are appropriate for production in this province is over $6.4 million. Only 4 of the 7 crops mentioned by the Wholesalers are produced locally with leafy lettuce being the only crop that is grown to any extent. This makes the total combined potential for the vegetable industry in this province at over $42 million.

The top tier of the 4 largest Wholesalers (Tier 1) indicated that carrot was the number one vegetable that should be produced on a larger scale locally, while the second tier of 4 smaller Wholesalers (Tier 2) indicated rutabaga was the number one vegetable. Collectively, the top vegetables were rutabaga, carrot, cabbage and potato.

Tier 1 Wholesalers indicated that the relationship they had with Producers was very favourable. Alternatively, Tier 2 Wholesalers indicated that the most favourable attribute was the lead time required for re-supply. Consistency of quality was the fifth attribute specified by Tier 1 Wholesalers. This corresponds to the information provided by the large Wholesalers in recent years whereby consistent quality is one of two key attributes required to develop a strong relationship with local Producers. The other attribute is consistent supply which both the Tier 1 and Tier 2 Wholesalers rated 8th in the favourability rating.

Retailers believe that potato, cabbage and rutabaga are the top vegetables that should be produced locally on a greater scale. The Retailers indicated that the relationship they had with both Producers and Wholesalers was very favourable as was the quality of product available. Most Retailers indicated that they would prefer to deal with Producers on an individual basis.

The predominant acreages of vegetables planted for 2004 through to 2006 by Producers were the traditional crops of potato, carrot, rutabaga (turnip) and cabbage. The results indicate that there is a gradual increase in broccoli production as Producers begin to realize the intrinsic value of diversification into alternative crops. Producers indicated that they receive the highest margins from cabbage, turnip and potato, followed closely by carrot. Broccoli was the 6th mentioned commodity behind beet.

Based on the information attained through the most recent survey, the previous surveys and other available information, the following conclusions have been made:

- There still has not been any significant changes in the agronomic and business practices in the local vegetable industry in the past 20 years;
- Most vegetables in this province are being sold directly through Farmers' markets, roadside stands, hampers, Retailers, etc.;
- Producers must provide quality produce (Canada No.1) and a consistent supply to Wholesalers;
- Producers must communicate with Wholesalers at the beginning of the season as to type and volume of vegetables;
- Wholesalers would rather deal with one "order desk" rather than several individual Producers;
- A commodity will not extract a premium price – produce needs to be positioned as a premium product in order to receive a premium price;
- The amount of production on individual farms needs to increase in order to realize the economy of scale;
- There are several key alternative crops that can be grown in this province that will provide an excellent return on investment;
- Proper storage facilities are vital in order to achieve full potential for the vegetable industry;
- The establishment of some type of supply management may assist in the further development of the vegetable industry;
- Communication and coordination between Producers may become beneficial to ensure that all market demands are met;
- There is opportunity for greenhouse operations in this province, and;
- All Producers must consider implementing On-farm Food Safety programs in order to continue business relationships with Wholesalers in the future.

Based upon the conclusions in this report, the following are recommendations for the Vegetable Industry of Newfoundland and Labrador to consider as part of the comprehensive development strategy:

- Producers need access to agronomic information to gain the necessary knowledge base for diversification into alternative crops and appropriate varietal selection of traditional crops;
- Producers need to expand current operations to include alternative crops in addition to increased acreage for traditional crops;
- Producers need access to suitable and sufficient storage facilities to maintain vegetables for extended periods of time;
- All Producers must adopt all the appropriate Good Agricultural Practices with respect to food quality and food safety;
- Wholesalers need to assist in the promotion of NL vegetables by developing strategies for advertising local produce within the retail locations on an ongoing basis;
- Wholesalers need to participate in industry meetings on an ongoing basis and communicate consumer purchase behaviour and emerging trends to allow Producers sufficient lead time to adjust their future crop strategies;
- Wholesalers also need to communicate to Producers any changes in business strategies that will impact the relationship with Producers;
- An increase in the promotion of the Vegetable Industry in the province is required through all forms of media;
- Development of branding programs for all appropriate NL vegetables, and;
- Investigation into the development of a integrated marketing infrastructure that will establish and communicate market prices for all NL Producers.

INTRODUCTION

This document is the third provincial report on the wholesale opportunities in the vegetable industry in Newfoundland and Labrador. The intent of this report is to provide an update and review the changes in the vegetable industry in this province since the previous documents of 1987 and 1996, especially in the past decade.

Once again, Wholesalers, Retailers and Producers participated in the study and the information has been merged within each of the three sectors to ensure confidentiality for all participants. The report provides insight into the current situation in the vegetable industry and presents some recommendations for possible future development of the industry.

Methodology

The study was conducted using a three-tiered approach with Wholesalers, Retailers and Producers. A combination of face-to-face, telephone and faxed interviews provided comprehensive responses from all participants and allowed for the expression of opinions in addition to answers to the pre-selected quantitative and qualitative questions.

The questionnaires contained the same questions as the 1996 survey to allow for comparative analysis of the changing trends in the last ten years. In addition, many more questions were added to provide further detail, especially in the area of food safety. The participants were also encouraged to add any relevant comments related to the study. All surveys were conducted from April 7, 2006 to June 9, 2006 inclusive.

There were 7 Wholesalers that participated in the study representing the current majority of wholesale activity on the island of Newfoundland. Only 1 Wholesaler from Labrador participated and, as a result, to protect the confidentiality and ensure representation, this information is included in the collective responses for the wholesale sector.

A combination of Retailers and Producers were selected across the province in an attempt to provide representation for the 4 major regions of the island, namely Western, Central, Eastern and Avalon. Criteria selection was based upon the same retailers and producers that were interviewed in the 1996 study to provide continuity and allow for comparative analysis based on participant responses.

The participants were assured that all information disclosed during the interview process would be held in the strictest confidence and used for statistical purposes only. All quantitative information was tabulated and a comparative analysis to the 1996 study was performed to identify important changes to the industry in the past decade. Due to the limited number of potential respondents for the study, formal statistical analysis of the data was not feasible. However, the responses were similar among the respondents, representing a strong correlation among the data collected. Some of the information gathered in the study has been cross-referenced with Agriculture and Agri-Food Canada statistics to provide additional detail and supplement the information gathered from the study.

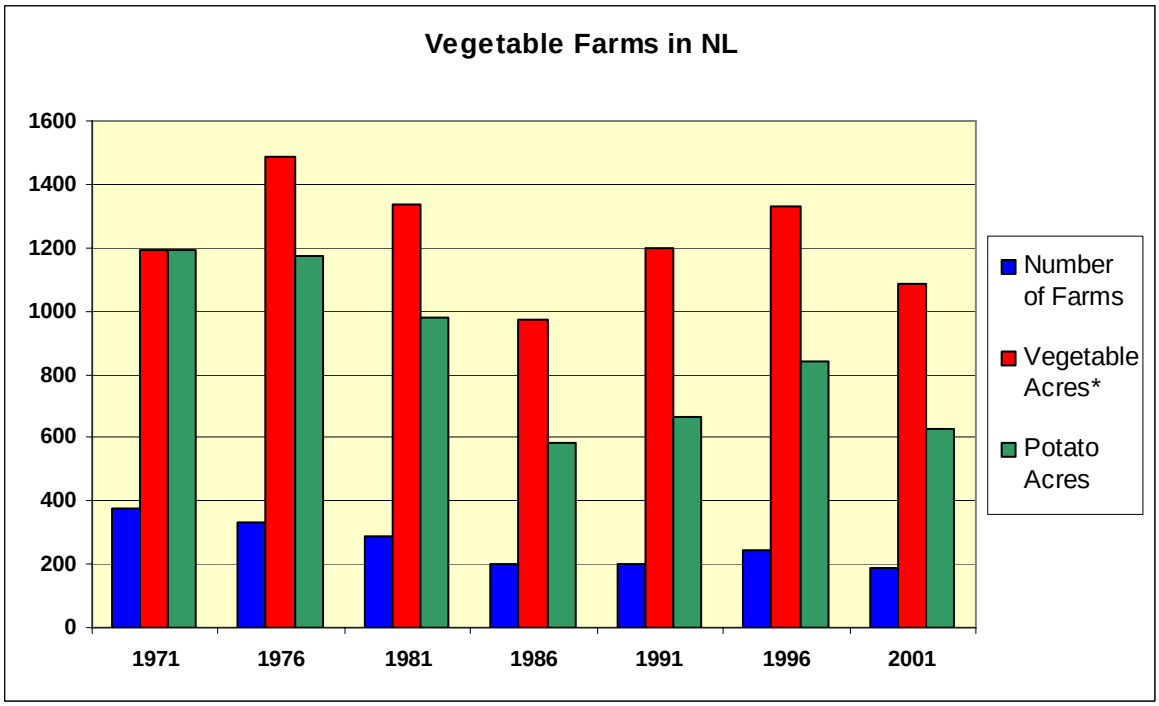
Average yield per acre numbers for traditional root crops were calculated using the 5-year average from Statistics Canada, Fruit & Vegetable data. Other average yield per acre numbers were determined using the lower yield range published by the Atlantic Provinces Advisory Committee on Vegetable Crops.

The data collected in this study has been collected in such a manner as to provide a benchmark for future growth of this industry. Also, the information contained within this study has been presented to provide the vegetable value chain clarification of the current wholesale supply and demand situation within the province along with the emerging trends in the industry with respect to consumer demand.

Historical Background

The Newfoundland and Labrador Vegetable Industry has been experiencing a gradual decline in the number of farms and the acreage in vegetable production (see Figure 1). Although individual farm size is increasing according to Statistics Canada, it has not been enough to offset the reduction in the number of farms. The industry had a temporary resurgence during the era of the 1992 fish moratorium when individuals from the fishing industry attempted vegetable farming as an alternative livelihood. However, the resurgence was short-lived and the industry continued to decline. In more recent years though, there has been a renewed interest in the Vegetable Industry and several key Producers are diversifying the vegetables grown and improving their farming practices to become increasingly competitive with produce arriving from outside the province.

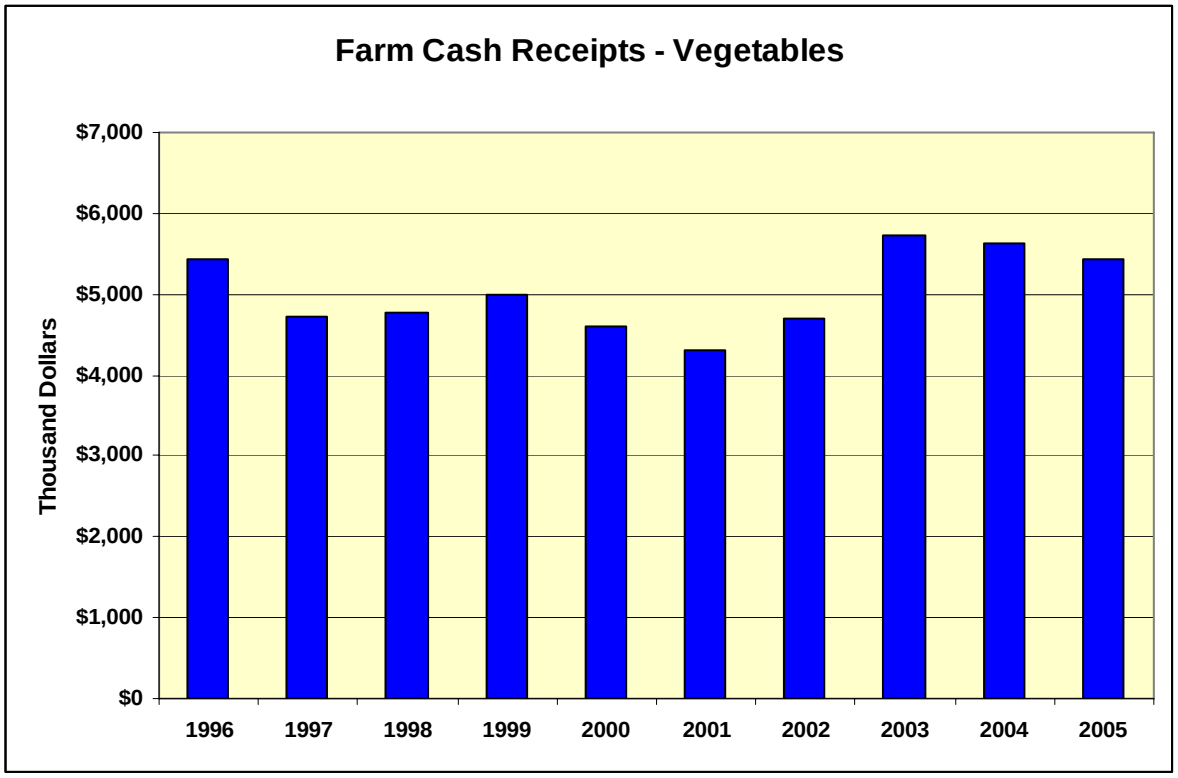
Figure 1: Number of Vegetable Farms and Acreage 1971 – 2001.



Source: Statistics Canada, Census of Agriculture.
* Vegetable Acres do not include Potato Acres.

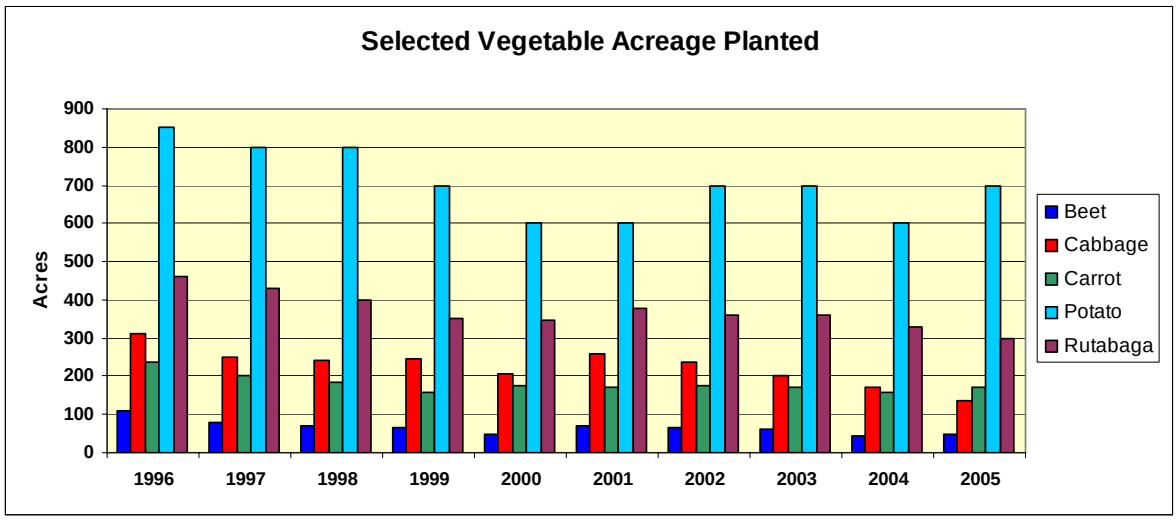
The 2005 Vegetable Industry of Newfoundland and Labrador represented approximately $5,426,000.00 in Farm Cash Receipts according to the 2005 Agricultural Statistics for the province. The cash receipts have seen marginal improvement in the past few years (see Figure 2) although the planted acres of the traditional crops are less than they were a decade ago (see Figure 3). However, traditional root crops still represent the majority of vegetables grown in this province. The increase in the cash receipts can be attributed to higher average yields per acre of the traditional crops (see Figure 4), better agronomic practices and an increase in higher valued non-traditional crops.

Figure 2: Farm Cash Receipts for Vegetables 1996 – 2005.



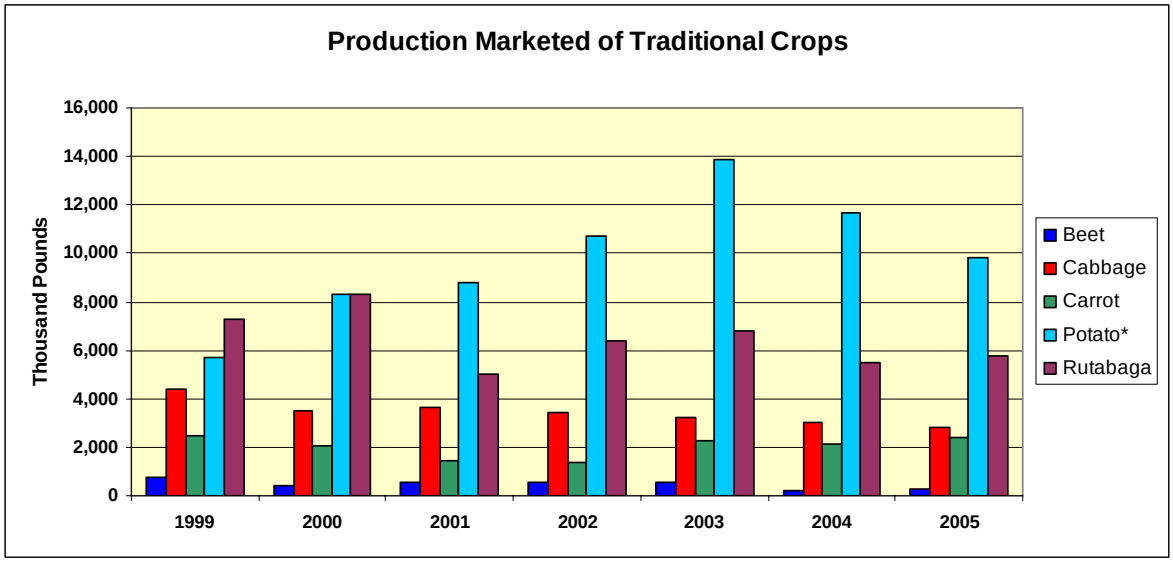
Source: Agriculture Economic Statistics, Statistics Canada Cat. 21-001-XPB.

Figure 3: Acreage of Traditional Vegetables Planted 1996 – 2005.



Source: Fruit & Vegetable Production, Cat. 22-003 and
Canadian Potato Production Stat. Bulletin, Cat. 22-008.

Figure 4: Amount of Production Marketed of Traditional Crops 1999 – 2005.

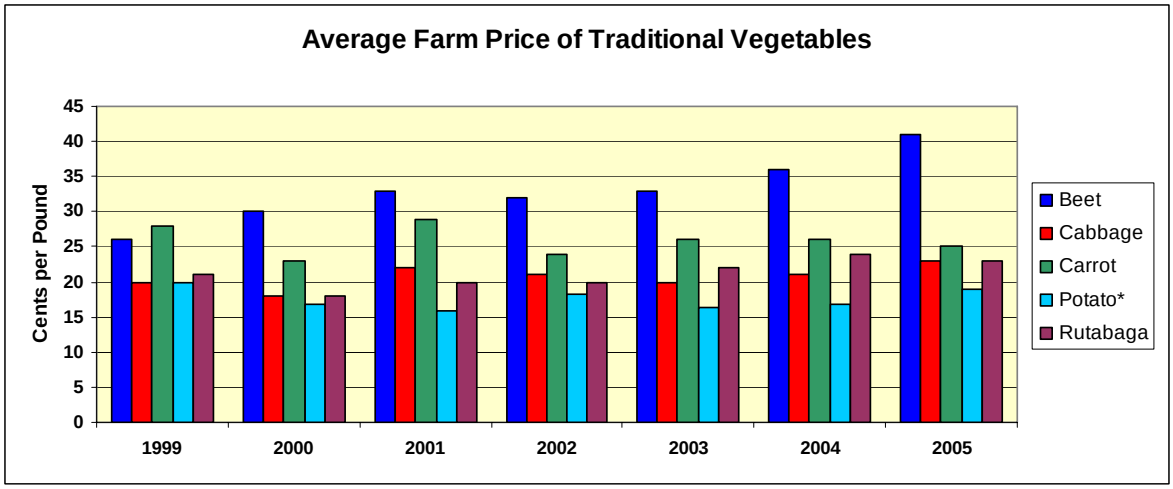


Source: Fruit & Vegetable Production, Statistics Canada Cat. 22-003.
* 2005 Data for Potatoes is a Provincial Estimate.

From a business perspective, it has been increasingly challenging to realize a fair and equitable return on investment in the Vegetable Industry since the average price per pound received for traditional vegetables has remained relatively flat (except for beet) for many years (see Figure 5). Conversely, the cost of production continues to increase since many of the input costs are constantly increasing, especially those tied directly to the petroleum industry such as fertilizers. Also, the cost of transporting crop inputs such as fertilizers and crop protection products across the Gulf are passed on directly to the Producers (along with the fuel surcharges).

In addition, many of the vegetable farms in this province are smaller on average than those farms that are producing vegetables in other parts of the country. Statistics Canada reported that in 1971 the average vegetable farm size (excluding potatoes) was 3.2 acres and by 2001 this had only increased to 5.8 acres. As a result, the farms in this province are not able to benefit from the economies of scale that larger farms elsewhere enjoy.

Figure 5: Average Farm Price of Traditional Vegetables 1999 – 2005.



Source: Fruit & Vegetable Production, Statistics Canada Cat. 22-003.
* 2005 Data for Potatoes is a Provincial Estimate.

Available Land for Agriculture

The following is an excerpt from the 2004 document "An Overview of the Agrifoods Industry", published by the Department of Natural Resources:

> "Studies show that approximately 100,000 hectares (250,000 acres) or 0.9 per cent of the total mineral soils of the Island portion of the province are considered suitable for commercial farming. In addition, there are approximately 1.3 million hectares of peatlands of 30 hectares or greater in size. The soils on many of these peatlands can be quite productive and are being developed for a wide range of crops, including pasture, forage production, a variety of vegetables, turf grass and cranberries.
>
> According to the Census of Agriculture in 2001, total land on farms was approximately 100,271 acres of which 44,899 acres were in production.
>
> Newfoundland and Labrador is one of the few places in North America where new areas are still being cleared and put into production and where peatlands are currently being drained and developed for agriculture."

It is important to ensure that any discussion or plan for further development and expansion of the Vegetable Industry in this province is not limited by the amount of available and suitable agricultural land. Indeed, it is evident that, with vacant farm land and the potential for newly cleared land, there is sufficient land available to meet the needs of any foreseeable expansion of the industry.

The peatlands may become an increasingly vital part of the Vegetable Industry in this province. An example of extremely successful vegetable bog is the Holland Marsh in Ontario. It is the largest vegetable farming operation in Southern Ontario and consists of approximately 7,000 acres of farm land situated in a natural bog. The marsh produces carrots, onions, lettuce, potatoes, celery, parsnips, cabbage, cauliflower and beets for Ontario and foreign markets.

WHOLESALER PERSPECTIVE

Eight Wholesalers were interviewed for this report. The 1996 report had 12 Wholesalers as part of the report. A decade ago, several independent Wholesalers supplied many of the retail locations for the major Wholesalers. However, the number of Wholesalers in the province dealing with fresh vegetables has declined since Dominion and Sobeys now supply all of their own retail locations.

Fresh Field Grown Vegetables for the Wholesale Market

This section represents the annual volumes of fresh vegetables distributed by the Wholesalers and the percentage of the volume that is sourced locally as reported by the Wholesalers. All data is reported on a collective basis to ensure that confidentiality of individual information is maintained. Slight adjustments were made to the historical data to reflect changes in the length of time specific vegetables can be stored. This allows data from 2005 to be compared with data from the earlier reports. The storage period data was determined using information from Agriculture and Agri-Food Canada and the Ontario Ministry of Agriculture, Food and Rural Affairs (see Appendix 1).

In addition, the charts now contain the number of acres required to produce the amount of vegetables indicated in 2005, based upon average yield data from three sources (see Appendix 2). The lower end of the yield range indicated by the Atlantic Provinces Advisory Committee data was utilized in the calculations since it is realistic to assume that average yields would be lower when growing a new crop. Also, the charts include an estimated value based upon the prices quoted by InfoHort (see Appendix 3).

The charts display potential growth with and without appropriate storage facilities. Without proper storage facilities, vegetables will only be available for the wholesale market during the harvest period; whereas, vegetables can be made available for much longer periods, in some instances, with proper storage facilities. Most producers currently have some storage capacity for vegetables although improvements in storage capability and capacity would be required to maximize the potential for the wholesale market. Wholesalers have repeatedly indicated that they require consistent quality and a consistent supply in order to conduct business with Producers in this province. Utilization of proper storage facilities will allow Producers to develop relationships with the Wholesalers that will begin to satisfy these conditions.

Most crops are currently being grown to some extent in the province. The chart provides data on the total potential for each crop plus the growth potential – the difference between the total potential and the amount already produced. This presents the information in a way that allows for quick assessment of the level of production that could be supported by the Wholesale Industry in this province.

Beet

The beet market does not represent significant opportunities within the wholesale market (see Table 1). The amount of beet available to consumers through major retail locations has diminished in the past decade. Most fresh beet is purchased at various types of Farmers' Markets rather than large retail locations and most of the purchases are made during the typical 'bottling' period for beet.

Conversely, the average price per pound has steadily increased unlike other root vegetables. Therefore, any Producer growing beet will realize a fair return on investment. In addition, beet can be stored up to 26 weeks so it can be supplied well into the spring.

Table 1: Beet	**1987**	**1994**	**2005**	**Acres**	**Value**
Wholesale Purchases (lbs)	484,000	205,544	46,737	6	$22,901
Locally Supplied (lbs)	45,000	102,220	17,374	2	$8,513
Locally Supplied (%)	9.3%	49.7%	37.2%	-	-
Local Market Potential (lbs) - Without Storage	74,462	31,622	7,190	1	$3,523
Local Potential Growth - Without Storage	29,462	0	**0**	**0**	**$0**
Local Market Potential (lbs) - With Storage	316,462	134,394	30,559	4	$14,974
Local Potential Growth - With Storage	271,462	32,174	**13,185**	**2**	**$6,461**

Broccoli

Broccoli represents good income potential for Producers in this province (see Table 2). Several Producers have been very successful at growing broccoli. There is significant agronomic management required by this crop to provide a consistent supply throughout the harvest period, including growing different cultivars with varying maturing dates, staggered planting dates, the potential need for irrigation and available workers for harvest; however, the return on investment makes it a valuable crop. The demand for broccoli will likely continue to increase as the dietary lifestyle of the population changes away from the old traditional crops.

A possible disadvantage of a crop like broccoli is the short storage life so local broccoli would only be available for a few months of the year. However, with the insufficient amount of storage facilities currently available to the Vegetable Industry, this may represent a positive attribute at this time since it will not be competing for limited storage space when crops with long-term storage potential are ready for harvest.

Table 2: Broccoli	**1987**	**1994**	**2005**	**Acres**	**Value**
Wholesale Purchases (lbs)	2,000,000	2,800,000	2,858,960	318	$1,372,301
Locally Supplied (lbs)	3,000	84,000	241,635	27	$115,985
Locally Supplied (%)	0.2%	3.0%	8.5%	-	-
Local Market Potential (lbs) - Without Storage	576,923	807,692	824,700	92	$395,856
Local Potential Growth - Without Storage	573,923	723,692	**583,065**	**65**	**$279,871**
Local Market Potential (lbs) - With Storage	653,846	915,385	934,660	104	$448,637
Local Potential Growth - With Storage	650,846	831,385	**693,025**	**77**	**$332,652**

Cabbage

Cabbage is certainly one of the crops considered traditional in this province. Like all of the other traditional crops, there is a gradual decline in the demand for cabbage at the retail level (see Table 3). However, again, just like all of the other traditional crops, there is still a significant potential for cabbage in this province since we supply less than a quarter of the cabbage in the wholesale value chain. Since cabbage can be supplied for the entire year, this crop can help provide a consistent cash flow throughout the year for Producers that manage their inventories properly.

Table 3: Cabbage	1987	1994	2005	Acres	Value
Wholesale Purchases (lbs)	8,000,000	10,860,000	2,933,710	168	$968,124
Locally Supplied (lbs)	2,300,000	3,347,500	665,742	38	$219,695
Locally Supplied (%)	28.8%	30.8%	22.7%	-	-
Local Market Potential (lbs) - Without Storage	2,153,846	2,923,846	789,845	45	$260,649
Local Potential Growth - Without Storage	0	0	**124,103**	**7**	**$40,954**
Local Market Potential (lbs) - With Storage	8,000,000	10,860,000	2,933,710	168	$968,124
Local Potential Growth - With Storage	5,700,000	7,512,500	**2,267,968**	**130**	**$748,429**

Carrot

Carrots represent an incredible opportunity for Producers in this province. Currently, local carrot comprises less than 15% of the carrots available at the retail stores (see Table 4). However, with the long storage shelf-life of carrots, the Vegetable Industry of Newfoundland and Labrador could be supplying carrots to the Wholesalers for 10 months of the year. Again, like cabbage, this represents a considerable cash flow opportunity.

Many Producers are hesitant to attempt new crops for many different reasons. However, traditional crops with significant market potential such as carrots could easily have the acreage increased by established Producers who already have the necessary agronomic expertise to take advantage of this market opportunity.

Although this section is intended to discuss fresh produce potential, it is important to note that fresh processed carrots represent an additional 10% of the volume of carrots at the retail level. Value-added products such as packaged baby carrots, dollar chips and other fresh-packed carrots comprise a further 350,000 pounds of carrots.

Table 4: Carrot	1987	1994	2005	Acres	Value
Wholesale Purchases (lbs)	8,400,000	9,427,600	3,636,286	298	$1,309,063
Locally Supplied (lbs)		386,750	523,625	43	$188,505
Locally Supplied (%)		4.1%	14.4%	-	-
Local Market Potential (lbs) - Without Storage	969,231	1,087,800	419,571	34	$151,046
Local Potential Growth - Without Storage	969,231	701,050	**0**	**0**	**$0**
Local Market Potential (lbs) - With Storage	7,269,231	8,158,500	3,146,786	258	$1,132,843
Local Potential Growth - With Storage	7,269,231	7,771,750	**2,623,161**	**215**	**$944,338**

Cauliflower

Like most cole crops, cauliflower is well-adapted to cool seasons and is quite cold hardy and requires well-drained loam soils that provide water throughout the season. Early varieties can be started in the greenhouse and later transplanted to the field.

The situation for cauliflower is similar to broccoli although the current potential is only approximately half of broccoli (see Table 5). Cauliflower is another crop that requires good agronomic management with the possibility of supplying the Wholesale Industry for approximately 4-5 months.

Table 5: Cauliflower	1987	1994	2005	Acres	Value
Wholesale Purchases (lbs)	547,000	1,120,000	1,418,210	123	$524,738
Locally Supplied (lbs)	14,000	7,500	56,860	5	$21,038
Locally Supplied (%)	2.6%	0.7%	4.0%	-	-
Local Market Potential (lbs) - Without Storage	147,269	301,538	381,826	33	$141,276
Local Potential Growth - Without Storage	133,269	294,038	**324,966**	**28**	**$120,237**
Local Market Potential (lbs) - With Storage	189,346	387,692	490,919	43	$181,640
Local Potential Growth - With Storage	175,346	380,192	**434,059**	**38**	**$160,602**

Celery

Celery is a long-season crop that grows well in a cool, humid climate where there is sufficient moisture available. Celery prefers a well-drained peat that has a high water table. In addition, it may require establishment in a greenhouse prior to transplanting in the spring depending on the micro-climate of the area. This crop is able to withstand some mild frosts.

Celery has already been successfully grown in this province and represents a substantial opportunity for innovative Producers. Besides the Wholesale Industry, restaurants are very interested in purchasing fresh celery. Celery is a very high-value crop that would provide a good return on investment and can be stored up to 3 months allowing producers to supply fresh celery for approximately one third of the year (see Table 6).

Table 6: Celery	1987	1994	2005	Acres	Value
Wholesale Purchases (lbs)	250,000	1,320,000	1,496,406	75	$1,406,622
Locally Supplied (lbs)	32,000	0	12,936	1	$12,160
Locally Supplied (%)	12.8%		0.9%	-	-
Local Market Potential (lbs) - Without Storage	28,846	152,308	172,662	9	$162,302
Local Potential Growth - Without Storage	0	152,308	**159,726**	**8**	**$150,143**
Local Market Potential (lbs) - With Storage	91,346	482,308	546,764	27	$513,958
Local Potential Growth - With Storage	59,346	482,308	**533,828**	**27**	**$501,798**

Corn

Corn is a new crop to this province. It requires the use of photo-degradable plastic during planting to ensure that germinating plants are not exposed to frost. This provides the corn a long enough growing season to reach maturity. Corn prefers a sandy to silt loam high in organic matter with good drainage and water retention.

Most of the sweet corn grown in the province is marketed through roadside stands and Producers are realizing a significant profit from this type of marketing. Currently, the amount of local sweet corn supplied to the wholesale market represents about 5% of the total wholesale market (see Table 7). However, as the number of acres increase and consumers become more aware of the availability of fresh sweet corn, the demand will certainly continue to increase. The opportunity to market through the Wholesalers will then become an increasingly important part of the corn industry.

Table 7: Corn	**1987**	**1994**	**2005**	**Acres**	**Value**
Wholesale Purchases (ears)	-	-	1,516,994	152	$606,798
Locally Supplied (ears)	-	-	76,072	8	$30,429
Locally Supplied (%)	-	-	5.0%	-	-
Local Market Potential (ears) - Without Storage	-	-	337,110	34	$134,844
Local Potential Growth - Without Storage	-	-	**261,038**	**26**	**$104,415**
Local Market Potential (ears) - With Storage	-	-	421,387	42	$168,555
Local Potential Growth - With Storage	-	-	**345,315**	**35**	**$138,126**

Lettuce – Head (Iceberg)

Lettuce can be grown on various soil types depending on the variety. However, all varieties require high organic matter and good drainage. Early varieties can be started in a greenhouse and later transplanted to the field. Lettuce is a crop that is not widely grown in Newfoundland and Labrador but offers good opportunity because of the return on investment since it is a high-value crop. Like celery, restaurants are always looking for fresh lettuce. Overall, head lettuce is on the decline with respect to consumer demand (see Table 8), being replaced by other types of lettuce such as romaine, leafy and bagged lettuce. However, since local head lettuce represents less than 3% of the wholesale market, there is definitely significant growth potential for this crop within the province and the rest of Atlantic Canada. Since the storage time for lettuce is short, local lettuce would only be available for a 3-4 month period.

Table 8: Lettuce - Head (Iceberg)	**1987**	**1994**	**2005**	**Acres**	**Value**
Wholesale Purchases (lbs)	5,800,000	5,200,000	2,151,721	134	$1,226,481
Locally Supplied (lbs)	308,000	260,000	59,466	4	$33,896
Locally Supplied (%)	5.3%	5.0%	2.8%	-	-
Local Market Potential (lbs) - Without Storage	1,338,462	1,200,000	496,551	31	$283,034
Local Potential Growth - Without Storage	1,030,462	940,000	**437,085**	**27**	**$249,138**
Local Market Potential (lbs) - With Storage	1,673,077	1,500,000	620,689	39	$353,793
Local Potential Growth - With Storage	1,365,077	1,240,000	**561,223**	**35**	**$319,897**

Lettuce – Romaine

The production requirement of romaine lettuce is similar to that of head lettuce. Similar to head lettuce, production of romaine lettuce in Atlantic Canada is on the rise.

Consumption of romaine lettuce at the retail level has remained relatively flat (see Table 9), whereas head lettuce has declined. The demand for romaine lettuce may increase with the increase in demand for romaine hearts. Packages of romaine hearts now represent approximately 30-35% of the romaine lettuce market and this demand is continuing to increase. The storage period for lettuce is only 3 weeks so this will allow local lettuce to be supplied to the wholesale market for approximately 15 weeks.

Table 9: Lettuce - Romaine	**1987**	**1994**	**2005**	**Acres**	**Value**
Wholesale Purchases (lbs)	-	2,000,000	1,972,009	123	$926,844
Locally Supplied (lbs)	-	100,000	58,410	4	$27,453
Locally Supplied (%)	-	5.0%	3.0%	-	-
Local Market Potential (lbs) - Without Storage	-	461,538	455,079	28	$213,887
Local Potential Growth - Without Storage	-	361,538	**396,669**	**25**	**$186,435**
Local Market Potential (lbs) - With Storage	-	576,923	568,849	36	$267,359
Local Potential Growth - With Storage	-	476,923	**510,439**	**32**	**$239,906**

Onion – Green

Green onion is not a significant opportunity but rather a niche market that a few innovative Producers may take advantage of because of the value of green onions (see Table 10). It has a short storage period and thus it would only be available for a couple of months at best.

Table 10: Onion - Green	**1987**	**1994**	**2005**	**Acres**	**Value**
Wholesale Purchases (lbs)	-	480,000	566,592	38	$1,172,846
Locally Supplied (lbs)	-		6,719	0	$13,908
Locally Supplied (%)	-		1.2%	-	-
Local Market Potential (lbs) - Without Storage	-	55,385	65,376	4	$135,328
Local Potential Growth - Without Storage	-	55,385	**58,657**	**4**	**$121,421**
Local Market Potential (lbs) - With Storage	-	73,846	87,168	6	$180,438
Local Potential Growth - With Storage	-	73,846	**80,449**	**5**	**$166,530**

Onion – Yellow

Onion is a cool season crop but is sensitive to photoperiod. It requires long days since this will enhance leaf development which directly affects bulb size. Onions should be grown in a high organic matter, well-drained soil such as sandy loams and loams without stones. Initiation in a greenhouse will extend the growing season if required and should be used for earlier varieties. Yellow onions have been grown quite successfully in this province.

This crop represents tremendous possibility from the growth potential perspective, the return on investment and cash flow opportunities. Currently, less than 3% of the yellow onion in retail stores is produced locally (see Table 11). With a storage period of up to 39 weeks, yellow onion could be supplied for 10 months of the year and supply approximately 85% of the market.

Table 11: Onion - Yellow	1987	1994	2005	Acres	Value
Wholesale Purchases (lbs)	-	7,109,180	4,684,395	335	$1,780,070
Locally Supplied (lbs)	-		112,500	8	$42,750
Locally Supplied (%)	-		2.4%	-	-
Local Market Potential (lbs) - Without Storage	-	820,290	540,507	39	$205,393
Local Potential Growth - Without Storage	-	820,290	**428,007**	**31**	**$162,643**
Local Market Potential (lbs) - With Storage	-	6,152,175	4,053,803	290	$1,540,445
Local Potential Growth - With Storage	-	6,152,175	**3,941,303**	**282**	**$1,497,695**

Parsnip

Parsnip requires a similar growing condition and soil type as carrot. Unlike carrot, parsnip no longer represents a significant opportunity within the wholesale marketplace (see Table 12). The demand for this crop has declined considerably in the past decade. However, because of the price of this crop, it does represent a profitable crop for a few Producers. The maximum storage period for parsnip is approximately 26 weeks; therefore, local parsnip could be made available for nearly 7 months.

Table 12: Parsnip	1987	1994	2005	Acres	Value
Wholesale Purchases (lbs)	1,400,000	2,600,000	327,358	42	$415,745
Locally Supplied (lbs)			48,940	6	$62,154
Locally Supplied (%)			14.9%	-	-
Local Market Potential (lbs) - Without Storage	107,692	200,000	25,181	3	$31,980
Local Potential Growth - Without Storage	107,692	200,000	**0**	**0**	**$0**
Local Market Potential (lbs) - With Storage	807,692	1,500,000	188,860	24	$239,853
Local Potential Growth - With Storage	807,692	1,500,000	**139,920**	**18**	**$177,699**

Potato – All Varieties

The wholesale market for fresh potatoes represents the biggest opportunity for Producers in this province. Fresh potato consumption in this province in 2005 was approximately 35.6 million pounds; Wholesalers imported approximately 25.6 million pounds, while NL production was approximately 10 million pounds (see Table 13). Currently, local potatoes account for only 7.1% of the potatoes marketed at the large retail stores (see Table 13). White potatoes comprise the majority of potatoes consumed but the popularity of reds and yellows continues to increase (see Table 14). Given that potatoes can easily be stored for up to 12 months, the volume of potatoes consumed in this province could easily be produced and supplied by NL Producers throughout the year.

The total production of NL potatoes in 2005 was approximately 10 million pounds. Less than 2 million pounds was supplied to the Wholesale Industry. The balance of 8 million pounds was sold at markets, roadside stands and to retail locations directly. These are significant markets for NL potatoes, but collectively, this represents only 30% of the wholesale market volume.

Table 13: Potato - All Varieties	**1987**	**1994**	**2005**	**Acres**	**Value**
Wholesale Purchases (lbs)	49,500,000	58,404,000	27,580,979	1,541	$7,998,484
Locally Supplied (lbs)	2,300,000	3,203,630	1,952,223	109	$566,145
Locally Supplied (%)	4.6%	5.5%	7.1%	-	-
Local Market Potential (lbs) - Without Storage	16,182,692	19,093,615	9,016,859	504	$2,614,889
Local Potential Growth – W/out Storage	13,882,692	15,889,985	**7,064,636**	**395**	**$2,048,744**
Local Market Potential (lbs) - With Storage	49,500,000	58,404,000	27,580,979	1,541	$7,998,484
Local Potential Growth - With Storage	47,200,000	55,200,370	**25,628,756**	**1,432**	**$7,432,339**

Table 14: Potatoes Purchased by Wholesalers in 2005			
	Total	**Local**	**Percentage**
White	22,405,967	1,706,160	7.6%
Red	4,409,343	222,071	5.0%
Yellow	746,427	12,500	1.7%
Blue	19,242	11,492	59.7%
TOTAL	**27,580,979**	**1,952,223**	**7.1%**

Another tremendous opportunity is the restaurant and institution industries within the province. These industries represent an additional 11 million acres of fresh potatoes (see Table 15). To maintain confidentiality of the information provided by companies in these industries, only the total volume is presented. Historically, almost all of these potatoes have been imported into the province.

However, the potato discussion requires much more than an examination of the wholesale opportunity to fully appreciate the potential for potatoes in Newfoundland and Labrador. For several years the generally accepted volume for potato consumption in this province was 75 million pounds. However, a number of this magnitude must include value-added potato

products. The overall volume of fresh potato consumption has declined in favour of secondary processed potatoes such as French fries and potato chips. Based upon national consumption rate averages for secondary processed potatoes, the population of this province would consume approximately 42.6 million pounds of value-added potatoes (see Table 15). This represents an extremely large opportunity for both Processors of fresh vegetables and the Producers that supply those Processors.

Table 15: NL Potato Consumption in 2005		**Pounds**
Wholesale Requirement		27,580,979
Local Supply	-	1,952,223
Imported by Wholesalers	=	25,628,757
NL Production (2005 data: 600 ac X 166.7 cwt/ac)	+	10,002,000
Wholesale and Retail Consumption	=	**35,630,757**
Institutions and Restaurants	+	11,104,000
Total Fresh Consumption	=	**46,734,757**
2004 Stats Canada Processed Conversion	+	42,629,262
Total NL Fresh and Processed Potato Consumption	=	**89,364,019**
Acreage Equivalent (17,900 lbs/ac)		**4,992**

In summary, the fresh potato market in this province represents approximately 46.7 million pounds which equates to 2,611 acres (assuming a 5-year yield average of 17,900 pounds per acre). The number of acres planted in 2005 was 700 (with 600 acres harvested). Therefore, the consumption capacity for fresh potatoes in this province is over 4 times the current harvested volume. The value-added market represents another 42.6 million pounds which equates to an additional 2,381 acres of potato production. Of this number, frozen French fries comprise 14.8 million pounds (or 828 acres) and chips represent 13.3 million pounds (or 745 acres). Capitalizing on this market potential will obviously require the appropriate processing facilities.

Rutabaga (Turnip)

Similar to many of the traditional root vegetables, rutabaga consumption in this province has declined to some extent. However, the rutabaga, or what we generally refer to as turnip in NL, represents an excellent opportunity from many perspectives since only 24% of the turnip in retail locations is produced locally (see Table 16). Most Producers in this province have an abundance of experience growing turnip. Therefore, it would be easy for these Producers to expand the acreage of turnip grown to meet the needs of the Wholesale Industry. In addition, with the storage capacity of local turnip could be supplied for 38 weeks of the year representing approximately 75% of the market, which is 3 times the amount of turnip currently being supplied. However, to satisfy the needs and requirements of the Wholesale Industry, Producers must develop an on-farm strategy that will allow for consistent quality and size of turnip harvested.

Table 16: Rutabaga (Turnip)	**1987**	**1994**	**2005**	**Acres**	**Value**
Wholesale Purchases (lbs)	9,000,000	6,788,750	4,533,288	254	$1,903,981
Locally Supplied (lbs)	3,000,000	2,097,750	1,089,411	61	$457,553
Locally Supplied (%)	33.3%	30.9%	24.0%	-	-
Local Market Potential (lbs) - Without Storage	2,076,923	1,566,635	1,046,143	59	$439,380
Local Potential Growth - Without Storage	0	0	**0**	**0**	**$0**
Local Market Potential (lbs) - With Storage	6,576,923	4,961,010	3,312,787	186	$1,391,371
Local Potential Growth - With Storage	3,576,923	2,863,260	**2,223,376**	**125**	**$933,818**

Tomato - Field

The field tomato potential in this province represents a small, niche opportunity (see Table 17) and is included in this discussion for comparative purposes with greenhouse tomatoes. Certainly, greenhouse tomatoes (discussed further in this document) represent a much greater opportunity; although, this still may represent an opportunity for a few innovative Producers looking for alternative crops.

Table 17: Tomato - Field	**1987**	**1994**	**2005**	**Acres**	**Value**
Wholesale Purchases (lbs)	-	-	1,071,484	107	$428,594
Locally Supplied (lbs)	-	-	39,274	4	$15,710
Locally Supplied (%)	-	-	3.7%	-	-
Local Market Potential (lbs) - Without Storage	-	-	164,844	16	$65,937
Local Potential Growth - Without Storage	-	-	**125,570**	**13**	**$50,228**
Local Market Potential (lbs) - With Storage	-	-	247,266	25	$98,906
Local Potential Growth - With Storage	-	-	**207,992**	**21**	**$83,197**

Field Vegetable Summary

Table 18 provides a summary of the 15 vegetables discussed above that are currently supplied to the Wholesale Industry. As indicated, the approximate 5 million pounds of produce would require about 320 acres and represent a total value of over $1.8 million.

Table 18: Summary of the Currently Supplied Vegetables for the Wholesale Industry.

	Amount Supplied (lbs)	Required Acres	Estimated Value
Beet	17,374	2	$8,513
Broccoli	241,635	27	$115,985
Cabbage	665,742	38	$219,695
Carrot	523,625	43	$188,505
Cauliflower	56,860	5	$21,038
Celery	12,936	0.6	$12,160
Corn	76,072	8	$30,429
Lettuce - Head (Iceberg)	59,466	4	$33,896
Lettuce - Romaine	58,410	4	$27,453
Onion - Green	6,719	0.4	$13,908
Onion - Yellow	112,500	8	$42,750
Parsnip	48,940	6	$62,154
Potato - All Varieties	1,952,223	109	$566,145
Rutabaga (Turnip)	1,089,411	61	$457,553
Tomato - Field	39,274	4	$15,710
TOTAL	**4,961,187**	**320**	**$1,815,892**

In comparison, Table 19 indicates the potential these same 15 vegetables represent, assuming full storage capacity and capability and thereby providing vegetables for the longest possible period throughout the year. The potential volume at the wholesale level is over 45 million pounds representing nearly 2,800 acres and a value of over $15 million.

Table 19: Summary of Field Grown Vegetable Potential for the Wholesale Industry.

	Wholesale Potential (lbs)	Required Acres	Estimated Value
Beet	30,559	4	$14,974
Broccoli	934,660	104	$448,637
Cabbage	2,933,710	168	$968,124
Carrot	3,146,786	258	$1,132,843
Cauliflower	490,919	43	$181,640
Celery	546,764	27	$513,958
Corn	421,387	42	$168,555
Lettuce - Head (Iceberg)	620,689	39	$353,793
Lettuce - Romaine	568,849	36	$267,359
Onion - Green	87,168	6	$180,438
Onion - Yellow	4,053,803	290	$1,540,445
Parsnip	188,860	24	$239,853
Potato - All Varieties	27,580,979	1,541	$7,998,484
Rutabaga (Turnip)	3,312,787	186	$1,391,371
Tomato - Field	247,266	25	$98,906
TOTAL	**45,165,186**	**2,791**	**$15,499,379**

The information contained in Tables 18 and 19 is graphically represented in Figures 6 and 7 to provide a straightforward visual assessment of the data. Figure 6 contains root and other traditional crops except for potato. Potato was excluded from the graph since its inclusion would minimize the other crops within the chart and make it difficult to visualize the differences. Within Figure 6 it is relatively easy to appreciate that rutabaga, cabbage, carrot and yellow onion have the greatest potential for Producers for the Wholesale Industry within the province; whereas, parsnip, beet and green onion represent very little potential. Yellow onion, followed by carrot, represents the greatest growth potential within the wholesale marketplace, after potato.

Figure 6: Current and Potential Root and Traditional Vegetable Market (minus Potato).

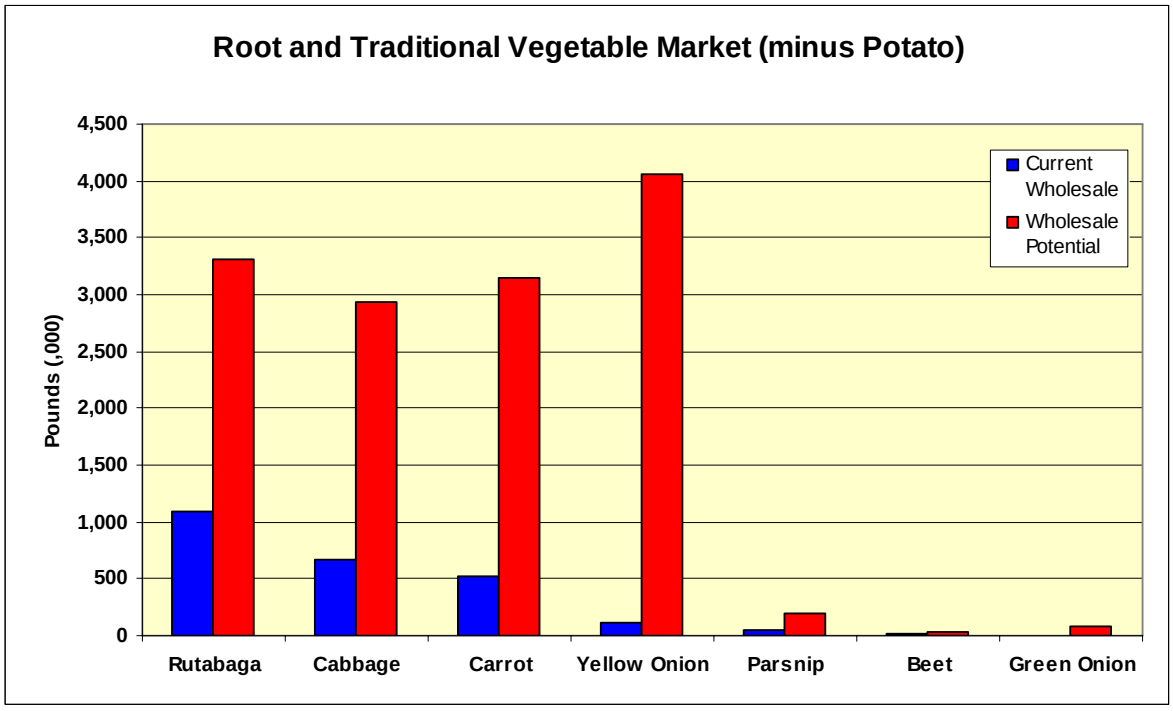
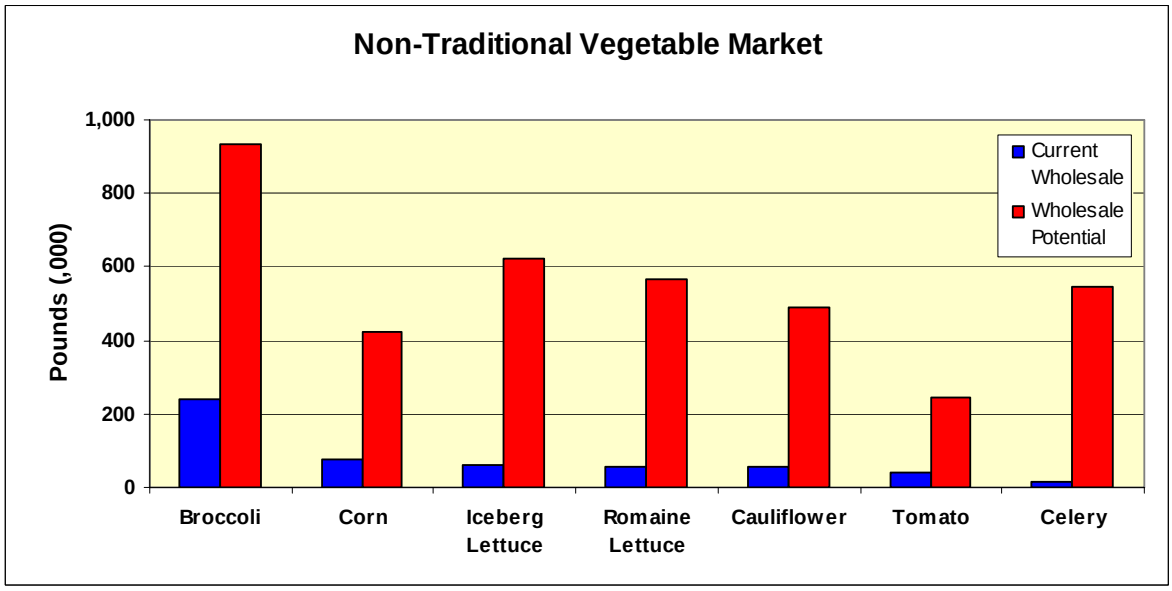


Figure 7 contains non-traditional vegetables and are illustrated in a separate graph form the crops in Figure 6 to provide an easier visualization of the data because of the difference in scale of volume required by the Wholesale Industry. Figure 7 illustrates that broccoli, lettuces, cauliflower and celery have the greatest potential for local Producers within the wholesale marketplace; whereas, corn and field tomato represent a smaller potential. Broccoli has the greatest growth potential within this group of vegetables.

Figure 7: Current and Potential Non-Traditional Vegetable Market.



Along with the wholesale potential, various forms of farm markets, roadside stands, restaurants and institutions represent an additional significant opportunity. Again to ensure confidentiality of information provided by suppliers for the restaurant and institution industries, the information has been presented collectively as current and potential markets. The total current and potential market for the various retails, restaurants and institutions represents approximately 1,900 acres and over $10 million (see Table 20). As with potatoes, the majority of fresh vegetables marketed to restaurants and institutions are imported into the province. This represents an estimated value of between 5 and 6 million dollars and the equivalent of approximately 1,100 acres of the six traditional crops as described in Table 20.

Table 20: Summary of Current and Potential Supply of Vegetables for Markets, Retail & Institutions.

	Current and Potential Supply (lbs)	Required Acres	Estimated Value
Beet	367,876	48	$180,259
Cabbage	2,932,033	168	$967,571
Carrot	3,408,475	279	$1,227,051
Parsnip	28,990	4	$36,817
Potato	19,153,777	1,070	$5,554,595
Rutabaga (Turnip)	5,658,089	317	$2,376,397
TOTAL	**31,549,240**	**1,886**	**$10,342,691**

In summary, the total wholesale market opportunity for these 15 field grown vegetables represents approximately 45 million pounds of product which is equivalent to about 2,800 acres and 15.5 million dollars (see Table 21). In addition to the wholesale market, the retail, institution and secondary processing opportunity represents another 74.5 million pounds of produce, the equivalent of approximately 3,900 acres and $36 million (see Table 21). The secondary processing calculation is based upon the secondary processing number for potato (refer to Table 15) and approximately 350,000 pounds for carrot, as discussed above.

Therefore, this portion of the vegetable industry of the province has the potential to grow to approximately 6,700 acres with an equivalent value of 35.8 million dollars if the appropriate storage and processing facilities are available.

Table 21: Summary of Current and Potential Markets for Selected Field Grown Vegetables.

	Current and Potential Supply (lbs)	Required Acres	Estimated Value
Wholesale Market	45,165,186	2,791	$15,499,379
Retail, Institutions and Secondary Processing	74,542,131	3,914	$20,309,056
GRAND TOTAL	**119,707,317**	**6,705**	**$35,808,435**

Greenhouse Vegetables

To understand the full potential for vegetables in this province, it is important to consider greenhouse production. This section provides an overview of the potential markets for various greenhouse crops.

Situational Analysis

In April of 2006, the Vegetable IAS Committee met with the 2 largest grocery wholesalers in the province, namely Dominion and Sobeys. Both organizations indicated a commitment to buy locally grown produce. In conversations with both companies, there was an indication that fresh produce such as tomatoes, peppers, lettuces (head, romaine and leafy) would be commodities that they would be very interested in purchasing locally since this would increase the freshness aspect of the produce when it arrived at the retail locations. Dominion indicated that there is certainly significant opportunity for various lettuces such as romaine, iceberg and leafy.

Both organizations have also indicated that they are willing to pay local producers the equivalent amount of money as they do for imported produce. The effect is that the price available to Newfoundland and Labrador producers is the same as the price paid for produce on the mainland plus the freight charges to deliver the produce to this province. Dominion and Sobeys also indicated a willingness to promote locally grown vegetables in their advertising. They have also indicated that they require consistent quality and a consistent level of supply to operate successfully with local producers. Given the short growing season in Newfoundland, the greenhouse approach to supplying vegetables may ultimately be the best solution for consistent supply and managing quality is simpler in a closed environment such as a greenhouse. Also, both organizations indicated that transportation costs are high for local producers. Therefore, it is imperative that any new operation be located within easy access to the wholesalers, either by close proximity to the warehouses or economical transportation.

Consumer trends for vegetable consumption have been changing in this province, particularly in the St. John's region. The traditional root vegetable market is on the decline, while vegetables such as broccoli, cauliflower, tomatoes and lettuces are on the rise. There is a definite need for these types of vegetables in the province. In addition to the wholesale market, the restaurant industry has indicated a desire to purchase locally grown produce such as broccoli, cauliflower, tomatoes and lettuces since they find it difficult to obtain extremely fresh produce that is suitable to serve to their clientele. The Fairmont in St. John's is one such restaurant.

Overall, there is significant potential for locally grown greenhouse produce in this province with markets that are available and eager to develop an ongoing relationship. New start-up greenhouse operations will require assistance, both technically and financially, but the return on investment will be realized quickly with the opportunity to increase the operation and the business.

Provincial Background

In 2003, Statistics Canada reported 75 greenhouse operations in Newfoundland. There were 59,177 square metres (637,000 square feet) of greenhouse space in production. Approximately 82 per cent of greenhouse space is used in the production of floriculture products which has grown 150 per cent in the past 10 years. Total sales were $8.4 million. The main crops grown are ornamental bedding plants, potted plants and vegetable transplants.
With respect to vegetable production, Coastal Growers of Burgeo, NL have been growing greenhouse tomatoes successfully for approximately 7 years. Currently they are selling the majority of their crop to Dominion stores along the west coast of Newfoundland. The biggest hurdle for Coastal Growers is the cost of transportation from Burgeo to its major markets.

Greenhouse Crops

Table 24 is a summary of the vegetables mentioned by the Wholesalers that are appropriate for greenhouse production in this province. Only 4 of the 7 crops mentioned by the Wholesalers are produced locally with leafy lettuce being the only crop that is grown to any extent. The potential market for each crop is calculated by considering the number of potential crop cycles annually (see Appendix 4) and assuming that production will occur for 9 months of the year since operating costs may be too high to be competitive during the coldest months of the year. The mushroom numbers are based upon a full year of production since mushrooms do not require a typical greenhouse but do require special houses equipped with ventilation and production occur throughout the year. The estimated value for each crop is calculated using prices quoted by InfoHort (see Appendix 4). Therefore, the market potential for these particular greenhouse crops is over $6.4 million. This makes the total combined potential for the vegetable industry in this province at over $42 million.

The estimated production area quoted for each crop is determined using average figures for greenhouse production in other areas, particularly British Columbia (see Appendix 4). This provides an approximation of the amount of greenhouse area required to produce the amount of respective crop.

Table 24: Potential Wholesale Market for Greenhouse Crops.

	Wholesale Purchases (lbs)	Locally Supplied (lbs)	Percent	Potential Market (lbs)	Estimated Value	Estimated Production Area (sq ft '000)
Cucumber	460,651	10,060	2.2%	307,254	$485,462	15
Lettuce - Leafy	430,344	95,300	22.1%	322,758	$316,303	34
Mushrooms	1,015,484	0	0.0%	1,015,484	$2,366,078	59
Pepper - Green	733,690	10,400	1.4%	550,268	$946,460	92
Pepper - Coloured	535,117	0	0.0%	401,338	$995,318	67
Tomato - Standard	1,071,484	39,274	3.7%	803,613	$867,902	80
Tomato - Cherry/Grape	184,040	0	0.0%	138,030	$445,837	35
TOTAL					**$6,423,359**	**382**

Given the above parameters, mushrooms represent the largest potential for production quantity and value. It is important to understand that "mushroom production is both an art and a science with many complex and distinct stages". It is crucial that cultural experience be acquired on an existing farm before venturing into mushroom production.

Peppers, collectively, represent the second largest potential from both financial and production volume perspectives. However, most greenhouse operations in this country supply coloured peppers due to the increased value and profitability. Standard tomatoes also represent a high value crop with significant potential in this province. Cherry/grape tomatoes are also a high value crop; however, the profitability is reduced because of the high labour costs associated with harvesting the cherry tomatoes. In fact, most cherry tomato production occurs in Mexico due to the lower wages.

As with mushrooms, it is highly recommended that experience be acquired in existing greenhouses prior to the establishment of a new production facility. In addition, it may be prudent to begin a new facility with tomatoes since this crop is relatively easier to manage than other greenhouse crops and will provide the necessary expertise before expanding into additional crops.

Additional Information

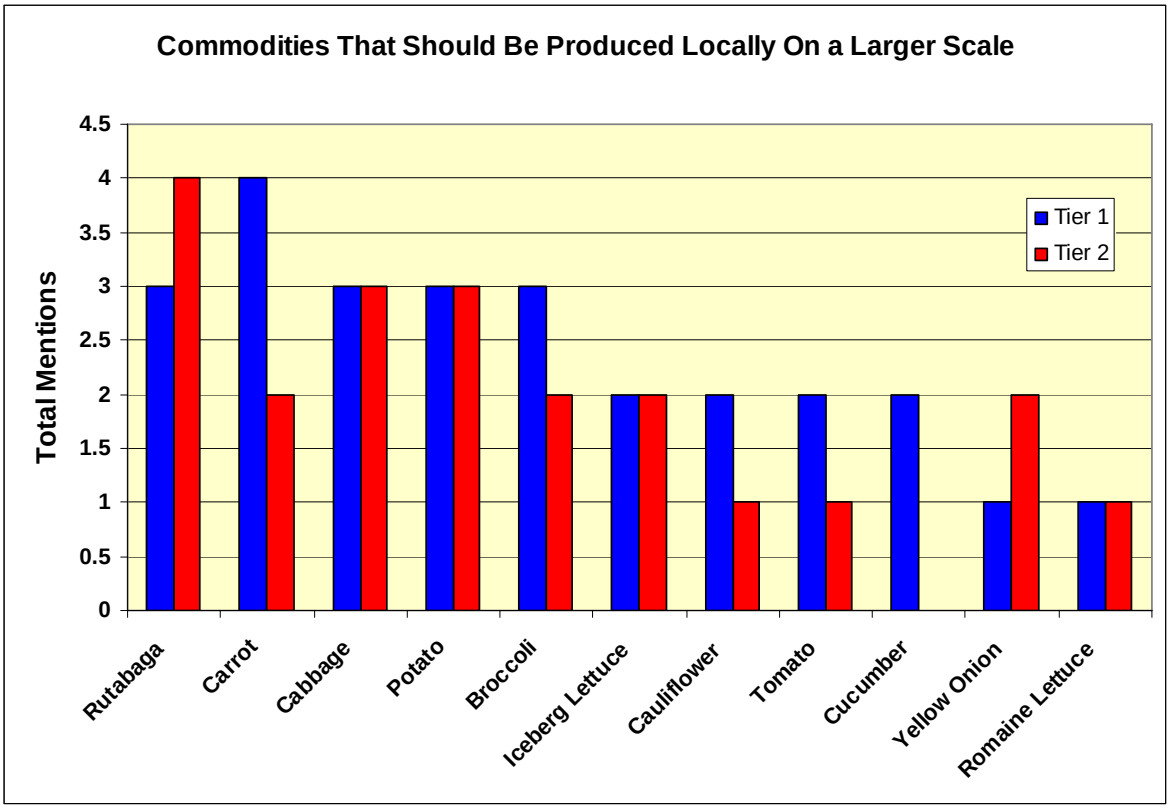
The following is a summary of the responses from the Wholesaler's survey regarding their perspective on various issues related to the vegetable industry in this province.

In the graphs that follow, the information for the Wholesalers has been sub-divided into Tier 1 and Tier 2. Tier 1 is comprised of the large Wholesalers of the province, namely Dominion, Sobeys, Coleman's and Co-op Atlantic. This group represents 92.6% of the volume and 93.5% of the dollar value of vegetables moving through the wholesale system in this province. Tier 2 is comprised of the remaining Wholesalers that participated in the study, namely Andrews Wholesale Ltd., Atlantic Grocery Distributors Ltd., Fowlows Atlantic Wholesale Ltd. and Multi-Foods Ltd. Collectively, this represents the majority of wholesale activity in the province. Individual scores have been combined to maintain confidentiality for each Wholesaler.

Production Requirements

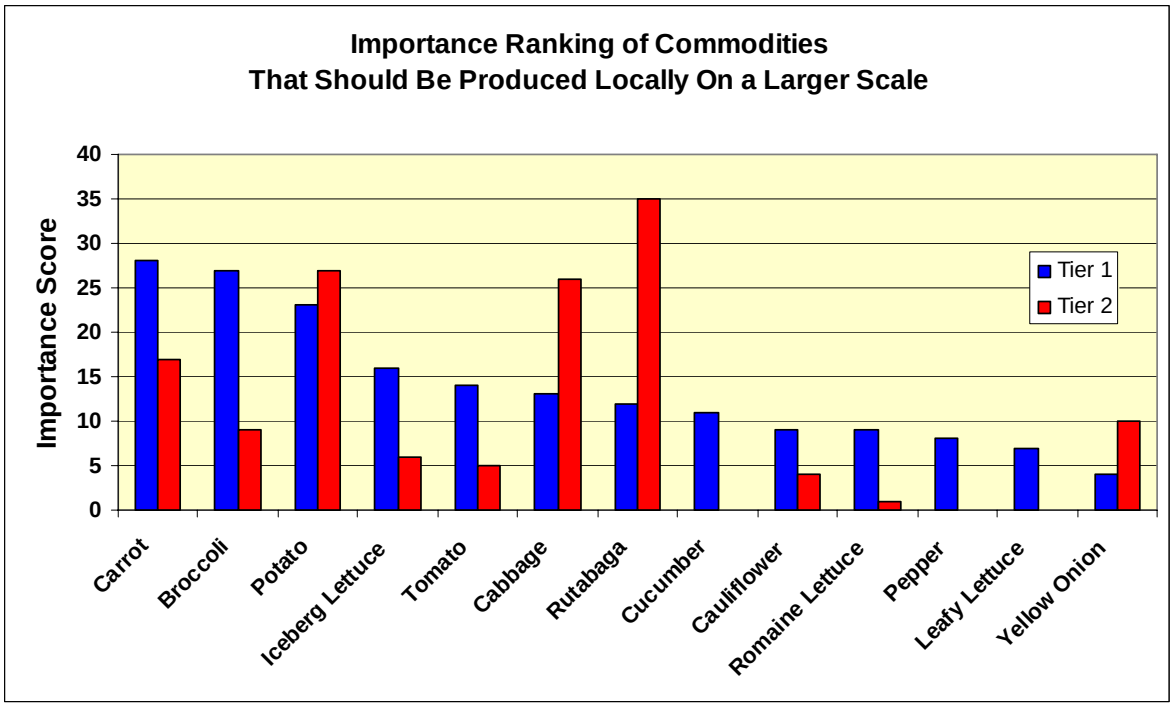
When asked, "Which commodities do you feel should be locally (NL) produced on a larger scale?" the Wholesalers all agreed that the province should be producing more traditional / root vegetables. Tier 1 Wholesalers indicated that carrot was the number one vegetable that should be produced on a larger scale locally, while the Tier 2 Wholesalers indicated rutabaga (see Figure 8). However, collectively, rutabaga was the number one vegetable followed equally by carrot, cabbage and potato.

Figure 8: Commodities That Should Be Produced On a Larger Scale – Wholesale Perspective.



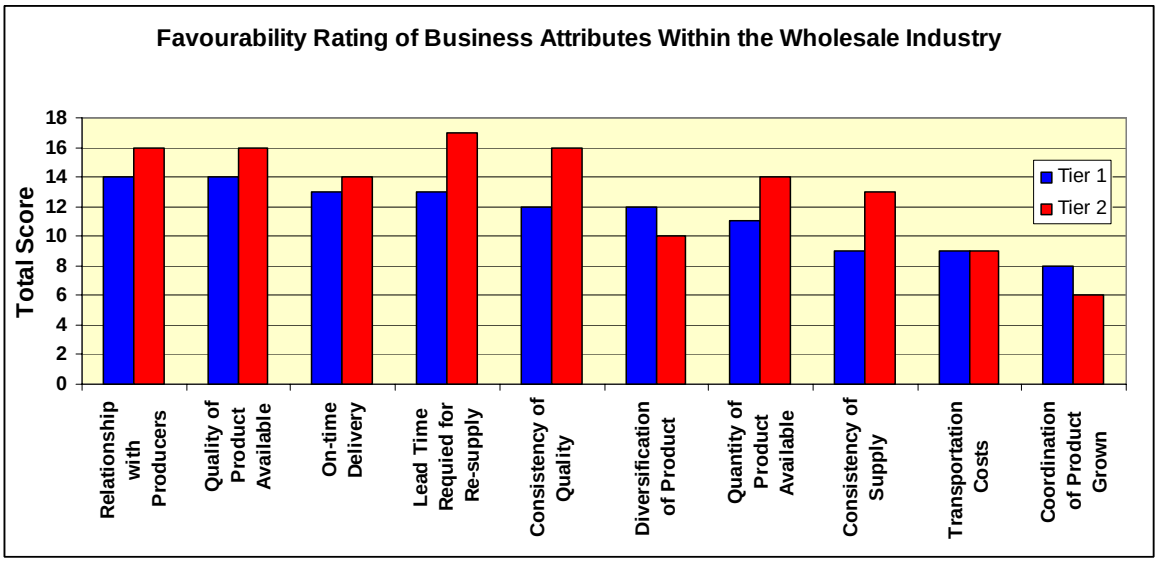
The Wholesalers were asked to provide this information in order of importance. Figure 9 illustrates the importance ranking of the vegetables the Wholesalers believe should be produced on a larger scale locally. The Tier 1 Wholesalers indicated that carrot, broccoli and potato were the most important vegetables, respectively, while Tier 2 Wholesalers indicated that rutabaga, potato and cabbage were the most important vegetables, respectively (see Figure 9). Collectively, potato was number one, followed by rutabaga, carrot, cabbage and broccoli, respectively.

Figure 9: Importance Ranking of Commodities – Wholesale Perspective.



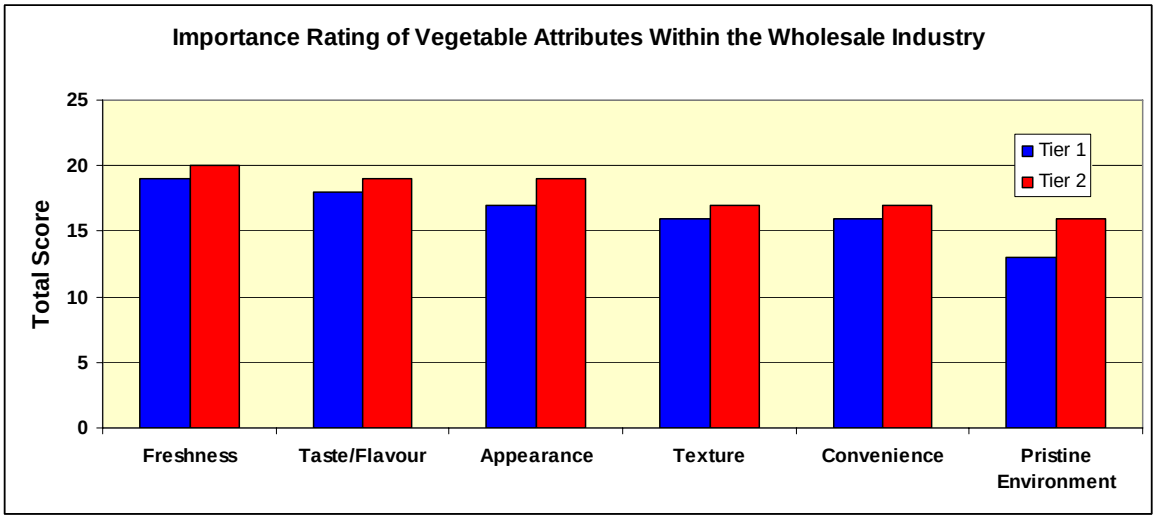
The Wholesalers were then asked to rate on a scale of 1 to 5 several business attributes related to local (NL) produce. Figure 10 depicts the collective summary of the responses. Tier 1 Wholesalers indicated that the relationship they had with Producers was very favourable, as was the quality of product available. This was followed by on-time delivery and lead time required for re-supply. Alternatively, Tier 2 Wholesalers indicated that the most favourable attribute was the lead time required for re-supply (see Figure 10). This was followed by the relationship with Producers, the quality of product available and the consistency of quality. Collectively, the top three attributes were relationship with Producers, quality of product available and lead time required for re-supply. Consistency of quality was the fifth attribute specified by Tier 1 Wholesalers. This corresponds to the information provided by the large Wholesalers in recent years whereby consistent quality is one of two key attributes required to develop a strong relationship with local Producers. The other attribute is consistent supply which both the Tier 1 and Tier 2 Wholesalers rated 8th in the favourability rating.

Figure 10: Favourability Rating of Business Attributes Within the Wholesale Industry.



The Wholesalers were also asked to rate vegetable attributes as they relate to consumer purchase behaviour of NL produce. Figure 11 illustrates the responses from the Wholesalers. Both Tier 1 and 2 Wholesalers agree that freshness is the most important attribute influencing consumer purchase behaviour. This is followed closely by taste/flavour and appearance, respectively (see Figure 11).

Figure 11: Importance Rating of Vegetable Attributes Within the Wholesale Industry.



Wholesalers were also asked the following questions:

"If you had a choice, what would be your preferred method of conducting business with local (NL) vegetable Producers?"

Tier 1 Wholesalers were divided between 'on an individual basis or through a co-operative', and 'through an orderly marketing infrastructure (e.g. vegetable marketing board)'. Tier 2

Wholesalers were divided between 'on an individual basis' and 'through a co-operative' only and did not indicate the desire to conduct business 'through an orderly marketing infrastructure'.

"In the past 20 years or so, prices paid for certain commodities have remained relatively flat. In your opinion, is there a way to increase the value of commodities grown in this province?"

- Increase quality, packaging and consistency
- People will pay for quality but a turnip is a turnip
- Prices have increased due to transportation and other expenses
- Value-added – processed or convenience (baby carrots / bagged salads)
- No – already paying same as landed price
- Promote healthier versus imported / freshness
- NL Farmers should get prices based on central market

"In general, would you say that Producers in this province receive a higher, lower or the same price for their vegetables than produce coming into the province?"

Most Tier 1 Wholesalers indicated that NL Producers receive the same price while one indicated a higher price due to lack of freight costs. Tier 2 Wholesalers all indicated that NL Producers receive a higher price for their vegetables, except for one that indicated a lower price due to late harvest dates.

"Why?" (All mentions.)

Higher price

- Don't have freight costs - 1
- Same as landed price for local - 2
- Cost of production - 1

Same price

- Quality - 1
- Harvest date - 1
- Same as landed price for local - 1

Lower price

- Harvest date - 1

"Comment on the promotion of locally (NL) grown produce:"

Quality of promotions:

- Very limited
- TV ads well done
- Use more TV with real Farmers
- Poor
- Usually very good

Quantity of promotions:

- Very limited
- Okay
- Do the peak season vegetables every week
- Poor
- Very little
- Not enough

Suggestions to more efficiently increase consumer awareness and sales of local produce:

- Work closer with Wholesalers / Marketing Officer
- In-store signage and handouts
- Clearly identify locally grown product – brand loyalty
- Increase consumer awareness / common logo / marketing board would allow common promotions
- See very little ads for local
- Grown right here

"Do you purchase any secondary processed vegetables from local (NL) Producers?"
All Wholesalers indicated '**NO**'.

"Do you see the secondary processed vegetable segment growing in the future?"
The majority of Wholesalers indicated that there was the potential for this segment to grow, although 2 Wholesalers did disagree and one indicated that it was not applicable.

"If yes, how?"

- Baby carrots / bagged salads
- People in a hurry / convenience
- Pre-cut and processed vegetable market will continue to grow
- Depends on what happens

"How could NL Producers modify their present business practices to ensure a better working relationship with local Wholesalers?"

- Comply with industry standards / communication with other Producers / diversified products
- Producers producing too much at one time – consumption going down
- Diversify – proactive with harvest dates and product availability / better packaging
- Common specifications – consolidate larger volumes and ship to Retailers
- Awareness of consumer demand and assurances for health and safety
- No back-dooring / advertising of company
- No back-dooring – most stores support local
- Attend conferences

Food Safety

Food Safety is an industry initiative where there is significant difference between the Wholesalers. The level of HACCP or HACCP-based compliance ranges from implementation in process to no immediate plans for introduction of the necessary protocols. For instance, Sobeys has already generated its own on-farm food safety compliance correspondence with Producers that conduct business with Sobeys.

When asked, **"When will your wholesale operation become HACCP compliant for vegetable processing?"** The responses ranged from HACCP already implemented to implementation will occur after 36 months to unknown or not applicable.

The Wholesalers were then asked, **"How will HACCP affect direct sales from Producers to individual retail locations?"** Tier 1 Wholesalers indicated that either most direct sales have already been phased out (except for perishables such as greens and strawberries) or will be phased out. Tier 2 Wholesalers indicated that either no decision has been made yet or that it is unknown or not applicable.

Wholesalers were also asked the following questions:

"As part of the Food Safety Initiative, will Producers be required to participate in the On-farm Food Safety Program in order to do business with your organization?"

Tier 1 Wholesalers were split in their response to this question. Only one Tier 2 Wholesaler responded with an affirmative, while another indicated not applicable and the others did not answer.

"Does your organization require any of the following information from Producers as part of the Food Safety Initiative?"

- Water quality at field and packinghouse
- Practices regarding the use of manure and/or municipal sludge
- Use of crop protection chemicals or integrated pest management
- Pesticide residues
- Field and packinghouse worker sanitation and hygiene
- Field and packinghouse sanitation
- Transportation sanitation
- Government or third-party inspection and/or certification of fields and packinghouses
- Field records
- Proof of recall capability

Essentially, those that indicated yes to the previous question also indicated that Producers would need to conform to these information requirements as part of the condition of conducting business with the respective Wholesaler.

"As part of the Food Safety Initiative, will Producers be required to have liability insurance in order to do business with your organization?"

Again, the Wholesalers were split in the response to this question. Those that responded yes indicated that the amount of liability insurance required would range from 1 to 2 million dollars.

"In your opinion, do you believe that your organization will be able to continue to do business directly with individual Producers in the future?"

Tier 1 Wholesalers were split in their responses between yes and limited. Tier 2 Wholesalers indicated yes, no, limited and not applicable.

"As part of the Food Safety Initiative, will Co-ops distributing primary produce be required to be HACCP-based in order to do business with your organization?"

All Tier 1 Wholesalers indicated yes, while Tier 2 Wholesalers were split in their response between yes and no.

"Does your organization require any of the following information from Co-ops as part of the Food Safety Initiative?"

- Water quality at field and packinghouse
- Practices regarding the use of manure and/or municipal sludge
- Use of crop protection chemicals or integrated pest management
- Pesticide residues
- Field and packinghouse worker sanitation and hygiene
- Field and packinghouse sanitation
- Transportation sanitation
- Government or third-party inspection and/or certification of fields and packinghouses
- Field records
- Proof of recall capability

Two of the Tier 1 Wholesalers indicated yes to all of the above, while one indicated that some of the above attributes would be required. The fourth Tier 1 Wholesaler indicated that the attributes were not applicable at this time. Two of the Tier 2 Wholesalers were split in their response to these attributes; the Wholesaler that indicated yes to the previous question answered in the affirmative. The remaining two Tier 2 Wholesalers indicated that the attributes were not applicable at this time.

"As part of the Food Safety Initiative, will Co-ops be required to have liability insurance in order to do business with your organization?"
Only two of the Tier 1 Wholesalers answered this question and they were split in their response. Tier 2 Wholesalers were split between an affirmative response and not applicable. Those that responded yes indicated that the amount of liability insurance required would range between 1 and 2 million dollars.

Direct Marketing

The Wholesalers were asked to comment on the following for NL Producers:

Farmers' markets:
- All will need food safety practices
- Good idea – works on the mainland
- There is need for more

Roadside stands/farm gate sales:
- All will need food safety practices
- Good for rural areas
- There is need for more
- Great – target tourists
- Consumer driven

Door-to-door sales:
- All will need food safety practices
- Many people do not open doors to strangers
- Not feasible for the Farmer
- Don't agree
- Not much happening

Demographics

Most of the Wholesalers conduct business throughout the entire province; however, a couple of the Wholesalers carry out their business on a regional basis. Overall, the Wholesalers represent significant employers within the wholesale portion of their respective operations. The number of employees ranges from 6-20 within an organization to as many as 101-250 employees.

The Wholesalers were asked, **"What percentage would you say local (NL) produce would be of the total annual vegetable sales within your organization?"** Three of the Tier 1 Wholesalers indicated 0 – 10%, while the fourth indicated 11 – 20%. A similar response was acquired from the Tier 2 Wholesalers with three indicating 0 – 10% and the fourth indicating 21 – 30%. This was confirmed with the detailed responses from the first part of the survey that dealt with the individual vegetables.

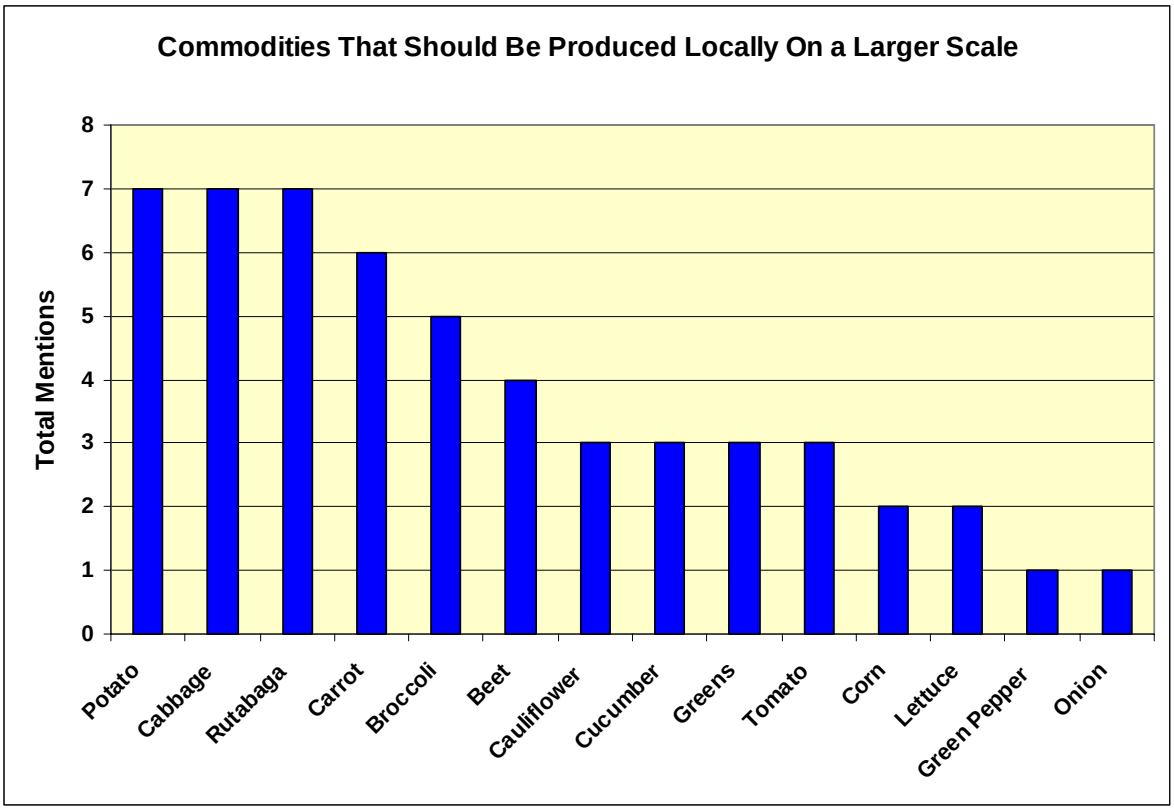
RETAILER PERSPECTIVE

The Retailer survey was conducted with Retailers across the island portion of the province. The corporate organization of retail locations has not changed dramatically in the past decade; although, there have been name changes as corporate mergers have occurred. The intent of the second tier of this report was to determine the outlook and perceptions of the vegetable industry from the Retailer's perspective and to review their current relationships with Producers.

Production Requirements

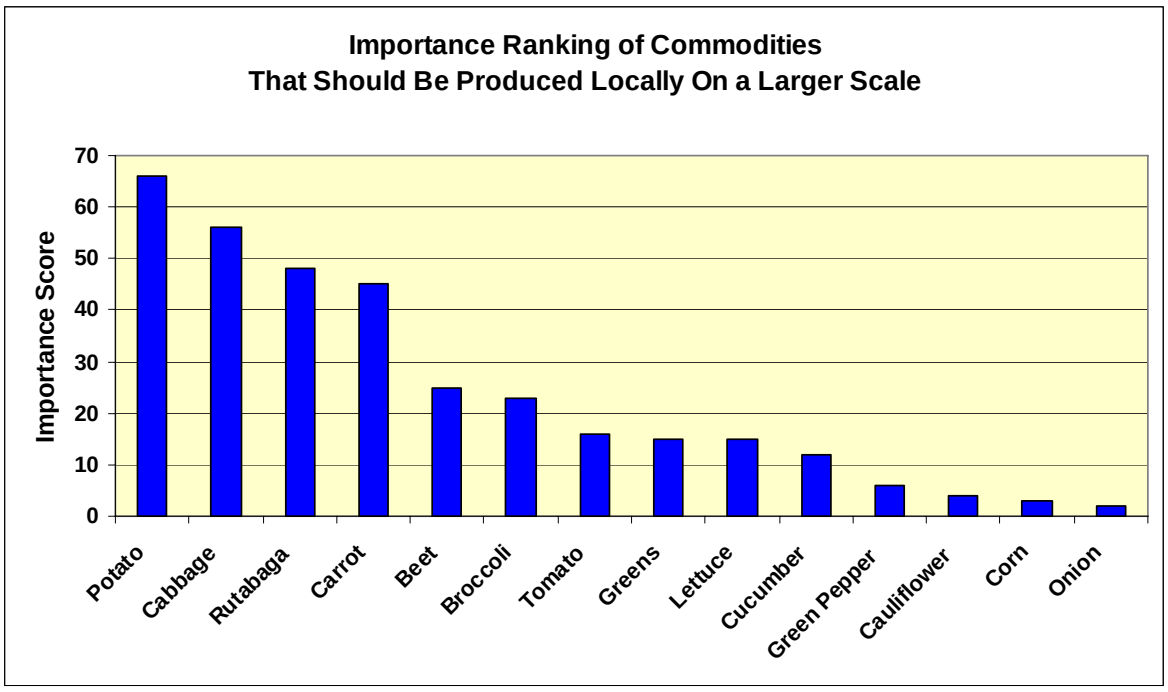
Overall, Retailers believe that potato, cabbage and rutabaga are the top vegetables that should be produced locally on a greater scale (see Figure 12). This differs from the Wholesalers who indicated that rutabaga was the number one. Carrot completes the top 4 vegetables. This is similar to the Wholesaler's top four vegetables that should be produced locally on a greater scale. Also, again comparable to the Wholesalers, Retailers indicated that broccoli was an important vegetable that should have increased production in the province.

Figure 12: Commodities That Should Be Produced Locally On a Larger Scale – Retail Perspective.



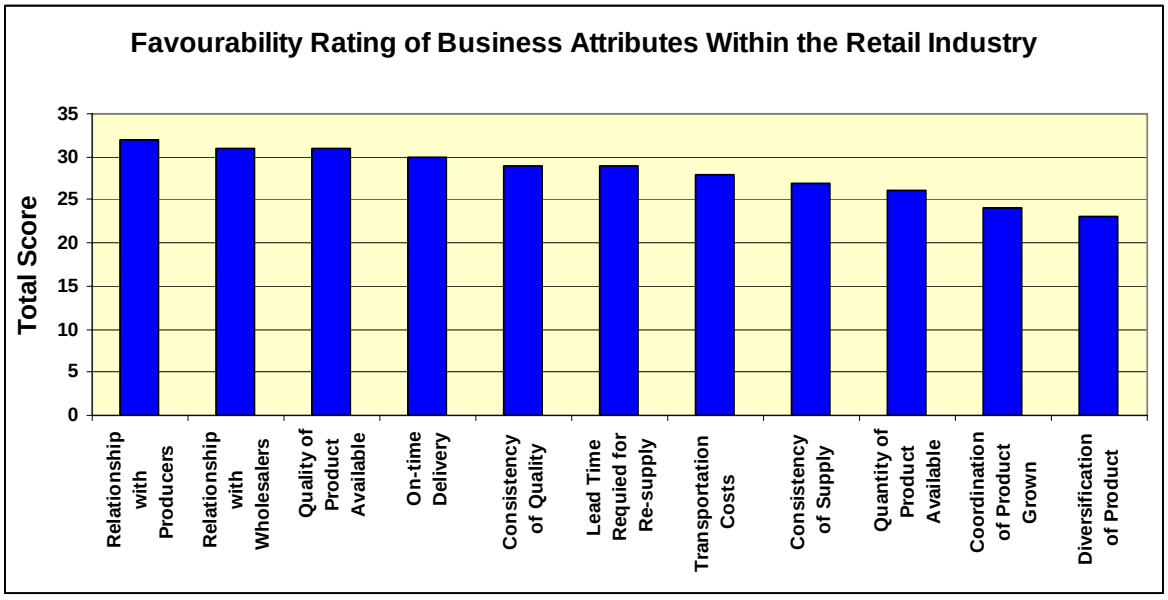
The Retailers were also asked to provide this information in order of importance (see Figure 13). The responses essentially mirrored the responses from the total mentions above; specifically, potato, cabbage, rutabaga and carrot were the top four. However, beet replaced broccoli for the fifth position while the most notable exception between total mentions and importance score was cauliflower.

Figure 13: Importance Ranking of Commodities – Retail Perspective.



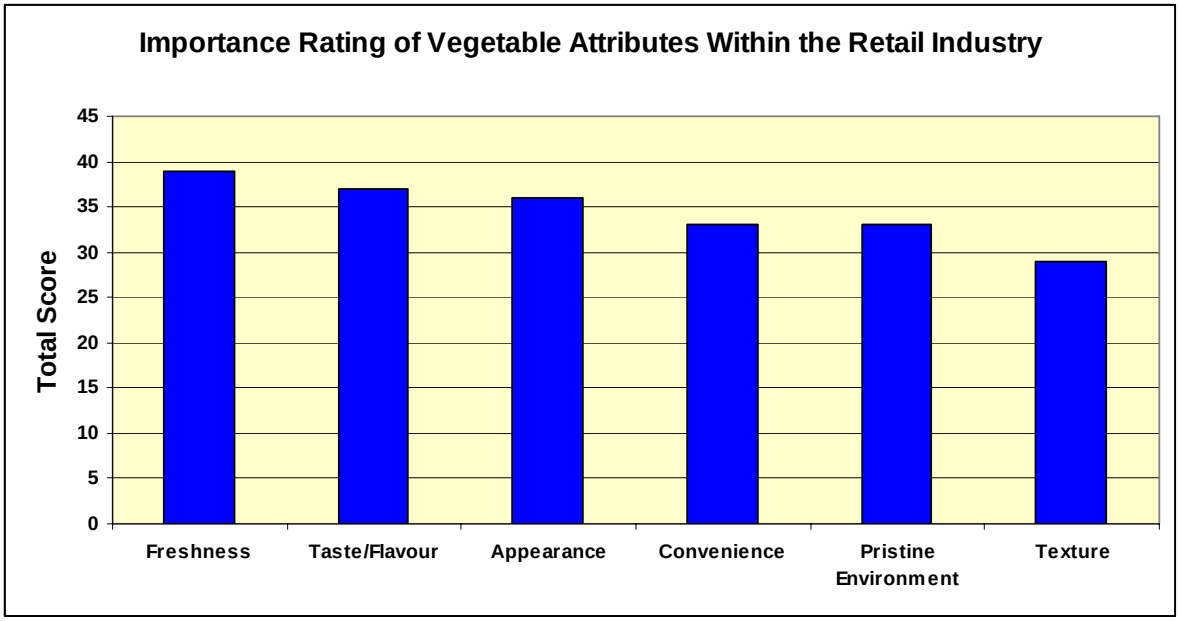
The Retailers were then asked to rate on a scale of 1 to 5 several business attributes related to local (NL) produce. Figure 14 depicts the collective summary of the responses. The Retailers indicated that the relationship they had with both Producers and Wholesalers was very favourable as was the quality of product available (see Figure 14). Lead time required for re-supply was ranked 5th (along with consistency of quality) which differs from the collective responses from the Wholesalers which had this ranked as one of the top attributes.

Figure 14: Favourability Rating of Business Attributes Within the Retail Industry.



The Retailers were also asked to rate vegetable attributes as they relate to consumer purchase behaviour of NL produce. Figure 15 illustrates the responses from the Retailers. Retailers agree with Wholesalers in that freshness is the most important attribute followed closely by taste/flavour and appearance, respectively (see Figure 15). However, Retailers believe that texture is not as important as convenience and pristine environment; whereas, Wholesalers ranked this particular attribute as fourth.

Figure 15: Importance Rating of Vegetable Attributes Within the Wholesale Industry.



Retailers were also asked the following questions:

"If you had a choice, what would be your preferred method of conducting business with local (NL) vegetable Producers?"
All but one Retailer indicated that they would prefer to deal with Producers on an individual basis. The remaining Retailer had no preference.

"In the past 20 years or so, prices paid for certain commodities have remained relatively flat. In your opinion, is there a way to increase the value of commodities grown in this province?"

- Clear more land – grow different commodities
- Buy local – don't let mainland dictate price
- Hard to increase value when cheaper from mainland
- More advertisements and government help to help Farmers compete with imports

"In general, would you say that Producers in this province receive a higher, lower or the same price for their vegetables than produce coming into the province?"
Most Retailers believe that Producers receive the same price; although, two believe the price is higher while one believes it is lower.

"Why?" (All mentions.)

Higher price
- Quality - 2
- Local produce always better - 1
- Supply - 2
- Packaging - 1

Same price
- Harvest date - 3
- One set price - 1
- Supply - 1

Lower price
- Harvest date - 1
- Supply - 1

"Do you promote local products in your store?"
All Retailers indicated YES.

The Retailers were then asked to comment on the promotion of locally (NL) grown produce:

Quality of promotions:
- Fair – need more signage
- More word of mouth

Quantity of promotions:
- Always available
- Daily basis

Suggestions to more efficiently increase consumer awareness and sales of local produce:
- Bigger and better signage inside and outside of the store
- Distinguish from imports – e.g. signage

"Do you purchase any secondary processed vegetables from local (NL) Producers?"
All Retailers indicated NO.

"Do you see the secondary processed vegetable segment growing in the future?"
Six of the seven Retailers responded to this question and they were split in their responses with three indicating yes and three indicating no.

"If yes, how?"
- French fries, jams, coleslaw, soups
- People are busier – require ready to serve foods

"How could NL Producers modify their present business practices to ensure a better working relationship with local Retailers?"
- Dealing with buyer on individual basis and looking after all credit
- Connect with Retailers – product availability, pricing and delivery dates
- Producers need to ask Retailers what consumers are demanding
- Education, number of products available, quality
- Higher volume with good quality – honesty with respect to pricing, credits, quality, etc.
- Diversification and consistent supply over time

Food Safety

The food safety portion of the results was predictably very similar to the responses given by the Wholesalers. In fact, some of the Retailers deferred their responses to those of the Wholesalers. Consequently, no additional information will be provided in this section.

Direct Marketing

The Retailers were asked to comment on the following for NL Producers:

Farmers' markets:

- Customers like it
- Not much in this area
- Good for public but takes away business

Roadside stands/farm gate sales:

- Customers like it but not as much as Farmers' markets
- Very little in this area
- Good for public but takes away business

Door-to-door sales:

- Not much in this area
- Found in smaller towns
- Not many anymore

Demographics

Most of the Retailers indicated that the produce section within their retail locations employed 1-5 employees; although, one location employees 6-20 people. The amount of square footage that the produce department represents in each retail location ranges from 200 square feet to 2,000 square feet and can comprise anywhere from 5 to 25% of the entire store.

Most Retailers indicated that vegetable sales represented 11-20% of the overall store sales; although, one location indicated 0-10%. All but one of the retailers also indicated that local (NL) produce comprised only 0-10% of the total vegetable sales.

PRODUCER PERSPECTIVE

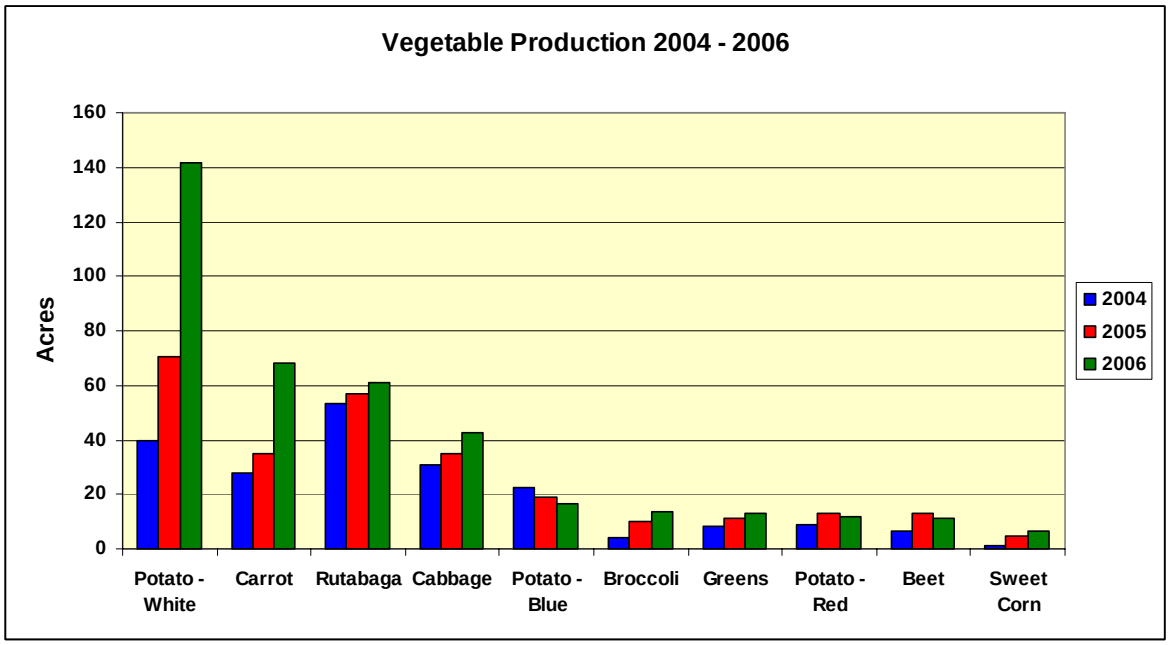
The Producer survey represents the third tier of this report with several Producers from across the island portion of the province completing the questionnaires. The intent of including Producers in this report was to assess the current mind-set and cultural practices that exist in the vegetable industry in this province and to determine the relationship with Wholesalers and Retailers from the Producers' perspective.

Production

The Producers were asked to provide the acreages of vegetables planted for 2004 through to 2006. Figure 16 is a summary of the results. The results are indicative of the vegetable industry in Newfoundland and Labrador with the traditional crops of potato, carrot, rutabaga (turnip) and cabbage being the predominant vegetables grown.

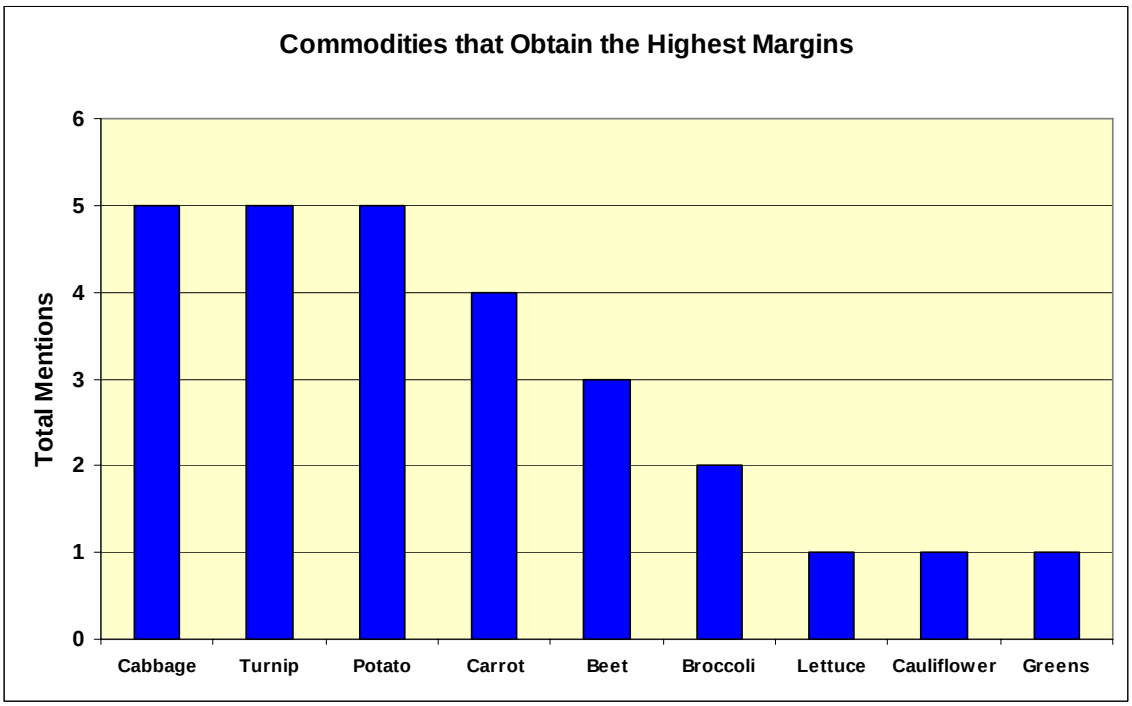
The increased interest in potato production is due to the improved price of potatoes (which is a direct effect of the supply management imposed in PEI) and the involvement in the potato branding program in this province by selected Producers. The results indicate that there is a gradual increase in broccoli production as Producers begin to realize the intrinsic value of diversification into alternative crops.

Figure 16: The Top Ten Vegetables Produced by Survey Respondents from 2004 to 2006.



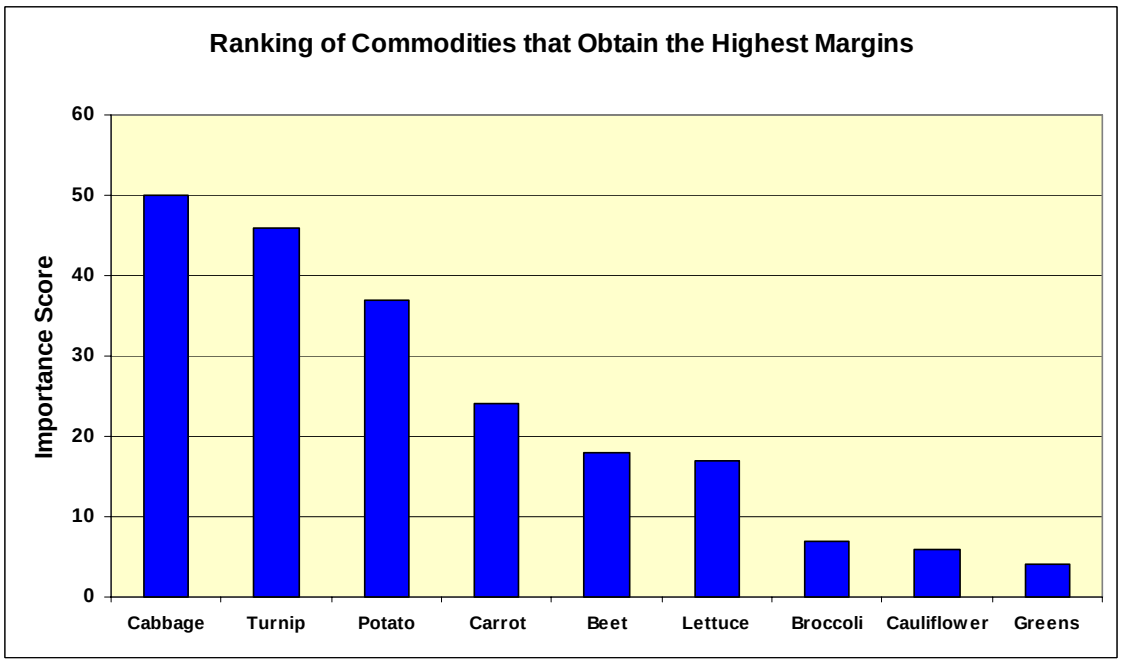
Producers were also asked for which commodities do they obtain the highest margins (i.e. selling price less cost of production). Cabbage, turnip and potato were the top mentioned vegetables followed closely by carrot (see Figure 17). Broccoli was the 6th mentioned commodity behind beet.

Figure 17: Vegetables That Obtain the Highest Margins for Producers.



The Producers were asked to rank these commodities in order of importance from the highest margin to the lowest margin. Figure 18 illustrates that Producers consider cabbage as providing the highest margin, followed by turnip and potato. Producers do not consider carrot, beet and lettuce as providing the same level of profit margin as the first three vegetables.

Figure 18: Vegetables That Obtain the Highest Margins for Producers.



The format of the presentation of the remaining information will be to provide verbatim responses for each of the survey questions. This will provide an unbiased representation of the current attitude of NL Producers rather that a providing a summary of the responses.

"What factors influence your decision on what commodities to plant and in what acreage?"

- Market potential results in increased potato production
- Past sales (demand, trends at farm market)
- Cash generated
- What attracts customers
- Return on investment
- Land availability and storage capacity
- Market, price and land availability
- Sales from previous years – increased sales drives the decision to increase acreage

"How has your commodity mix and total acreage changed over the last 10 years?"

- 50% increase
- Increased diversity of crops but less acreage
- Increase in all commodities
- Up and down
- No change in commodities – just increased volumes

The Producers were asked where they sell their produce. All Producers that responded to the survey distribute their vegetables through more than one type marketing. The majority of vegetables are sold through the following distribution channels:

- All sell their produce directly to Retailers to varying degrees
- The majority sell to Wholesalers to varying degrees
- Half of the respondents sell via Farmers' Markets
- Half of the respondents sell via road-side stands

"Please describe your relationship with Wholesalers."

- Fair
- Deal with one only
- Not applicable
- Good
- Poor
- Should have no need to sell to Wholesalers – none in our area

"Please describe your relationship with local Retailers."

- Good
- Deal with one only
- Very good
- Fair
- Poor
- Good

"How do you feel about Producer Co-operatives?"

- Not involved – haven't heard anything good though
- Good – maybe future of marketing
- Only way for horticultural industry to survive
- Okay for receiving government grants – Farmers too spread out and someone needs to look after equipment during off-season when no funds are being generated
- 100%
- In favour – price and freight costs would be determining factors for participation

"In the past 20 years or so, prices paid for certain commodities have remained relatively flat. In your opinion, is there a way to increase the value of commodities grown in this province?"

- Marketing board to set prices
- Improved quality and packaging of commodities
- Produce for high-end market
- Base price for everyone
- Legislate unfair dumping and subsidies to Farmers in other areas
- Scale of production does not exist to support value-added processing
- Better quality, identification of local, packaging, longer storage, better prices out of season

"In general, would you say that Producers in this province receive a higher, lower or the same price for their vegetables than produce coming into the province?

Most Producers feel that they receive the same price for their vegetables as those coming into the province. However, one indicated higher while another indicated lower.

"Why?" (All mentions.)

Higher price	Same price	Lower price
• Added transport costs - 1	• Quality - 1 • Supply - 4 • Transportation costs added - 1	• Packaging - 1 • Supply - 1 • Farmers are played off one another and some will accept lower prices

"How do you currently promote your produce?"

- Open Farm Day / school tours / buyers
- Advertising / word of mouth / direct sales
- Roadside ads
- Preferred vendor to Wholesalers, reliability, consistent supply & quality and attractive packaging
- Direct to consumer with quality
- Quality of produce and packaging

"What do you consider to be your biggest marketing challenge and why?"

- The lack of communication with other Producers
- Lack of organization
- Selling everything grown – no problems
- Transportation on limited amount of product
- Cost of packaging and labour
- Living in sparsely populated area
- Competing with PEI potatoes

"How could the Department of Natural Resources – Agrifoods better assist local Producers in their marketing efforts?"

- Legislate pricing and only service bona fide Farmers
- Government should identify opportunities and establish marketing agencies to sell products and seek Producers to produce
- Promptly inform Producers on price of product coming in from other provinces on a day-to-day basis
- Leave them alone
- Marketing board to control PEI potato prices

"Do you do any secondary processing or value-added services?"

All but one Producer indicated that they are involved in some form of secondary processing or value-added service. These included:

- Cole slaw packaging, pickles, stir fry packs
- Fresh cut French fries
- Preserves (jams, jellies)

"Do you see the secondary processed vegetable segment growing in the future?"

All Producers answered YES. When asked how this would happen the Producers indicated the following:

- Market potential
- Replace products imported
- Overcome HACCP requirements, packaging, preservatives, etc.
- By processing

"Many Retailers object to Producers being both their suppliers and competitors. How do you feel about this practice?"

- Shouldn't be done
- Need relationship with Retailers and Farmers' Markets to survive
- "Red herring" used by Retailers to avoid bookwork – any unique or superior product is easily sold
- I agree with objection – Wholesalers should pay good price to prevent this
- If they would pay well I would sell to them
- Not really good – but necessary to make a living in rural areas with low population

"How would you describe the term "local"?"

Most Producers agree that the term "local' means from the province; however, one Producer indicated that it means from the immediate community while another indicated from the general region (e.g. Central).

"How would you describe the future of agriculture in Newfoundland and Labrador?"

- Exciting
- Vegetable sector is unorganized and uncooperative
- Must adopt modern food industry to survive
- Large investments for land and become more commercialized
- Toss up between welfare and vegetable production with welfare being the better choice
- A future with changes – requires a marketing system and regulated pricing

Food Safety

"Have you implemented any of the following as part of the On-farm Food Safety Initiative?"

The majority of Producers have implemented all or most of these attributes:

- Water quality at field and packinghouse
- Practices regarding the use of manure and/or municipal sludge
- Use of crop protection chemicals or integrated pest management
- Checking pesticide residues
- Field and packinghouse worker sanitation and hygiene
- Field and packinghouse sanitation
- Transportation sanitation
- Government or third-party inspection and/or certification of fields and packinghouses
- Field records
- Recall capability

"As part of the On-farm Food Safety Initiative, do you have liability insurance?"

Only a couple of the Producers that responded to the survey indicated that they have liability insurance. Both of these Producers specified that they have $1 million in liability insurance.

"In your opinion, how will the Food Safety Initiative affect direct sales from you to individual retail locations?"

Half of the Producers indicated that most direct sales have already been phased out (except perishables such as greens and strawberries) or that the direct sales will be phased out. The other half of the Producers suggested that direct sales are still continuing.

"In your opinion, do you believe that you will be able to continue to do business directly with individual Retailers in the future?"

Most of the Producers indicated that the amount of business with Retailers in the future will be limited. However, a couple suggested that they will not be able to do business directly with Retailers in the future, while one Producer reported that he would be able to do so.

Direct Marketing

The Producers were asked to comment on the following for NL Producers:

Farmers' Markets:

- All forms of marketing should follow OFFSP and minimum pricing
- All 3 will probably keep a lot of Producers in business
- Opportunity is limited and success of one is vastly more complicated
- Okay in large population
- Only way
- Need Farmers' Markets in every major centre

Roadside stands/farm gate sales:

- All forms of marketing should follow OFFSP and minimum pricing
- Opportunity is limited
- Okay for part-time Farmers
- Only way
- Selling 50% at roadside

Door-to-door sales:

- All forms of marketing should follow OFFSP and minimum pricing
- Might be developed to serve the older population
- Not feasible due to high fuel costs
- Too costly
- Rapidly decreasing

Agri-tourism:

- Has potential in this province
- Not simple but a possibility
- Opportunities for small land based farmers
- Bull****
- Not applicable

SUMMARY

Wholesalers

- Overall, in the past decade there has been a steady decline in the consumption of traditional vegetables at the wholesale level; specifically, beet, cabbage, carrot, potato and rutabaga (turnip);
- Significant opportunity still exists for the traditional vegetables at the wholesale level for Newfoundland and Labrador Producers due to the current low quantity of local supply to the Wholesalers;
- Prices for local crops have remained relatively flat in the past ten years, except for potato and beet;
- There is significant opportunity for alternative crops that could be grown in this province, including broccoli, cauliflower, celery, corn, lettuces, yellow onion, and tomato;
- With proper storage facilities, the 15 field grown vegetables discussed in this document could reach a value of approximately $35 million within the wholesale industry, representing 6,700 acres of production;
- The potential for greenhouse vegetables represents an additional $6.4 million at the wholesale level – this includes cucumber, leafy lettuce, pepper and tomato as part of an overall greenhouse strategy;
- There are 2 essential prerequisites that Wholesalers require from Producers to ensure an ongoing relationship – consistent quality (Canada No. 1) and consistent supply;
- Overall, Wholesalers indicate a good relationship with most Producers;
- Communication and coordination of what is being produced and at what quantity is crucial – Wholesalers need to know at the beginning of the season;
- The Wholesalers would like to see the Producers work collectively from a marketing perspective to supply the marketplace and take advantage of transportation savings;
- Wholesalers have indicated that the situation where a Producer is both a supplier and a competitor (i.e. back-door sales to Retailer after selling to Wholesaler) does not promote a good working relationship;
- Currently, there are no secondary processed vegetables being purchased from Producers by the Wholesalers – although the potential exists for this opportunity to be fully developed;
- Wholesalers believe that an increase in the amount and quality of advertisement for local produce will increase awareness resulting in increased consumption of local produce;
- Wholesalers agree that freshness is regarded by consumers as the most important feature of vegetables, followed by taste;

- Quality packaging is an essential attribute for successful marketing of local produce, and;
- Food safety requirements differ throughout the wholesale industry, it depends upon the individual Wholesaler's current business strategy.

Retailers

- Retailers believe that local Producers should be growing more of the traditional crops such as beet, cabbage, carrot, potato and rutabaga as well as more alternative crops such as broccoli and yellow onion;
- Retailers indicate a very good relationship with Wholesalers and Producers;
- Most Retailers prefer to deal directly with Producers;
- Retailers also indicate that freshness is regarded by consumers as the most important feature of vegetables, followed by taste;
- Retailers suggest that Producers should listen to what consumers are demanding, and;
- Retailers want quality, consistent availability, agreed upon pricing, expected delivery dates, and more diversification of produce available.

Producers

- Potato production up in 2006 due to higher prices and carrot production is up somewhat, while other production levels remain relatively stable;
- There are mixed feelings about Wholesalers and Retailers among Producers – some have very good relationships, while others indicate a poor relationship;
- Producers also have mixed feelings about co-operatives, and;
- Most Producers feel the need for some type of supply management or marketing board to help them better compete with vegetables coming from outside the province.

CONCLUSIONS

Based on the information attained through the most recent survey, the previous surveys and other available information, the following conclusions have been made:

- Overall, there still has not been any significant changes in the agronomic and business practices in the local vegetable industry in the past 20 years; although, there have been a few key Producers that are becoming more innovative by expanding and diversifying their operations to include alternative crops;

- Based upon the amount of production in the province versus the amount supplied to the wholesale industry, most vegetables in this province are being sold directly through Farmers' markets, roadside stands, hampers, Retailers, etc. – there is considerable opportunity with the wholesale industry;

- Producers must provide quality produce (Canada No.1) and a consistent supply to Wholesalers on an ongoing basis – attractive packaging with appropriate bar codes is essential;

- Producers must communicate with Wholesalers at the beginning of the season as to type and volume of vegetables – Wholesalers are ordering vegetables for their retail locations in February and March and it is difficult to accommodate Producers that make initial contact in August and September;

- Wholesalers would rather deal with one "order desk" rather than several individual Producers – increases transportation and marketing efficiencies and provides Producers with a "stronger" voice when negotiating prices for their produce – establish a market price for all NL produce;

- A commodity will not extract a premium price – produce needs to be positioned as a premium product in order to receive a premium price; although, freshness and taste will generate a marginal increase in price;

- The amount of production on individual farms needs to increase in order to realize the economy of scale – there is significant opportunity for expansion in this industry and this will help local Producers to compete more effectively with vegetables being imported into the province – there is a sufficient land base available to accommodate any expansion to meet current market demand;

- There are several key alternative crops that can be grown in this province that will provide an excellent return on investment – Producers need to be aware of emerging trends and diversify into new crops and understand the cost of production associated with alternative crops;

- Proper storage facilities are vital in order to achieve full potential for the vegetable industry – this allows the Producers to supply vegetables for longer periods of time satisfying one of the needs of the Wholesalers;

- The establishment of some type of supply management may assist in the further development of the vegetable industry; however, in addition, Producers must also adjust cultural and business practices within their own operations to effectively compete in the marketplace;

- Communication and coordination between Producers may become beneficial to ensure that all market demands are met – it may be better for individual Producers to be responsible for growing a few selected crops rather than several crops thereby collectively meeting the market demands;

- There is opportunity for greenhouse operations in this province – requires coordination of crops grown (not just monoculture) and close proximity to markets, and;

- All Producers must consider implementing On-farm Food Safety programs in order to continue business relationships with Wholesalers in the future.

RECOMMENDATIONS

To gain a full appreciation of the issues raised in this report, it is important to review previous consultations within the industry with respect to the development of strategies for the Vegetable Industry of Newfoundland and Labrador.

At the 2004 Annual General Meeting of the Newfoundland and Labrador Federation of Agriculture (NLFA) the following Resolutions were passed:

> "Be it resolved that the Federation of Agriculture with the Horticulture Council request that the provincial government institute a broad, comprehensive study into the state of the vegetable industry in the province and what can be done to improve income to farmers."
>
> - And -
>
> "Be it resolved that the Newfoundland and Labrador Federation of Agriculture with the Newfoundland and Labrador Horticulture Council conduct a feasibility study into the establishment of at least four large "state of the art" vegetable storages, to include regional grading and packing centers to serve the horticulture industry, These centers will supply HACCP compliant produce to the major wholesalers and retailers in the province. These centers will be organized as one producer owned co-op. These centers will be under the governance of a board of directors comprised of farmers and business people that will manage production and marketing in this province for the maximum benefit of the growers with the goal of making the province as nearly self sufficient in vegetables as is economically possible."

In his report entitled "Towards a New Future: Renewing the Vegetable Growing Sector", Jim Winter discusses the need for the implementation of an IASC to address the issues presented in the Resolutions passed at the NLFA AGM of 2004. As a result, the establishment of the Newfoundland and Labrador Vegetable Industry Adjustment Service Committee (IASC) occurred in late 2005 with the work ongoing since January 2006. The mandate of the Vegetable IASC is to develop a comprehensive strategy for fresh and processed vegetables in the province.

Many of the same issues that have been raised in this report were also discussed in Winter's report. The following is a summary of the items discussed in that document as being required by the Vegetable Industry in the province:

- Farmers need an effective mechanism for managing their marketing relationship with the retail sector;
- New value must be created in locally grown crops that distinguishes them and differentiates them in the marketplace;
- Farmers must have effective ways of communicating with each other in order to create and maintain a common understanding of common issues and current production and marketing conditions;
- Farmers will need to find ways of growing crops that consumers want to buy;

- Farmers must have access to information, technical horticultural knowledge and appropriately designed training in order to improve production and diversify with confidence, and;

- An infrastructure will need to be created to support a coordinated production and marketing effort.

The strategies that will emerge from the Vegetable IASC and the recommendations contained within Winter's report will certainly be the foundation for the initial framework for future development of the vegetable industry in this province.

Based upon the conclusions in this report, the following are recommendations for the Vegetable Industry of Newfoundland and Labrador to consider as part of the comprehensive development strategy:

- Producers need access to agronomic information to gain the necessary knowledge base for diversification into alternative crops and appropriate varietal selection of traditional crops;

- Producers need to expand current operations to include alternative crops in addition to increased acreage for traditional crops – this will provide the ability to realize a greater economy of scale and reduce the cost of production per commodity unit while increasing the supply and variety of local vegetables to the wholesale industry;

- Producers need access to suitable and sufficient storage facilities to maintain vegetables for extended periods of time thereby allowing Producers to supply the wholesale market for the maximum amount of time throughout the year;

- All Producers must adopt all the appropriate Good Agricultural Practices with respect to food quality and food safety – this will help in the positioning of NL vegetables as premium products in the minds of the supply chain and consumers;

- Wholesalers need to assist in the promotion of NL vegetables by developing strategies for advertising local produce within the retail locations on an ongoing basis;

- Wholesalers need to participate in industry meetings on an ongoing basis and communicate consumer purchase behaviour and emerging trends to allow Producers sufficient lead time to adjust their future crop strategies - also provide Producers during pre-season with projected requirements for vegetables, including quantity and package sizes for the upcoming season;

- Wholesalers also need to communicate to Producers any changes in business strategies that will impact the relationship with Producers such requirements around on-farm food safety programs and provide any necessary documentation to facilitate the process;

- An increase in the promotion of the Vegetable Industry in the province is required through all forms of media (i.e. from POP to mass media) – this will increase consumer awareness and drive consumption of local products – freshness and taste should be the key messages;

- Development of branding programs for all appropriate NL vegetables – this will assist in positioning the vegetables as premium products rather than commodities, and;

- Investigation into the development of a integrated marketing infrastructure that will establish and communicate market prices for all NL Producers – a "centralized marketing desk" will assist in gaining efficiencies and effectiveness with all aspects of marketing through coordination of efforts (e.g. type and quantity of vegetables delivered, reduced transportation costs, etc.) – branded premium products could be channeled through this type of infrastructure.

APPENDICES

Appendix 1: Harvest and Storage Periods for Field Vegetables.			
	Harvest Period (weeks)	**Storage Period*** (weeks)	**Available Period** (weeks)
Beet	8	26	34
Broccoli	15	2	17
Cabbage	14	38	52
Carrot	6	39	45
Cauliflower	14	4	18
Celery	6	13	19
Corn	4	1	5
Lettuce - Head	12	3	15
Lettuce - Romaine	12	3	15
Onion - Green	6	2	8
Onion - Yellow	6	39	45
Parsnip	4	26	30
Potato	17	35	52
Rutabaga (Turnip)	12	26	38
Tomato - Field	8	4	12
* Determined from Agriculture and Agri-Food Canada and Ontario Ministry of Agriculture and Food data.			

Appendix 2: Field Vegetable Unit Price.	
	Price per Pound*
Beet	$0.49
Broccoli	$0.48
Cabbage	$0.33
Carrot	$0.36
Cauliflower	$0.37
Celery	$0.94
Corn	$0.40
Lettuce - Head	$0.57
Lettuce - Romaine	$0.47
Onion - Green	$2.07
Onion - Yellow	$0.38
Parsnip	$1.27
Potato	$0.29
Rutabaga (Turnip)	$0.42
Tomato - Field	$0.90
* Based Upon InfoHort Pricing as of October 16, 2006 (F.O.B. Halifax to St. John's).	

Appendix 3: Field Vegetable Average Yield Data.		
	Average Yield (lbs/ac)	**Source**
Beet	7,705	Fruit & Vegetable Production - Statistics Canada - 5 Year Average
Broccoli	9,000	Atlantic Provinces Advisory Committee on Vegetable Crops
Cabbage	17,465	Fruit & Vegetable Production - Statistics Canada - 5 Year Average
Carrot	12,212	Fruit & Vegetable Production - Statistics Canada - 5 Year Average
Cauliflower	11,500	Atlantic Provinces Advisory Committee on Vegetable Crops
Celery	15,000	Atlantic Provinces Advisory Committee on Vegetable Crops
Corn	9,600	Atlantic Provinces Advisory Committee on Vegetable Crops
Lettuce - Head	16,000	Atlantic Provinces Advisory Committee on Vegetable Crops
Lettuce - Romaine	16,000	Atlantic Provinces Advisory Committee on Vegetable Crops
Onion - Green	12,750	Atlantic Provinces Advisory Committee on Vegetable Crops
Onion - Yellow	11,900	Atlantic Provinces Advisory Committee on Vegetable Crops
Parsnip	7,793	NL Crop Insurance Number
Potato	17,900	Fruit & Vegetable Production - Statistics Canada - 5 Year Average
Rutabaga (Turnip)	17,825	Fruit & Vegetable Production - Statistics Canada - 5 Year Average
Tomato - Field	9,000	Atlantic Provinces Advisory Committee on Vegetable Crops

Appendix 4: Greenhouse Vegetable Unit Price and Production Data.			
	Price per Pound*	Production (lbs/ft2)	Maximum Crop Cycles per Year
Cucumber	$1.58	10	3
Lettuce - Leafy	$0.98	1.25	10
Mushrooms	$2.33	5.75	4
Pepper - Green	$1.72	6	1
Pepper - Coloured	$2.48	6	1
Tomato - Standard	$1.08	10	1
Tomato - Cherry/Grape	$3.23	4	1
* Based Upon InfoHort Pricing as of October 16, 2006 (F.O.B. Halifax to St. John's).			

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