Consumer Market Research Strategic Study for Fresh Grapes and Fresh & Processed Apples & Tender Fruit

&

Orchard Fruit & Vineyard Quality Assessment throughout the Value Chain

Prepared for: Vineland Research and Innovation Centre

Prepared by: Martin Gooch, Dan Laplain, Kate Stiefelmeyer, Nicole Marenick, Abdel Felfel, Frank Ingratta, Larry Martin
Value Chain Management Centre
George Morris Centre
Guelph, ON N1G 4T2
Telephone: 519-822-3929 ext. 216
Fax: 519-837-8721
Contact email: martin@georgemorris.org

Colin Siren
Ipsos Forward Research

Tracy Lamb
Mopani

Benjamin Dent
University of Queensland

Jennifer MacTavish

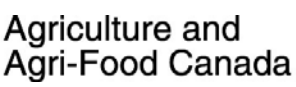
Date: November 10, 2009

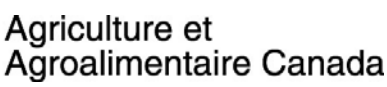
This study is a component of the Orchard and Vineyard Transition Program (OTVP) strategy administered by Vineland Research and Innovation Centre, with funding from Agriculture and Agri-Food Canada and the Ontario Ministry of Agriculture and Rural Affairs

Acknowledgements

We gratefully acknowledge the respondents whose valuable contributions made this research possible.

Funding for this project was provided in part by Agriculture and Agri-Food Canada through the Agricultural Adaptation Council's CanAdvance Program





The views contained in this report are those of the Value Chain Management Centre, the George Morris Centre, and Ipsos Forward. They are not necessarily the views of Agriculture and Agri-Food Canada or the Ontario Ministry of Agriculture Food and Rural Affairs

Executive Summary

This project served two primary purposes. The first was to quantify consumers' satisfaction with and perception of Ontario fruit versus imported fruit and competitors for market share. The specific fruits included in the research were fresh apples (fresh and processed), pears, peaches, plums and table grapes. The second purpose was to assess the effectiveness of current practices and procedures that Ontario's fruit industry uses to manage quality, and whether the quality of Ontario fruits meets consumers' definitions of quality and value. The objective was not to criticize or apportion blame to any individual(s) for inefficient or ineffective operations found to exist across the researched sectors of Ontario's fruit industry. Researchers sought only to objectively assess the effectiveness of representative value chains for delivering recognized value to consumers of Ontario fruit by successfully managing quality in order to reduce costs and, potentially, increase revenue along the entire value chain, from the orchard through to consumers.

The project was completed in four stages:

- Stage 1: Literature Review
- Stage 2: Consumer Research
- Stage 3: Value Chain Research, including SWOT analysis
- Stage 4: Recommendations

An extensive literature review was undertaken, pertaining to consumers' perceptions toward fruit. The purpose was to identify factors that previous studies had identified as driving consumers' purchasing habits. Also reviewed was the literature pertaining to the management of fruit quality and the successful management of fresh produce value chains.

Stage one findings shaped the subsequent primary research methodology. The primary research comprised the second and third stages of the project. This involved identifying 'traditional' and 'new Canadian' consumers' attitudes and behaviours toward Ontario versus imported fruits, and mapping and observing a series of value chains (from farm to consumer) to identify the effectiveness of current quality management practices.

The fourth stage of the project included synthesizing the project findings and presenting a series of recommendations for improving the quality management systems used to produce and deliver Ontario-grown fruit to consumers.

The literature review revealed that today's consumers expect not one, but a number of attributes in the products they purchase. These include freshness, taste, nutrition and convenience. It identified that the majority of food purchases are made at major supermarkets, and although consumers also frequent alternative outlets such as farmers markets, they account for a relatively small volume of overall sales. Researchers found that although price is a key driver of purchasing behaviour, the concept of value is perhaps more important. For instance, a number of authors report that many consumers show a willingness to pay more for fruit that matches their quality expectations, particularly if they trust the product to deliver on taste.

It was also found that consumer trends such as "buy local", organic and an aging demographic overlap and share similar drivers. For example, they all reflect underlying consumer concerns such as good health. Ultimately, food purchasing is a complex issue that differs by food type, place of purchase and meal occasion. To be effective in driving increased sales, rather than just awareness, marketing programs must specifically communicate how Ontario fruit delivers on benefits that are valued by key market segments. If players situated along the value chain take greater responsibility and accountability for understanding and delivering on consumer needs, they can more effectively work together to plan and execute branding programs that are profitable for all.

The literature also identified that the key factors determining the effectiveness of quality management practices occurring along the value chain are relationships, information and technology. As well, the level of strategic alignment between organizations situated along the value chain directly impacts the chain's ability to innovate in relation to consumer demands and to reduce the costs associated with meeting or exceeding consumers' expectations of quality. The review ends with a presentation of a benchmarking framework suited to the fruit sector, and describes the commercial benefits of benchmarking, which include motivating producers to look at their farms as businesses.

The primary objective of the consumer research was to understand the fruit purchasing process of consumers, and the drivers of behaviour. The research included 24 ethnographic retail shop-alongs to identify how Ontario consumers shop for fruit, and the cues that influence their purchasing behaviour. This was followed by two quantitative online surveys that together researched the attitudes and purchasing habits of 1,600 consumers. Amongst other findings, results revealed similarities and differences between 'traditional' and 'new' ethnic Canadians regarding fruit consumption and purchasing. Further insights into the purchasing behaviour and drivers of behaviour of new Canadian consumers of fruit were provided through eight qualitative focus groups. The overall research results show that Ontario's fruit industry can do more to positively influence the purchasing behaviour of consumers and increase their loyalty toward Ontario fruit through improved marketing and promotional practices. For instance, it was found that, while the ethnic market is a rapidly expanding market, it is largely not being served by the Ontario fruit industry. Similarly, it was also found that many traditional Canadian consumers do not consider the quality of Ontario fruit to be meeting their expectations. This is particularly the case with Ontario plums and table grapes.

The value chain analysis was designed to provide an objective assessment of the effectiveness of representative value chains for delivering recognized value to consumers of Ontario fruit through successfully managing quality along the entire value chain, from the orchard or vineyard through to consumers. The research included more than 100 semi-structured interviews with individuals from businesses that together span the chain from the orchard through to the retail store. Interviewees included operational managers and executives from organizations operating downstream of the orchard (e.g. packers, shippers, distributors, wholesalers, independent and corporate retailers, and industry groups). In-depth interviews were also conducted with individual fruit producers. Insights into orchard practices were also gathered through focus groups held with approximately 80 fruit producers from across Ontario. In addition to the structured data gathering process, informal interviews were also conducted in situ with staff working in a number of retail stores' produce departments.

The analysis of research findings was conducted using mapping and analytical tools developed to understand the current state of the value chain said to typify Ontario's fruit industry. This enabled researchers to identify inefficient or ineffective activities that impact the performance of individual elements of the chain or the entire chain, and then propose actions that could help address the present situation. Inefficiency or ineffectiveness commonly results from bottlenecks in information or material flow, lack of belief in commitment between chain participants, wasteful or non value-adding activities, or incompatible cultures or structures.

Researchers expected to find more differences than similarities among the five fruit sectors in terms of how well they manage the quality of the fruit they produce in relation to consumers' expectations. This was not, however, the case. Rather, it was discovered that the effectiveness of quality management systems used in each of the chosen fruit sectors depends on a series of common factors. These include the extent to which orchard, post harvest, and grading/packing practices all too often negatively impact the quality and value of fruit from customers' and consumers' perspectives. Simultaneously, practices occurring at the grower and packer level in particular incur unnecessarily

high costs that impact their own and the overall value chain's profitability. So too do flawed practices that commonly occur with retailers' distribution and merchandizing operations. As detailed in the body of this report, the extent to which each of these situations occurs and impacts the operations of individual businesses and value chains differs markedly according to the individual organization's management capabilities. They also differ due to the impact of external factors, such as legislation and regulations.

At an industry level, researchers identified that distinct stakeholder groups exist at each link along the value chain. Each of the groups is characterized by distinct differences in relation to a specific issue, such as their strategic focus, or occurrence in the overall population. Amongst growers, the two dominant groups were descriptively named "leaders" and "laggers". In the packing and distributing links of the value chain, the more innovative and strategic players are referred to as "progressive", while those who follow more of a trading than strategic approach to business are referred to as "transactional". One point worth noting is that the apple sector appears to have the highest proportion of leaders and progressive stakeholders, versus the laggers and those who follow a more transactional approach to business. Given that demarcations between retailers were commonly based on their target markets or internal structures, for reporting purposes retailers were categorized as "corporate" or "independent".

The research concluded that the effectiveness of quality systems employed by the majority of Ontario's fruit industry is significantly less than that of leading importers. The factors that lie behind this difference appear to be that the majority of Ontario's industry trails competitors in the four factors with the greatest impact on how effectively businesses are able and motivated to manage quality. These are information *(including access to and ability to use both consumer and performance related information)*, relationships *(including the ability to develop and maintain constructive relationships)*, technology *(including access to and ability to use appropriately)*, and governance *(making individuals responsible and accountable for their performances)*.

The quality management capabilities of Ontario's fruit industry and the extent to which they deliver on consumers' perceptions of quality are essentially divided into two groups. The more progressive group is largely comprised of leaders from Ontario's apple industry. The less progressive camp is largely comprised of those involved in the sectors subject to legislated marketing. The effectiveness with which these sectors manage quality is impacted by business relationships that, for the most part, were characterized as adversarial, segmented and opportunistic. This results in stakeholders viewing each other with suspicion and limited respect. It also results in them losing sight of consumers.

Respondents stated that the role legislated marketing plays in diminishing the Ontario industry's ability to manage quality and react to consumers' expectations comes via cushioning growers from the market forces that have motivated international competitors to adopt new management processes and quality management systems. Part of this is due to the way the current system enables many stakeholders to take a free-rider approach. They believe that focusing on quality will not improve their prices, or that their efforts will be lost amongst mediocrity – so why do it? Therefore, rather than proactively manage quality; many industry stakeholders seek only to meet minimal standards. This practice undermines many consumers' perceptions of the quality of Ontario fruit versus imports. It also results in a lower level of innovation than is required for businesses to remain competitive in an increasingly global industry through ensuring that their processes are suited to delivering products that meet changing consumer demands.

This situation is exacerbated when the approach taken by the majority of Ontario's fruit industry is the opposite of that being taken by increasingly capable and more innovative importers, many of whom have redesigned their entire business model to suit a changing market. The resulting differences between the quality of Ontario fruits and imports heighten the relative costs incurred by the Ontario

industry (from growers through to retailers). They also lessen wholesalers', customers', and consumers' willingness to select Ontario fruit over imported fruit, or pay prices equal to those paid for imported fruit. The combined effects of a fragmented value chain and inefficient/ ineffective operations include many millions of dollars in unnecessarily high costs and missed market opportunities.

The overall findings are that while Ontario fruit undoubtedly has enormous opportunities due to the emotional connection consumers have with Ontario fruit, large swaths of the industry are failing to fully translate this opportunity into economic and strategic strength. This is not the fault of one person or organization. It is the result of a system that sees the two sides of the industry becoming increasingly distant and polarized in their attitudes toward each other. The present system also results in the majority of growers being isolated from the market and looking for ways they can survive the next season, not ten seasons from now. In the meantime, consumers' loyalty to Ontario fruit appears to stem from an emotional connectivity due more to a climatic situation than consistently high quality. The question the industry needs to ask itself is whether this situation is likely to continue, given changing consumer demographics and that all consumers are becoming more discerning in their purchasing behaviour.

The following recommendations were developed in light of these findings. The recommendations are grouped into those that are relevant for each of the key stakeholder groups analyzed during the research, and overall value chains. While recommendations related to quality management do not apply as much to the apple sector as they do to the tender fruit and grape sectors, the research found that there remains room for improvement in the apple sector too.

Vineland Research & Innovation Centre (or other deliverers)

Provide coaching services to improve producers' orchard management and husbandry skills
Many producers do not adequately manage the determinants of quality, which results in them incurring higher than necessary costs and receiving lower than possible revenues. A commonly cited reason why Ontario fruit producers do not implement innovative orchard management practices is that, compared to competing jurisdictions such as New York State's apple industry, few if any effective extension services for applied research exist in Ontario.
Relevant sections of report: 4.2.2, 4.2.3, 4.2.4, 4.3.2, 4.3.3, 4.4.2, 4.4.3, 4.4.4, 4.4.5, 4.5.1, 4.6.2, 4.7.3, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5. Appendices: F, I
Streamline and 'commercialize' plant breeding programs
A common frustration voiced by many respondents (from all levels of the value chain) was the lack of innovative plant genetics available to Ontario's fruit industry versus competing jurisdictions. Even when superior genetic material has been developed, it is not uncommon for growers to wait years before they can introduce it into their cropping practices. This places the Ontario industry at a disadvantage.
Relevant sections of report: 4.2.4, 4.3.3, 4.4.3, 4.4.5, 4.5.2, 4.6.3
Provide producers with quality management and process improvement training
Many Ontario fruit producers do not possess the quality improvement skills required to compete in an increasingly competitive market, which negatively impacts their profitability. Quality management need not require a high level of technical proficiency, though it does require the existence of formal processes and the ability to gather, analyze, and act upon specific types of information.
Relevant sections of report: 2.2.1, 4.2.4, 4.4.2, 4.4.3, 4.4.4, 5.2.1. Appendices: F, K
Provide producers with opportunities to increase their business management skills
Many producers do not possess the full suite of management skills (e.g. financial management, human resource management and marketing) required to operate a commercial business. Not possessing these skills impacts their profitability and the industry's long-term competitiveness.
Relevant sections of report: 4.2.4, 4.3.3, 4.4.3, 4.4.5, 4.7.3, 5.2.1. Appendix K

Provide packers and distributors with the opportunities to improve their quality management, business, and process improvement training

Many Ontario fruit packers do not possess the quality, business management, and communication skills required to compete in an increasingly competitive market, which negatively impacts their profitability and the industry's overall competitiveness. Implementing effective quality management programs does not necessarily require a high level of technical proficiency. It does, however, require the existence of formal processes and the ability to gather, analyze, share, then act upon specific information.

Relevant sections of report: 2.7, 4.2.4, 4.3.3, 4.4.3, 4.4.5, 4.5.2, 4.6.3, 5.2.4. Appendix F

Offer exclusive licensing arrangements

A downfall of Ontario's fruit industry is that multiple suppliers often undercut each other to supply the same or similar products to all (or many) retailers. This means that no one is able to offer a unique value proposition, so price becomes a key influence in customers' and consumers' purchasing decisions. Allowing suppliers to possess exclusive varietal rights could motivate Ontario's fruit industry to become more innovative and market-focused. It would also encourage the development of closer chain-length relationships.

Relevant sections of report: 2.1.1.1, 2.2, 2.6.3, 3.1.3, 4.4.2, 4.4.3, 4.5.1, 4.6.2, 4.7.2

Producers

Get to know consumers and focus efforts on meeting their expectations

Most producers are more focused on volume than quality, which negatively impacts their profitability. Meaningful consumer insights might convey to producers the importance of viewing quality from consumers' perspectives. It would also enable producers to clearly identify market opportunities and lead to greater understanding and stronger relationships existing between producers and downstream stakeholders. All of which could enable innovative producers to improve their financial performance.

Relevant sections of report: Executive Summary, 2.1.1, 2.1.2, 2.2, 2.4, 2.5.1.1, 2.5.1.4, 3.1.2, 2.3, 2.7, 3.1.5, 3.2, 3.3.2, 3.4.2, 3.4.3, 4.2.2, 4.3.2, 4.4.3, 4.5.1, 4.5.2, 4.6.3, 4.7.2, 4.7.3, 5.1, 5.2.1, 5.2.2, 5.2.3, 5.2.5. Appendices: A, B, C, D, I, J, L

Develop strategically coordinated grower groups

Market opportunities exist for growers willing to coordinate their production and marketing to a degree that would enable them to develop the critical mass required to implement modern objective processes. They can then use the resulting data to continually improve their combined performance.

Relevant sections of report: Executive Summary, 2.1.1, 2.1.2, 2.2, 2.4, 2.5.1.1, 2.5.1.4, 3.1.2, 2.3, 2.7, 3.1.5, 3.2, 3.3.2, 3.4.2, 3.4.3, 4.2.2, 4.3.2, 4.4.3, 4.5.1, 4.5.2, 4.6.3, 4.7.2, 4.7.3, 5.1, 5.2.1, 5.2.2, 5.2.3, 5.2.5. Appendices: A, B, C, D, I, J, L

Measure profitability on a 'per acre' basis *(not a 'per unit' basis)*

Producers' views are often polarized towards focusing on volume rather than viewing their full operations in the context of the end market and drivers of consumer choice. Encouraging growers to measure performance on an area rather than a per unit basis would help shift growers' focus away from volume, instead investing greater efforts into better managing the determinants of quality and overall value.

Relevant sections of report: 4.2.3, 4.2.4, 4.3.3, 4.4.3, 4.4.5, 4.5.1, 4.6.2, 5.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5. Appendices: H, I, J

Marketing Boards (those related to legislated marketing do not apply to the apple sector)

Realign marketing boards to reflect the need for market-focused innovation to occur at all levels of the value chain

The alleged lack of farmers' bargaining power, which defines the traditional role of marketing boards, assumes that all producers are economically similar, have similar management skills, and possess similar entrepreneurial aspirations. The research shows that this is not the case. In seeking to assist all producers, the present system lessens the motivation to innovate amongst the very leaders on which the industry's future lies. The same factors also lessen downstream stakeholders' motivation to innovate.

Relevant sections of report: Executive Summary, 2.5.1.1, 4.2.4, 4.6.3, 4.7.3, 5.1. Appendix K

Modify marketing legislation to place greater accountability on individual producer's performance
Current marketing arrangements for tender fruit reduce the motivation of many producers to adapt their management and business behaviour to better suit customers' and consumers' needs; and new markets. Simultaneously it lessens the full value that more capable producers are able to capture from the market. This situation results in a sector that is less innovative and market-focused than it could otherwise be.
Relevant sections of report: Executive Summary, 4.2.4, 4.3.3, 4.4.3, 4.4.5, 4.5.1, 4.5.2, 4.6.3, 4.7.3, 5.1

Strategically invest check-off funds
A common comment from stakeholders situated at all levels of the chain is that check-off funds should be used more strategically than at present. Using check-off funds to 'reward' retailers for promoting and distributing high volumes of Ontario fruit does little to increase the industry's long term competitiveness.
Relevant sections of report: 4.3.34.5.2, 4.6.3, 4.7.3

Facilitate business-level benchmarking, the results of which are shared across the industry
Benchmarking is an effective method of motivating innovation by objectively rating the performance of individual businesses, then sharing the aggregated results across the wider industry. Benchmarking is also a proven method for encouraging producers to view their operations as commercial businesses.
Relevant sections of report: 2.7, 4.2.4, 4.3.2, 4.3.34.4.2, 4.4.5, 4.5.1, 4.5.2, 4.6.3, 4.7.3, 5.1. Appendices: H, I

Encourage, champion and enable producers to strategically produce and market new crops
Producers' competitiveness is impacted both by their own and others' capabilities. Producing a wider variety or volume of crops that can be stored (thereby allowing packers and distributors to operate their facilities for longer periods of time), or producing crops that can capture a distinct UVP for a target market(s), can create new opportunities for producers and downstream stakeholders. Marketing boards could play an important role in assisting the development of this type of strategic initiative.
Relevant sections of report: 4.2.44.4.3, 4.4.5, 4.5.2, 4.6.3, 4.7.3, 5.1. Appendix I

Packers and/or Distributors

Increase operational efficiency and effectiveness through consolidating
Ontario's fragmented fruit industry is handicapped by the inability of many packers to invest in modern labour-saving grading, packing, and reporting technologies, as well as their inability to undertake the type of market research that is enabling importers to continually improve their competitiveness. Overcoming this hurdle is dependent on packers increasing their critical mass, thereby increasing the resources at their disposal.
Relevant sections of report: 4.2.44.4.3, 4.4.5, 4.5.1, 4.5.2

Invest in and utilize more effective cool chain practices
Lack of cool chain infrastructure and ineffective management of the cool chain (particularly for tender fruit) results in inconsistent quality, which negatively impacts consumers' appreciation of Ontario fruit and their propensity to pay above minimal prices. Investing in modern cool chain infrastructure is critical to the future success of Ontario's fruit industry.
Relevant sections of report: 4.2.4, 4.3.3, 4.4.2, 4.4.3, 4.4.4, 4.4.5, 4.5.1, 4.5.2, 4.6.2, 5.2.1, 5.2.4, 5.2.5. Appendix F

Increase the amortization of investments by developing strategic partnerships with importers
Establishing technologically capable grading, packing and distribution facilities is extremely expensive and difficult to justify if operating for only a few months of the year. Developing strategic partnerships with importers, where bulk imports are graded and packed closer to the end market, will enable packers and distributors to utilize equipment for a longer period and justify investments in modern equipment. It will also allow them to develop stronger less-seasonally reliant relationships with retailers.
Relevant sections of report: 2.6.2, 4.2.4, 4.3.3, 4.4.3, 4.4.5, 4.5.2, 4.6.3, 4.7.2, 4.7.3

Develop resources required to pack and distribute in direct response to market demand, essentially a quasi *just in time* approach
Most packers pack to suit their processes, not market demand. This can mean that fruit is packed for days prior to shipping, which negatively impacts the quality and consistency of fruit purchased by consumers.
Relevant sections of report: 4.2.3, 4.3.24.6.3, 4.7.2, 4.7.3, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5. Appendix F, J
Develop and share standard operating procedures that are based on objective processes
While numerous packers share the same brand name or appearance, they do not share standard operating procedures, so the processes used to manage the packing and grading process range markedly across packers and through the season. This exacerbates the inconsistency of Ontario fruit purchased by consumers, negatively impacting their propensity to purchase and willingness to pay.
Relevant sections of report: 2.2.1, 2.7, 4.2.2, 4.2.3, 4.3.2, 4.3.34.4.2, 4.4.3, 4.4.4, 4.4.5, 4.5.1, 4.5.2, 4.6.3, 4.7.2, 4.7.3, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5. Appendices F, H, J
Increase consumers' appreciation of Ontario fruit by developing functional packaging and presentation formats
A commonly cited issue facing Ontario's fruit industry is that fruit is not packed in a format that suits many (sometimes most) consumers' purchasing and usage patterns. Nor does the format offer a practical means of managing quality. Adopting more proactive and constructive relationships with downstream stakeholders than commonly exist will provide Ontario fruit packers with the innovation opportunities required to increase the unique value proposition (UVP) that Ontario-grown fruit offers consumers.
Relevant sections of report: Executive Summary, 2.2, 2.5.1.1, 2.5.1.2, 2.5.1.4, 2.6, 3.1.2, 3.1.3, 3.1.5, 3.2, 3.3.2, 3.4.2, 3.4.3, 4.2.4, 4.4.3, 4.4.5, 4.5.2, 4.6.3, 5.1. Appendices: K, L
Get to know the consumer, then partner with downstream stakeholders to exceed their expectations
To successfully adapt to a changing market and compete against increasingly capable competitors, packers and distributors who have not already done so will need to place themselves firmly in the driving seat by undertaking market research and using the resulting information to develop closer relationships with strategic partners. They must then execute targeted marketing strategies with precision.
Relevant sections of report: 2.1.1, 2.1.2, 2.4, 2.5.1.1, 2.5.1.2, 2.5.1.4, 2.6, 3.1.2, 3.1.3, 3.1.5, 3.2, 3.4.2, 3.4.3, 5.1, 4.2.4, 4.3.3, 4.4.3, 4.4.5, 4.5.2, 4.6.3, 5.1. Appendices: A, B, C, D, L

Retailers

Ensure merchandizing and marketing practices reflect non-price-related drivers of consumer behaviour
The research found that, while the majority of consumers purchase fruit for a number of reasons, all too often retailers encourage consumers to purchase Ontario fruit for reasons of price ahead of other factors. While this approach is partly an outcome of the political pressures that retailers face and the quality of fruit they receive, this is a relatively unsophisticated strategy which can have three undesirable outcomes. It can negatively impact the overall appreciation consumers have for Ontario fruit; it can unnecessary reduce profit margins; and it can result in growers being pressured to harvest fruit too early, which further impacts eating quality and consumers' support for Ontario fruit.
Relevant sections of report: 2.4, 3.1.2, 3.1.3, 3.1.5, 3.2, 3.3.2, 3.4.2, 4.2.4, 4.3.2, 4.3.3, 4.4.2, 4.4.3, 4.4.5, 4.5.1, 4.5.2, 4.6.2, 4.6.3, 4.7.2, 4.7.3, 5.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5. Appendices: F, H, J
Improve staff training and incentive programs
Up to 80 percent of store staff can be part-time and unskilled. This creates enormous challenges for training and motivating staff to treat produce correctly. However retailers could take a more proactive role towards training produce department staff and improving the quality of fruit purchased by consumers.
Relevant sections of report: Executive Summary, 2.1.1, 2.1.2, 2.2.1, 2.4, 2.5.1.2, 2.5.1.4, 3.1.2, 3.1.3, 3.1.5, 3.2, 3.3.2, 3.4.2, 3.4.3, 4.2.4, 4.4.3, 4.4.5, 4.5.1, 4.5.2, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5. Appendices: A, B, C, D, I, L

Maintain effective cold chain practices throughout retail operations, from receipt of fruit at distribution centres through to its purchase by consumers, by improving flow

The research identified that retailers' centralized distribution systems often operate more akin to a batch than a flow-through system. This results in inventories, unnecessary handling, and impacts quality. It also compromises the integrity of the cool chain, which adversely impacts consumers' satisfaction with Ontario fruit and increases shrinkage levels / operating costs. Improving product flow would benefit retailers and suppliers through improving quality, reducing costs, and increasing consumers' propensity to pay.

Relevant sections of report: 4.2.4, 4.3.2, 4.3.3, 4.5.1, 4.6.2, 4.7.2, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5. Appendix F

Improve marketing and merchandizing programs through sharing a wider array of performance information with suppliers

It is difficult for suppliers to work collaboratively with retailers if they are not willing to share performance data. The research suggests that it is common for retailers to share only minimal transactional data with suppliers, even though sharing a wider array of timely data on sales and shrinkage is a proven method for suppliers and retailers to adapt to changing market situations more successfully than at present.

Relevant sections of report: Executive Summary, 2.2, 2.5.1.1, 4.2.3, 4.2.4, 4.3.2, 4.3.3, 4.4.2, 4.4.3, 4.4.5, 4.5.1, 4.5.2, 4.6.2, 4.6.3, 4.7.2, 4.7.3, 5.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5. Appendix L

Work with key suppliers to create a Unique Value Proposition (UVP) for Ontario-grown fruit, one that appeals to consumers

The research findings suggest that, compared with other jurisdictions, Ontario retailers are less likely to share the longer term and strategic information required to develop innovative marketing programs in conjunction with key suppliers, even though it is a proven method for improving the performance of retailers and their suppliers. Adopting a more strategic approach to business would undoubtedly help capable players innovate and establish a more effective UVP than presently exists for Ontario fruit.

Relevant sections of report: Executive Summary, 2.1.1, 2.1.2, 2.2.1, 2.4, 2.5.1.2, 2.5.1.4, 3.1.2, 3.1.3, 3.1.5, 3.2, 3.3.2, 3.4.2, 3.4.3, 4.2.4, 4.4.3, 4.4.5, 4.5.1, 4.5.2, 5.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5. Appendices: A, B, C, D, I, L

Chain-Length Opportunities

Establish chain-length performance measures that reflect the processes and information-sharing capabilities required to continually improve performance

Industry performance is impacted by a series of fragmented reporting systems. Developing chain-length performance-reporting mechanisms could help address the adversarial attitudes which are arguably impacting the Ontario fruit industry's long-term competitiveness more than any other single factor.

Relevant sections of report: Executive Summary, 2.2, 2.2.1, 4.2.4, 4.3.3, 4.4.2, 4.4.3, 4.4.5, 4.5.1, 4.5.2, 4.6.2, 4.6.3, 4.7.2, 4.7.3, 5.1. Appendices: H, J, K, L

Motivate individuals to consider themselves part of an inter-connected value chain, and behave accordingly

Attitudes and behaviours are slow to change. Chain-length training and awareness initiatives, supported by governance systems that establish a sense of the need for change and personal accountability (such as that mentioned above) are proven methods for encouraging changes in individuals' attitudes and behaviours, and for improving the performance of businesses situated along the entire value chain.

Relevant sections of report: 2.2.1, 4.2.4, 4.3.3, 4.4.2, 4.4.3, 54.4.5, 4.5.1, 4.5.2, 4.6.3, 4.7.3. Appendix K

Develop meaningful brand(s) through building collaborative relationships along the entire value chain(s)

The research showed that relying on a generic 'brand' (e.g. Foodland Ontario) does not influence many consumers' purchasing habits in favour of Ontario fruit. Developing closely aligned value chains would help businesses implement the 'orchard to retail' processes required to differentiate themselves in the eyes of increasingly discerning consumers and improve the market appeal of Ontario fruit.

Relevant sections of report: Executive Summary, 2.2, 2.2.1, 2.5.1.2, 2.5.1.4, 2.6.2, 4.2.4, 4.3.3, 4.4.2, 4.4.3, 4.4.5, 4.5.1, 4.5.2, 4.6.2, 4.6.3, 4.7.2, 4.7.3, 5.1. Appendices: J, K, L

Table of Contents

1. Introduction and Background

The fresh fruit industry in Ontario has a number of strengths and opportunities, but it also faces considerable competition. One way to build a positive industry "brand" is to ensure that its stakeholders understand consumers' definitions of quality, and ensure that value chains within the industry are able to consistently deliver according to that quality. The ability to successfully deliver produce that reflects consumer-defined quality directly relates to the processes and procedures used by businesses situated along the value chain.

Researchers, therefore, aimed to understand consumer perceptions of fruit quality, and develop a method to effectively benchmark and monitor the performance of apple, pear, table grape and stone fruit value chains operating in Ontario's produce industry. Results also led to recommended opportunities to restructure practices, in order to enable improvements in performance.

1.1 Purpose and Objectives

Two primary purposes lie behind this project. The first is to quantify consumers' satisfaction with and perception of Ontario fruit versus imported fruit and against which it competes for market share. The specific fruit included in the research is fresh apples (fresh and processed), pears, peaches, plums, and table grapes. The second purpose is to assess the effectiveness of current practices and procedures that Ontario's fruit industry uses to manage quality, and whether the quality of Ontario fruit meets consumers' definitions of quality and value.

Therefore, the objectives of the project are as follows:

1. Define Ontario consumers' attitudes, expectations and satisfaction toward Ontario-grown apples, pears, stone fruit (particularly peaches), and table grapes;
2. Enable comparisons to be made between consumers' perceptions of Ontario versus internationally sourced fresh apples, pears, stone fruit (particularly peaches), and table grapes;
3. Identify opportunities to increase the perceived value of Ontario-grown apples (fresh and processed), pears, stone fruit (particularly peaches), and table grapes at the point of purchase in retail and foodservice outlets;
4. Enable consumer perceptions to be used for quantifying the effectiveness and efficiency of current arrangements used in supplying Ontario-grown apples (fresh and processed), pears, stone fruit (particularly peaches), and table grapes;
5. Develop best practice quality management benchmarks for use along the entire value chain, from farm or input supplier through to retailer or foodservice operator;
6. Identify factors related to physical processes or business practices that, if addressed, could lead to improvements in the quality of Ontario-grown produce, particularly apples (fresh and processed), pears, stone fruit (particularly peaches), and table grapes.

1.2 Methods and Approach

This section of the report outlines the methods and approach used by the Value Chain Management Centre and George Morris Centre team to accomplish the purpose and objectives of the project.

The project features four main stages. Due to the research having to coincide with operations occurring along the entire value chain, from harvest through to sale to the consumer, stages two and three occur simultaneously and in blocks of time between September 2008 and September 2009. The phases of the research are as follows:

Stage 1: Literature Review
Stage 2: Consumer Research

Stage 3: Value Chain Research, including SWOT analysis
Stage 4: Recommendations

Details of each stage are set out below.

1.2.1 Literature Review

The literature review considers a number of issues.

- Consumer and marketing trends that may affect consumption of fresh fruit, specifically apples, late and early pears, stone fruit, and table grapes.
- Factors that have the potential to affect the quality of fruit in relation to the entire value chain from harvest to consumer purchase.
- Strategic Alignment: Factors influencing the capacity of value chains to innovate and ensuring delivery of consumer defined quality through the establishment of inter and intra business relationships.
- Methods to analyze and benchmark the effectiveness of value chains.

1.2.2 Consumer Research

Stage two involves a series of qualitative and quantitative research activities designed to identify the shopping behaviours and drivers of Canadian consumers; including the comparison of 'established' Canadians to more recently arrived ethnic consumers or 'new' Canadians. Specifically, this aspect of the research took the shape of four interrelated activities:

i) Ethnographic store walk-throughs to capture consumer reactions to the environment, drivers of purchase decision making, as well as values and attitudes toward the overall fruit category;
ii) An on-line panel to identify factors that influence consumers' fruit purchasing decisions and evaluate the extent to which varying factors impact the decisions of consumers from differing demographic backgrounds;
iii) Focus groups to evaluate the attitudes and behaviours of new and established ethnic Canadians, and cultural influences affecting their purchase and consumption of fresh fruit, especially apples, pears, stone fruit and table grapes;
iv) An online survey to quantify the fresh fruit purchasing and usage patterns of ethnic groups. The research explored whether the purchasing behaviours and attitudes of new Canadians changes over time, following their arrival in Canada.

Together, these activities enabled the exploration of emotions and thoughts influencing consumer perceptions toward fresh fruit, to lead to stronger support for Ontario-grown fruits among a wide base of consumers. Suggestions for strategies and communications are made considering these findings.

1.2.3 Value Chain Research

Stage three of the project involves mapping a series of value chains (from farm to consumer) to identify opportunities to positively impact overall chain performance, including quality control. In all, five representative value chains (fresh apples, fresh late pears, peaches, table grapes and plums) were examined from farm to retail or foodservice.

Three purposes lay behind the value chain analysis (VCA). The first is to identify opportunities to create greater value for consumers through modifying practices - by either reducing costs or improving quality. This is achieved through the VCA providing detailed insights into the current state of the value chains assessed during the research, enabling recommendations that the wider Ontario produce industry can use to strengthen its competitiveness. It also allows the researchers to assess the extent to which current operations impact downstream organizations, particularly retailers' willingness to source produce from Ontario versus alternative suppliers.

The second purpose of the VCA is to determine the effectiveness of quality management practices occurring along the value chain, and their ability to deliver on attributes that consumers use to define quality. To accomplish this, the researchers investigated 'if', 'what' and 'how' quality is currently measured at each step in the chain. Also investigated, was how information is shared and acted upon. The resulting information allows the effectiveness of industry practices to be assessed and best practices to be identified.

To understand the extent to which processes and activities occurring along the researched value chains appear to exist in the wider industry, the researchers also interviewed senior managers of value chains not included in the VCA research. With the aim of gaining greater insights into factors directly effecting fruit quality in the orchard and challenges / opportunities associated with the production of fruit in Ontario, a series of focus groups were also held with fruit producers located across Ontario.

The third purpose of the VCA is to use Failure Modes and Effects Analysis (FMEA) tools to assess whether operations occurring at any specific level(s) of the value chain appear to create quality issues during distribution to foodservice outlets or retail. In particular, these tools assess whether inconsistencies in fruit quality are due to natural variations or rather variations in how quality is measured or managed downstream.

1.2.3.1 Analysis and SWOT

Armed with results following the completion of the first three stages of research, the project team conducted a SWOT (strengths, weaknesses, opportunities and threats) analysis. Opportunities and threats include external factors such as a firm's competitive position, legislation, macro economics and the cultural environment. Strengths and weaknesses are factors internal to the organization. In this project, the opportunities and threats focus on the effectiveness with which Ontario's fruit industry manages quality compared to its major competitors. The strengths and weakness relate primarily to the abilities and limitations within the Ontario fruit industry to successfully deliver consumer defined products to consumers today and over the long term.

1.2.4 Recommendations

As this project is part of a series of initiatives to develop a strategy to increase the Ontario fruit industry's competitiveness, the final stage of this project suggests actions that Ontario's fruit industry can use to eliminate current weaknesses. These recommendations have been designed so that they can be incorporated into the overall strategic planning process. The recommendations were developed through defining and comparing the impacts and value that alternative actions can have on industry development. Actions that need to be undertaken by businesses in the industry, by industry organizations and/or by government, to translate recommendations into practices that enhance the Ontario fruit industry's long term competitiveness are also identified.

A benchmarking framework that can be completed at multiple levels of the same value chain (from input suppliers through to retail) was developed as a part of this process. The framework has been designed to allow results to be compared internationally, across chains supplying multiple markets.

2. Literature Review

Shewfelt and Henderson (2003) state that seven issues are considered critical to succeeding in today's fresh produce business. They are:

1. Centralization of purchasing of perishables by different supermarket chains;
2. Prevention of accidental contamination with food-borne pathogens (food safety);
3. Biosecurity of crops throughout the distribution chain;
4. Antioxidant properties and other health benefits of fresh items;
5. Growing problems with obesity;
6. Market research to determine consumers wants and needs; and
7. Increasing dominance of one (or at least an increasingly small number of) supermarket company(s) worldwide.

When interviewed, a senior executive in the Canadian retail industry (Anonymous A, 2009) commented that issues must be viewed from both a global/macro perspective as well as from a local angle. Therefore, like others interviewed during the research, another key issue for him is "growing a quality product" that can compete against that supplied by increasingly capable importers. The eighth important issue is therefore the ability to innovate in relation to market demands:

8. Innovation (in products and processes).

Section 2.1 of the literature review summarizes the key findings from an extensive review of available literature pertaining to drivers of consumer behaviour, fruit consumption trends, and how Canada's increasingly diverse population may impact the agricultural and food industry. Section 2.2 examines the current industry environment and suggestions for change relating to culture, logistics and information sharing. Section 2.3 discusses how fruit quality is defined and Section 2.4 looks at what consumers value and how specific organizations manage their business with a focus on fulfilling consumer demands. Section 2.5 examines value chain management principles, including a high level description of factors that can directly influence the capacity of value chains to ensure they meet customer and consumer expectations of quality, through enabling and sustaining innovative practices at the strategic and operations level. Section 2.6 takes this a step further in describing the characteristics and drivers of strategic alignment and the benefits as well as challenges of strategic alignment within a value chain. The review ends by highlighting factors related to benchmarking the performance of fruit value chains. This forms Section 2.7.

2.1 Consumer Trends and Behaviour

The following review of consumer trends in behaviour and attitudes toward food has been developed from secondary research sources. It is designed to provide specific insights into the produce market, illustrate current trends and consider how these may impact consumer purchasing of fruit both now and in the future.

Where information gaps exist pertaining to the Canadian market, the research includes data from other jurisdictions including the US and in some cases, Europe. This is particularly relevant to issues that are still emerging in the Canadian market.

2.1.1 Key Trends

From the research, six key trends were identified and are summarized below:

1. Canadian Demographics - Life Stages;
2. Canadian Demographics - Ethnic Market;
3. Environmental Awareness;
4. Personal Health;
5. Organics; and

6. Buy Local.

The trends naturally overlap. For example, over the next 20 years, baby-boomers will continue to drive trends as the largest proportion of the Canadian population and this will influence other trends such as personal health. "Buy Local" overlaps with personal health, as well as environmental concerns, etc.

The consumer of today expects not one, but a number of attributes in the products they buy (freshness, taste, nutrition, convenience). The challenge facing the agri-food industry then is to adopt responsible approaches to the production, packaging, shipping, retailing and promotion of food, throughout the value chain, that reflects a corporate commitment to sustainability – while maintaining the focus on individual health and wellness as the primary motivator for purchases of fruits and vegetables.

Trend 1: Canadian Demographics – Life Stages

Figure 2.1: Projected population by age 2004 - 2020

Lifecycle Segment	Age	Population (Millions)		16 Year Change (%)
		2004	2020	
Children	Under 15	5.7	5.4	-6
Students & Singles	15-24	4.3	4.1	-7
Couples & Young Families Starting Out	25-34	4.4	4.8	+10
Families	35-54	10.0	9.6	-4
Near Empty Nesters/Empty Nesters	55-64	3.4	5.1	+51
Retirees	65-74	2.2	3.7	+70
Seniors	75+	1.9	2.7	+40
Total		31.9	35.4	+11

The Quiet Generation will be the elderly of 2020. These people were born before or during the Depression and World War 2. As a result, they tend to be traditional in their family values, conservative, and debt adverse. As consumers, this generation watches their pennies and is loyal to familiar, national brands. Change is resisted. By 2020, this generation will be made up of a large proportion of widows and widowers, either residing on their own, with relatives, or in institutional care. This is a generation of "light eaters", who will require smaller portions, flavourful, and nutrient dense foods. Food will be a form of medicine to manage issues associated with health and aging.

The Baby Boomers, born 1947 to 1966 are the most influential consumer group in Canada today, representing about one third of the country's 31.6 million people. As the largest consumer segment, baby boomers will continue to set purchasing trends for at least the next 20 years.

This generation grew up in a climate of social change and prosperity although the tail end baby-boomers, born in the early sixties did not enjoy the job opportunities of their earlier-born cohorts. Dual income families have resulted in more disposable income, accompanied by a shift to eating out and convenience foods, partly supported by the introduction of the microwave oven. The baby boomers are exposed to new cuisines through travel in their semi-retirement and retirement.

Pre-boomers and older boomers share a preoccupation with the preservation of health/ well being, prevention of disease and a strong desire to hang on to their youthfulness. Obesity and aging are major drivers effecting food choice. Increasingly, this group will adopt functional foods. Brand is a

status symbol for many baby-boomers, although private label and nostalgia brands represent some value. Quality will outstrip quantity as baby-boomer households shift from feeding hungry teenagers to feeding themselves.

The Baby Bust Generation, a much smaller cohort than the boomers, consists of children from the late sixties and seventies. This generation was the first to have experienced real fragmentation of the media in their formative years.

This segment will represent the high volume family households in 2020. They are characterized by high debt loads and while cautious, justify small indulgences in things like food purchases. Raised with Ronald McDonald, they are the first real "fast food" generation. Declining involvement with food preparation in favour of pick up is the norm. Polarization between the obese and the fit is evident, and this generation, like others before them, face challenges managing their weight as they age. This segment is more experimental with food than their predecessors and brands are selected on a range of product attributes.

The Echo Generation or Gen Y, born in the 1980's and early 1990's, represent the children of the tail end baby boomers. They have an attitude that everything is disposable. This generation is more sophisticated and design conscious, due in large part to their early exposure to electronic media. As a result, marketers will be looking for more ways to reach this generation on a personalized basis.

This generation will probably have the most influence on trend setting through to 2020. They will be forming households and starting families, and will be very cautious about what they feed their children. The internet, instant communications, global influences (including representation of visible minorities), and social consciousness are the driving forces. Increasingly, ethnic, exotic, veggie and organic foods will be sought. The Gen Y's are more savvy consumers who grew up knowing how to read food labels. Health and weight management will be seen as more of a lifetime commitment, as prevention messages will have been targeted at this group in their teen years. Portability of foods will fit busy, on-the-go lifestyles. With younger families, cooking and in-home dining will become a social event. Brands reflect individualism and lifestyle for this segment.

Canada's Aging Boomers: A Golden Opportunity

Canada's aging boomers have a strong interest in preventing and managing disease and health issues through dietary measures. This presents significant growth opportunities for food producers, manufacturers, and retailers. Determining the evolving needs of this generation, especially the older segment, will help shape a go-to-market strategy that accurately anticipates what senior boomers want.

The figure below shows that semi-moist fruits such as currants, dates, apricots and prunes were over developed with pre-boomers in 2003. They tend to be popular because they are primarily natural, without artificial sweeteners or preservatives. They are high in fibre, easy to buy, shelf-stable and are usually plentiful and widely available in retail stores.

Figure 2.2: Developmental Index of Food Choices, Pre-Boomers vs. Older Boomers

Developmental Index	Pre-Boomers	Older Boomers
Canned and Bottled Fish		
Anchovies/Sardines	164	91
Herring	139	80
Mackerel	160	129
Salmon	153	113
Seafood Spread/Pastes	154	104

Nuts		
Shelled Nuts	116	121
Peanuts in Shell	134	115
Calcium Rich Foods		
Frozen Yogurt	161	92
Refrigerated Yogurt	83	97
Ice Cream	95	111
Milk	87	99
Semi-Moist Fruit		
Currants	181	101
Dates	157	109
Apricots	146	100
Prunes	127	100

AC Neilson Homescan, 2004

Value for money is also an important consideration in the food purchasing decisions of aging Canadians. Although retirees' financial situations are improving over time, senior citizens still typically have less disposable income than members of other age groups. Between 1996 and 2026, the life expectancies of both men and women are expected to increase significantly, from 75 years to 80 for men and from 81 years to 84 for women. This means that today's boomers will spend more years in retirement, and must therefore make their retirement savings last longer.

Some food items and trends that will emerge to serve senior citizens include single portion snacks and meals, nutrient dense foods, easy to open packages, large print labels, and semi-prepared foods. However, to truly appeal to these price sensitive consumers, products must be affordable.

With more Canadians retiring at a younger age, we are seeing a return to 'from scratch' cooking and the art of preserving. Many "from scratch" cooking ingredients are over-developed among the ages 55 to 64 (AC Neilson Homescan, 2004).

Trend 2: Canadian Demographics – the Ethnic Market

The 2006 Canadian Census reported that 16.2% of the Canadian population consists of visible minorities. By 2017, it is estimated that that this will increase to 22% reflecting the increase in immigration and declining birth rates among second and third generation Canadians. Depending on the projection scenario used, Canada's visible minority population could number between 6.3 million and 8.5 million in 2017 or 56% to 111% larger than 2001.

Visible minority populations vary a great deal in terms of origin, linguistic characteristics and religious affiliations. There is also considerable variation in their size. In 2006, the South Asian and Chinese were the largest two groups in Canada, accounting for 4% and 3.9% of the total population respectively (Canadian Census). In 2017, it is projected that they will remain the largest and account for almost half of all visible minority persons, growing in size by as much as 37% for South Asians and 11% for the Chinese. In the future, the South Asian population is expected to outnumber the Chinese, due to a higher fertility rate and equal share of immigration. The third and fourth largest visible minority groups in 2017 are expected to be the Black and Filipino populations. In 2006, they accounted for 2.5% and 1.3% of the Canadian population respectively. Under various projection scenarios, it is estimated that Black Canadians could increase by 25-53% (up to 1.2 million people) and Filipino Canadians could increase by 15-58% (up to 650,000). The highest growth rates leading up to 2017 are projected for the West Asian, Korean and Arab groups. Projections suggest that their

populations could more than double in this period although, in absolute terms, their numbers would remain small relative to the Chinese, South Asian and Black groups.

It is expected that the majority of visible minorities will continue to live in urban areas. More than 70% of the immigrants who came to Canada between 1996 and 2001 chose to live in the census metropolitan areas (CMAs) of Montreal, Toronto or Vancouver. For many of these immigrants, the presence of family and friends in these cities was a key reason for their decision to move there. Calgary and Edmonton are also becoming popular destinations, given the economic growth prospects in Alberta. It is expected that nearly 95% of visible minority persons will continue to live in one of Canada's 27 CMAs in 2017, roughly the same proportion as in 2001. Currently, 75% of visible minorities reside in Montreal, Toronto or Vancouver and this is expected to continue until 2017. Toronto alone could have 2.8-3.9 million visible minority residents, Vancouver 1.1-1.5 million, and Montreal 666,000-895,000. If these figures are correct, visible minorities will become the majority in greater Toronto area by 2017 (Statistics Canada, 2005).

Although there is no Canadian equivalent, information regarding Asian expenditures can be derived from the US Bureau of Labour Statistics, Consumer Expenditure Survey (2005). A key finding is that Asians surpass all other racial and ethnic groups for their average expenditures at home, away from home and for produce (fruits and vegetables). This is an important insight for marketers seeking to attract the Asian segment in what has been identified as Canada's largest growing visible minority group.

Figure 2.3: Consumer Spending on Food, by Ethnic group

Item	All Consumer Units	White and other races	Asian	Black or African American	Hispanic
Food	$5,931	$6,127	$6,632	$4,319	$5,551
Food At Home	$3,297	$2,273	$3,580	$2,663	$3,344
Food Away from Home	$2,634	$2,754	$3,052	$1,657	$2,207
Fruits and Vegetables	$552	$559	$814	$428	$640

US Bureau of Labour Statistics, Consumer Expenditure Survey, 2005

With few exceptions, most fruits and vegetables consumed by non-Asian "mainstream" consumers are also routinely consumed by Asian American consumers. However, Asian Americans also consume an enormous variety of "Asian" produce to meet their specific culinary needs and tastes. In fruit, it is expected that ethnic consumers demand a larger variety of tropical fruits than typically consumed among the mainstream, including coconuts, mangos, papayas, guavas, wide range of citrus, star fruit, durians, and other specialty fruits.

Trend 3: Environmental Awareness

The rise of environmental awareness among Canadians is largely being driven by concerns about global warming and humanity's "footprint" on the environment. The 'Buy Local' and 'Sustainability' movements are both manifestations of this growing awareness, which are having a significant impact on the lifestyle and food choices of some consumer segments, as well as how some value chains conduct business. Although concerns about the economy may rise and fall with the business cycle, research suggests that health care and environmental concerns seem to be long-term consumer issues. Examples of current initiatives include sourcing food from within 100 miles of home, buying

hybrid cars, the use of alternate fuels such as ethanol and biodiesel, and replacing plastic shopping bags with reusable cloth alternatives.

There is an abundance of material available about consumers' attitudes toward the environment, however there is a surprising lack of independent and reliable Canadian research on this subject. Due to this information gap, we have relied upon US data as a proxy for our domestic situation.

Consumers and retailers are becoming increasingly conscious of where and how products are produced, the amount of energy consumed during production and distribution and the energy efficiency of retail outlets in which the goods are sold. Many businesses believe that embracing the "green movement" will enable them to retain or grow market share. This has affected not only product development but also practices throughout the entire supply chain.

A considerable and lucrative target market has grown, as more consumers embrace environmentally responsible choices with their shopping dollars. The Natural Marketing Institute found that the purchasing choices of 23% of the American population are heavily influenced by environmental, social, and healthy lifestyle values. These concerns were found to moderately influence the shopping of an additional 38% (French and Rogers, 2005).

It is reported that mainstream companies are becoming "more green" for several reasons. The first is that consumers have come to expect some level of environmental/health benefit, such as Energy Star™ appliances or eliminating trans fats from food. Secondly, many environmentally friendly products are attractive to consumers because they offer additional benefits desired by consumers. Examples include light bulbs that burn longer and cost less to use and organic food that simply tastes exceptional. Furthermore, corporate social responsibility has been shown to translate into favourable consumer and investor behaviour (French and Rogers, 2005).

Additional, it has been reported that the green consumer segment is largely comprised of middle to upper income consumers, especially baby boomers and "yuppies" (i.e. young urban professionals).

Trend 4: Personal Health

For many years consumers have been encouraged to increase consumption of fruits and vegetables as a means of improving their health. Closely linked with an aging demographic, health is an important long term trend.

The Centre for Food & Health Studies' New Nutrition Business report entitled, "10 Key Trends in Food, Nutrition & Health 2009" found that some key health trends that relate to fruit consumption include; digestive health, weight *management* over diets, energy and fruit as a key functional food.

Digestive health products (such as those containing probiotics, prebiotics and fibre) have recently manifested itself as a key food trend that appeal to the many rather than a specific niche. Their appeal and market potential comes from consumers viewing them as providing a pre-emptive wellness benefit to help prevent sickness in a form that can be consumed quickly and easily. Fruit is a natural source of fibre, is low in calories and fat, and is convenient to eat. Promoting fruit as a healthy snack option also would appeal to health conscious snackers. 90% of Americans claim to snack, compared to 75% who eat breakfast.

Energy is associated with good health and the energy category is currently dominated by heavily caffeinated, high-sugar beverages. This is expected to shift to natural ingredients such as fruit, guarana, ginseng, green tea, and vitamin B.

Fruit and fruit drinks are listed in this report as “the key driver of the future of functional foods.” The heart of this trend is the ability of the market to communicate the benefits of fruit and to capitalize on it as a beneficial ingredient instead of just a flavour. Ingredients specified in the report include fruits that provide benefits such as energy, inflammation reduction, glucose uptake, sports recovery, digestive health and immunity.

Fruit also relates to the trend for parents who are looking to feed their children more nutritious and functional foods. Suggested keys to success in this area are clear communication of ingredients and health benefits to parents (e.g. all-natural, free-from, vitamins, immunity boosters), positioning products in a cost effective manner, and focusing on products that are “something the child will want to eat.” It is suggested that the potential for mass success of this trend is unlimited, because parents worldwide have many of the same concerns regarding their children's health and nutrition.

Any marketing efforts must be conscious that consumers are more likely to keep buying “healthy” foods, if they can see and/or feel results quickly and easily. Products that lack this effect could be in trouble. “In Australia sales of omega-3-fortified milks have tumbled – in one case by 33%. Omega-3 is an essential nutrient, but it doesn’t give a benefit that you can see or feel” (Mellentin, 2008).

While the majority of consumers have embraced some form of health and wellness, the transition to living well has been slow and gradual, says Information Resources, Inc. (IRI), Chicago. In fact, IRI says consumers are behind in meeting dietary guidelines for whole grains, fruits and vegetables. Barriers to change include continued splurging on indulgent products and a steady rise in obesity rates; there is a high incidence of obesity found in boomers. NPD Group, Port Washington, NY, reports that one third of baby boomers are overweight, and one in four boomers are on a diet. By a small margin, older boomers, ages 50 to 62, are now worried about fat, salt, cholesterol, sugar and carbohydrates more than their boomer counterparts in their 40s.

Trend 5: Organics

The last several decades have seen the emergence and growth of the organic market segment in which consumers are seeking and selecting products produced without the use of industrial fertilizers, pesticides, antibiotics, hormones and GMOs. Although the organic market is often looked at through an environmental lens, research indicates that organic consumers are making their purchase decision based largely on the belief that organic is a healthier choice both for them and for their families.

A review of secondary research sources shows that the organic movement is firmly entrenched in Canadian markets, as it is in western markets overall. While organics account for only about 2-4% of consumption (US), organic products can be found everywhere from farmers’ markets to mainstream grocery stores. Fruit and vegetables are the largest category of the organics market, representing nearly 38% of all organics sold in Canada. Sales of organics in the US grew by almost 20% in 2006 and the forecast is for continued double-digit growth for the foreseeable future. Shewfelt suggests that in the future, product safety will be associated with reduced levels, or absence of, pesticides (2006).

Trend 6: Buy Local

The Buy Local movement is often mistakenly characterized as being strictly focused upon minimizing the environmental impact of food production and distribution. Current research indicates that consumers’ interest in the Buy Local movement is driven by a wider trend in seeking fresh healthy food and/or having greater assurance about the food they choose to consume. It also shows that while consumers voice support favour local food, the majority of their purchasing habits differ considerably compared to stated intentions. This is due to local food purchases only being made

once expectations of quality, availability and price have been met (Gooch & Marenick, 2006; Heslop, 2007; Ipsos Reid, 2007; IGD, 2008).

Whatever the drivers are for the Buy Local trend, it is clear that concern for personal health and environmental health are not mutually exclusive. Often, they are interrelated, engaging consumers on two major fronts at the same time; their personal health and well being and their role as part of a community concerned with the well being of the environment. Certainly the Buy Local phenomenon which is the current media darling is one where the borders are easily crossed. Proponents emphasize freshness and (in the opinion of some) more nutritious offerings combined with a lower carbon footprint. And interestingly, many consumers also equate Buy Local with Organic – although this is not the case (Gooch, et al, 2009). In fact the majority of organic produce available in Canada is imported. This is where some of the food buying and eating philosophies come into conflict as consumers' debate the merits of eating local produce that is conventionally produced compared to organic produce that may have travelled a long distance to the dinner table.

2.1.1.1 Summary

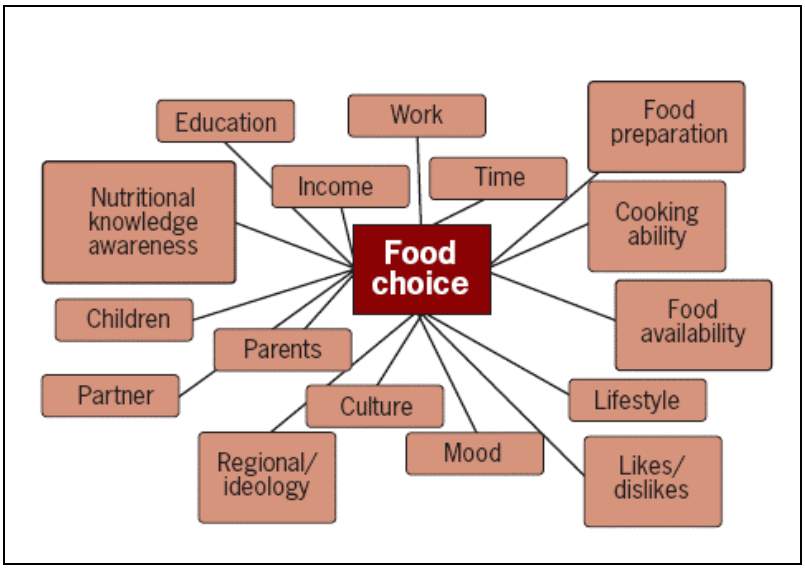
As stated above, the trends discussed above are not mutually exclusive and indeed are inter-connected. Changes in Canadian demographics present opportunities the Ontario's fruit industry can exploit by adapting the management and marketing of existing products or introducing new varieties that appeal to specific segments of the population.

The Canadian consumer is clearly on its way to becoming "greener". Like the personal health-driven paradigm that remains a powerful influence for consumers and producers of food, this new way of thinking has the potential to impact all parts of the food production value chain. It is important to note that despite this swell of mainstream consumer interest and concern about the environment over the past few years it is still not the primary driver of consumer food purchase decisions. Quality, nutrition, freshness, price and pursuit of individual health continue to trump concern for the health of the environment when selecting and purchasing food, including fruits and vegetables.

2.1.2 Highlights of factors influencing consumers purchase decision making

In Figure 2.4, the factors influencing food choice are illustrated to show that food purchase decision making is complex. This section summarizes the key variables that influence consumers purchase decision-making, from a myriad of secondary research materials.

Figure 2.4: Factors influencing food choice



Health Caterer, Spring 2007

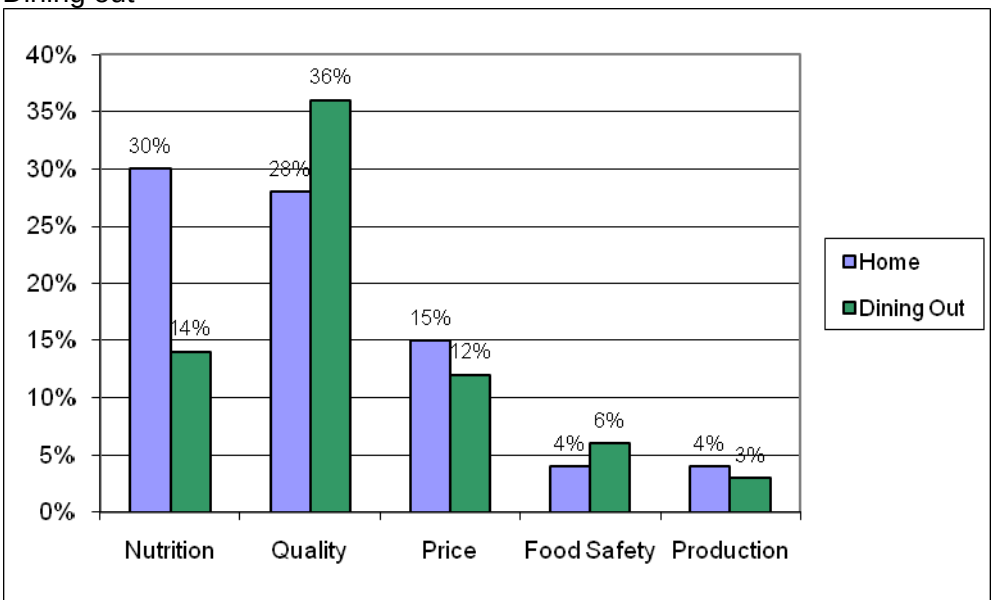
Consumers choose foods that they expect will satisfy hunger and give pleasure in consumption, that will keep them healthy and well nourished, that will be easy to prepare at the skill levels and time they have available, will bring pleasure to themselves and others who are important to them, and will confirm their desired status as a provider of desirable meals. Food safety is an accepted norm and expectation of the market system in advanced economies. Bredahl *et al.* (2001) note that rising incomes in developing countries are associated with increased demand for safer, higher quality, more healthful food produced in an environmentally responsible manner. It is expected that government regulations, food handling and processing practices, and sanctions within the legal system work together to ensure that the food on store shelves prepared in traditional ways is safe to eat.

Some food purchase criteria are important but not salient in a decision, either because they are assumed to be true of all alternatives or because they are not available from any alternative. For example, pre-washed salad greens have only recently become widely available so consumers previously were unable to consider this convenience feature a salient criterion in choosing fresh produce. Now available at a reasonable price, with acceptable shelf life, it has become a highly desirable trait.

2.1.3 Factors Influencing Purchase of Fresh Fruits and Vegetables

Consumers primarily purchase food for consumption and home and dining out. According to the 2006 study *Consumer Perceptions on Food Safety and Quality* prepared for Agriculture and Agri-Food Canada by Ipsos Reid the importance of factors varies for consumers eating at home versus eating out. When eating at home, nutrition, quality and price are the most important factors when buying food. However, quality is the most important factor driving food purchases in food service.

Figure 2.5: Consumer's Top of Mind Considerations When Buying Food, Consumption at home vs. Dining out



Ipsos Reid, Consumer Perceptions of Food Safety and Quality Wave 2, 2006

This study is consistent with a 2004 study on the same subject. Again, nutrition, quality and price were found to be the key drivers for food purchase. Quality became more important when dining out, while nutrition comes close to matching quality in consideration when buying for the home. Food safety was found to be a low priority in these studies. A similar conclusion was made by Heslop (2007), who concluded that Canadian consumers view food in Canada (whether domestically produced or imported) as safe.

An American study, the USDA's Continuing Survey of Food Intakes by Individuals, collected in 1994-96 and 1998, indicates that Americans consume about a third of calories from food prepared away from home, up from less than a fifth in 1977-78. This study found that when consumers buy from food service establishments, fruits and most vegetables seldom make the list. Away-from-home food accounted for less than half a serving of fruit, and one and a quarter servings of vegetables. Moreover fried potatoes made up approximately 35% of vegetables eaten away from home, compared with 10% of the at-home vegetable consumption.

Based on research by Ipsos Reid on Marketing and Branding in the Canadian Agri-Food Sector, about one in five consumers (18%) report dining out for their main meal less than once a month while just over four in 10 (44%) report eating their main meal of the day at a restaurant at least once per week.

How and/or where food is produced ranked low on the decision scale. One exception however was among the segment that is 'issue oriented'; who prefers products such as organics and free range chickens. As discussed above in the section on organics, this segment represents a modest but not insignificant, percentage of the population.

In January 2008, CPMA added a series of questions to a syndicated Nielsen Company Panel Track survey in order to focus in upon key decision drivers for fruit and vegetable purchases. The 7,800 respondents from across the county showed that the key attributes in the decision making process regarding fruits and vegetables aligned well with those for food in general, as previously detailed in the Ipsos Reid study.

Therefore, the research suggests that overall, quality followed by price are the top attributes driving fruit purchases. These are followed by specific quality attributes such as colour and feel, are the next most important factors. The entire list of attributes identified by consumers as factors that influence their fruit purchasing decisions is shown in Figure 2.6.

Figure 2.6: Factors Influencing Purchase of Fresh Fruits and Vegetables
Which of the following factors are most likely to influence you to buy fresh fruit or vegetables?

Quality of the produce available	89.0%
Price	76.5%
Colour	47.3%
How the produce feels to the touch	41.9%
Smell	32.1%
Attractiveness of the display	22.0%
Other	13.9%
Don't buy fresh fruits and vegetables	0.9%

Nielsen Company Panel Track Study, January 2008

When asked, *"Which of the following factors are most likely to determine which fresh fruit and/or vegetables you buy for your household"* the answers shifted somewhat. Quality and price remain the number one attributes. However, a new attribute, the preference of someone else in the household, moved into the second tier of importance. Packaging (the product is sold loose), health benefits and locally grown formed a third tier of factors.

Figure 2.7: Factors Influencing Which Fresh Fruits and Vegetables Are Purchased
Which of the following factors are more likely to determine which fresh fruit and/or vegetables you buy for your household?

Quality	78.0%
Price	75.4%
I buy the produce that is the preference of household members	52.5%
That the produce is sold loose	44.2%
Health Benefits	40.7%
That the produce is locally grown	36.5%
That the produce is organic	9.8%
That the produce is sold in a pre-packaged format	7.6%

Nielsen Company Panel Track Study, January 2008

The attributes of quality and price as the top decision drivers are clearly shown in the Ipsos and Nielsen studies. Other attributes such as "green" only become significant drivers after the top attributes are satisfied.

Although price is a key driver of purchasing, the concept of value is perhaps more important. Clements et al (2008) reported that many consumers show a willingness to pay more for fruit that matches their quality expectations. Walsh (2006) also reported that 80% of consumers in the United Kingdom indicated that quality was more important than price and that they were willing to pay higher prices for quality when they trusted the product to deliver on taste.

The influence of income on projected demand for fruits and vegetables is complex. People with higher incomes generally have more years of schooling and greater nutrition knowledge, but they also tend to eat out more frequently. These factors have powerful but contradictory effects. Consumers with higher education and greater nutrition knowledge tend to choose more fruits and vegetables,

except fried potatoes and chips. But, when eating out, choices often include less fruit and more (fried) potatoes and lettuce.

In the USDA's Continuing Survey of Food Intakes by Individuals, among all income levels, education had a much greater impact on household produce purchases than did income. Controlling for income, college educated households had the highest level of per capita fruit and vegetable expenditures ($5.99 per person per week versus $4.25 for households headed by a high-school-only graduate).

A person's knowledge of nutrition also influences his or her choice of what foods go on the plate. Using data from the 1994-96 Continuing Survey of Food Intakes by Individuals and its companion Diet and Health Knowledge Survey, researchers found that consumers with more nutrition knowledge not only ate more vegetables, they also chose a more healthful mix of vegetables than other consumers. These findings provide evidence of the value of nutrition knowledge, but other personal and lifestyle characteristics help determine food choice, and their influences may enhance or negate the effectiveness of information.

Larger households are thought to cook more meals from scratch, with vegetables commonly used in preparing such meals. Up to a point, this turned out to be true. Households with four members bought 16 of 24 different popular vegetable types, compared with just 10 types for single-person households. But when household size reached five or more members, variety in vegetable purchases began to decline, with households of six members buying 14 types of vegetables. A possible explanation may be that in larger households, it can be difficult to prepare meals that please all members. Meal planners in large households may tend to compromise by repeatedly choosing vegetables that everyone likes.

The kinds of individuals in a household also influence food purchases. As mentioned earlier, better educated households bought a slightly more varied mix of vegetables. By contrast, the presence of children exerted a negative influence on the variety of purchases, reducing the number of different vegetables bought by one. This effect demonstrates the veto power children can have over vegetables they dislike. According to the Packers Fresh Trends study, bananas, apples and grapes are the most popular fruits among families with children at home. The list of the most popular fruits and vegetables purchased by families is included below.

Figure 2.8: Top Fruits and Vegetables, Purchased by Families with children (% of families buying)

Potatoes	86%	Bell peppers	63%	Garlic	42%
Bananas	86%	Strawberries	61%	Green beans	42%
Onions	81%	Oranges	60%	Cauliflower	41%
Tomatoes	80%	Broccoli	57%	Plums	39%
Apples	77%	Peaches	55%	Spinach	39%
Carrots	76%	Mushrooms	49%	Squash	33%
Grapes	75%	Blueberries	45%	Asparagus	33%
Salad mix	71%	Cabbage	44%	Nectarines	33%
Cucumbers	68%	Lemons	44%	Limes	32%
Cantaloupe	64%	Cherries	43%	Radishes	32%
Corn on the cob	64%	Pears	42%	Pineapple	30%
Lettuce	64%	Sweet potatoes	42%	Honeydew	28%

The Packer's Fresh Trends 2007 consumer research survey

2.1.4 Fruit Consumption in Canada

The 1992 Canadian Food Guide recommended at least five daily servings of vegetables and fruit. One serving would be, for example, a medium-sized apple, two stalks of broccoli, or 125 millilitres (1/2 cup) of juice.

In 2008, 43.7% of Canadians aged 12 or older reported that they consumed fruit and vegetables five or more times per day, up from 37.6% in 2001. In 2008, about half of women in all age groups reported that they ate fruit and vegetables five or more times daily. Among men, boys and youths aged 12 to 19 had the highest rate (47.6%) of consuming fruit and vegetables five or more times a day. Senior men consumed fruit and vegetables less frequently (40.3%) than did 12- to 19-year-olds, but more frequently than did men aged 20 to 64 (Statistics Canada, 2008).

Unfortunately, Statistics Canada has not released a report on Canadian food consumption since 2002. Data from 2001 indicated that each Canadian ate 125 kilograms of fruit, slightly below 2000 levels, but up more than 13% from the early 1990's.

Figure 2.9: Canadian Fruit Consumption: Fresh, Processed and Juice

Year	Fresh Fruit (kg)	Canned Fruit (kg)	Frozen Fruit (kg)	Dried Fruit (kg)	Fruit Juice (litres)
1999	63.51	5.07	1.94	1.4	25.31
2000	65.22	5.01	1.82	1.51	26.45
2001	63.42	5.05	1.86	1.47	25.89

Statistics Canada, 2002

Figure 2.10 highlights that the average Canadian annual total fruit consumption ranges between 63-65 kg per person. Overall consumption has remained relatively steady since the early 1990's. Orange juice, bananas, apple juice, apples, oranges and melons topped the list representing 62% of all fruit consumed in 2001.

Figure 2.10: Consumption of the most popular fruits (kg/person)

Fruit	**1999**	**2000**	**2001**
Citrus	13.57	15.43	14.45
Apple	13.75	12.95	13.04
Banana	11.83	12.01	11.09
Pear	2.45	2.3	2.38
Strawberries	2.05	2.1	1.95
All Berries	1.6	1.76	1.8
Total	63.51	65.22	63.42

More recent consumption data (from Statistics Canada but available from OMAFRA) on Canadian fruit consumption is outlined below in Figure 2.11. The amount indicated is the retail weight (kg) or volume (litres – juice) and does not adjust for losses, such as waste and/or spoilage, in stores, households, private institutions or restaurants or losses during preparation.

Figure 2.11: Per Capita Disappearance of Selected Fruits, Canada, 2004 to 2008 (kg/yr)

Fresh Fruit	**2004**	**2005**	**2006**	**2007**	**2008**
Apples	10.01	10.95	11.33	10.66	10.58
Bananas	13.85	13.95	14.06	14.31	14.32
Grapefruit	1.54	1.35	1.42	1.61	1.49
Grapes	4.82	5.23	4.89	5.13	5.28
Lemons	1.18	1.22	1.23	1.19	1.16
Mandarins	2.76	3.1	3.2	3.46	3.44
Melons, total	10.51	10.08	10.54	10.6	10.04
Nectarines	1.14	1.03	0.87	0.95	1.07
Oranges	9.36	9.93	9.53	8.62	9.49
Peaches	1.36	1.24	1.32	1.55	1.43
Pears	2.23	2.23	2.42	2.49	2.21
Pineapples	2.1	2.47	3.03	2.94	2.95
Strawberries	2.46	2.72	2.98	3.06	3.05
Processed Fruit	**2004**	**2005**	**2006**	**2007**	**2008**
Apple pie filling	0.09	0.1	0.1	0.1	0.1
Apple sauce	0.5	0.5	0.5	0.49	0.5
Apples canned	0.34	0.35	0.4	0.39	0.45
Peaches canned	1.01	1	0.97	0.97	0.96
Pineapples canned	0.91	0.89	0.85	0.85	0.81
Strawberries frozen	0.59	0.59	0.62	0.65	0.6
Juice	**2004**	**2005**	**2006**	**2007**	**2008**
Apple juice, litres	7.01	7.18	7.13	7.05	6.96
Grape juice, litres	3.34	3	3.49	3.59	3.99
Orange juice, litres	13.86	13.74	13.57	14.01	12.01
Tomato juice, litres	1.35	1.37	1.33	1.33	1.25

Most fruit in Canada is consumed fresh. Over the past 20 years there has been a moderate increase from 34 to 38 kilograms, or some 12%. Fresh fruit is also subject to 'guilt buying'; it is a healthy item that moms in particular feel they just have to have on hand. As such, it is subject to some 'fridge' and 'lunch bag' waste. Fresh fruit is a convenient addition to salads and is an easy snack option, either alone or with a dip, as is offered at fast food outlets.

Although frozen fruit is still a small category, with the average person consuming around 2-3kg annually, it has been steadily growing and is expected to continue in that direction. In 2007, Canada's fruit and vegetable processing and frozen food industry shipped $7 billion of products, of which 32% was exported (AAFC website, 2009). National grocery sales in Canada for pre-packaged fresh vegetables exceeded $437 million in 2007, up 20% from 2005 (AC Neilson). Sales of frozen fruit and vegetables were valued at $589 million in 2007. Frozen vegetable sales accounted for almost 70% ($410 million) of this total, and grew 8% from 2005. Demand for frozen fruit, including fruit juice concentrate, grew by 15% in the same period to reach $178 million in grocery sales (AAFC, 2007). The quality and variety of frozen fruit has improved dramatically, including whole berries, melon, peach and plum mixes. Frozen fruit also addresses the problem of fresh fruit spoilage and waste, and is available year round. Although the distribution of fresh local fruits and vegetables is limited due to the short growing season, a clear opportunity exists to supply this growing demand for processed (particularly frozen) fruits and vegetables. Despite this, Canadian retailers have not added to their frozen food doors, nor has fruit/vegetables as a category made gains within the freezer section

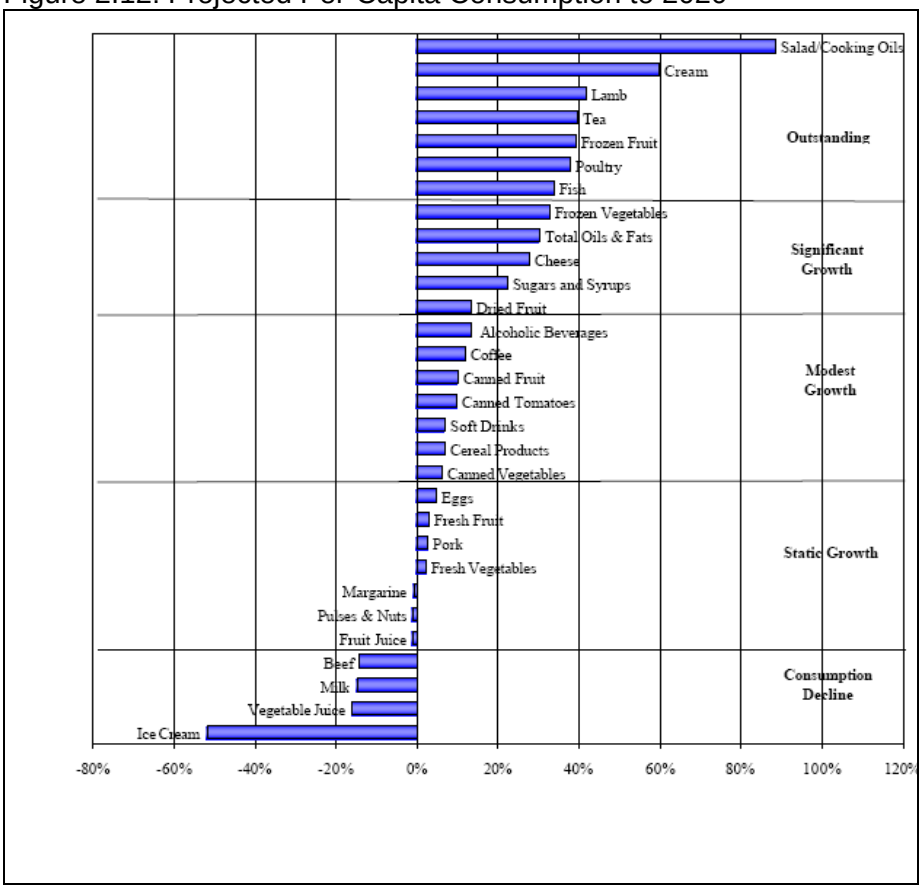
(Anonymous A, 2009). Since Canadian farmers can't produce fresh fruits and vegetables during the winter months, historically off-season demand for fruit and vegetable products has increasingly been met by imported fruit and vegetables.

Processed fruit is also a relatively small category. The average per capita consumption of dried fruit has been around 1.5kg/year. Dried fruit is expected to achieve significant growth of 13% leading to 2020. Dried fruit and fruit leathers provide nutritious 'on the go' snacks. Canned fruit is a slightly larger category, averaging almost 5kg in consumption, and will likely show a modest increase of about 10% in per capita consumption by 2020. It is assumed that canned fruit includes bottled and single servings, the latter being an ideal take-along product. Slower growth in this category has been related to immigration, as canned fruit is not as popular within the ethnic market.

Fruit juice consumption has seen nearly a 15% increase over the past 20 years, but this trend is not expected to continue. The projected per capita consumption of fruit juice is expected to be around 24 litres per person. Although generally considered a healthy food product, consumers have not been rushing to drink fruit juices. The beverage industry has responded with a variety of options in shelf-stable, chilled and fresh squeezed, exotic fruits, fruit blend, fortified fruit juice, size options and vending. Other beverage products such as soft drinks, bottled water, and tea may be substituting for fruit juice consumption.

The following chart shows projections for fruit and more general food consumption in 2020. The base of the percentage change is the average actual consumption of three years (2001, 2002 and 2003).

Figure 2.12: Projected Per-Capita Consumption to 2020



AAFC, 2005

Shifts within fruit types are expected to continue. The future looks bright for the continued penetration of exotic fruits. Imports of exotic fruits (listed in Figure 2.13) nearly doubled between 1993 and 2003 to 214 tonnes and new exotic fruits like pomegranates, passion fruit, star fruit, dragon fruit, litchi nuts and longans have popped up in grocery stores and on restaurant plates. Processed tropicals, including fruit juices and blends, chutneys, as well as canned, bottled and dried fruits are also new products entering the Canadian market. Between 2000 and 2003, AC Nielsen reported a 38% increase in retail grocery dollar sales of fruits other than apples, bananas and citrus (which grew by 25% during this period). Tropical fruits accounted for nearly 10 cents of every dollar spent in retail stores on fresh fruit in 2001.

The interest in exotic fruits is certainly linked to availability; especially during Canada's winter when locally grown fresh fruit is not available. Canadians also seek variety, driven by global awareness, a willingness to try new things, healthy diets, and a desire for freshness. The following table shows the growth of imported fruit sales, listed in order by volume.

Figure 2.13: Growth in exotic fresh fruit imports, 1993-2003

Type	**10 Year Change in Tonnes (%)**
Unspecified Fruit[1]	+56
Pineapple	+239
Guava & Mango	+148
Avocado	+105
Kiwi	-23
Coconut	+16
Papaya	+85

[1]Excludes fruit in table plus pomes, stone fruit, bananas/plantains, melons, grapes, berries, citrus, dates and figs.

Statistics Canada

2.1.5 Packaging

There are three main trends occurring in packaging both in Canada and the US; namely, environmentally friendly packaging (reduction of packaging), convenience and safety.

Environmentally Friendly Packaging

A new survey by Decima Research, commissioned by So Nice, Canada's leading organic soy beverage brand, paints the picture of a new "green grocery" movement in Canada. Decima's findings reinforce that Canadian consumers are demanding new standards of environmental accountability from the products they buy and the places they buy them. The national study was conducted from April 5th to April 9th, 2007. If found that 81% opt for products with less packaging and more than half of Canadians (53%) report they always or sometimes carry their own shopping bags when they go to the store.

Toronto legislation mandating that stores charge consumers five cents for each plastic shopping bag came into effect in June 2009. Many national grocery stores following suit across Ontario and Quebec, including Metro, Loblaws and Sobeys. It was reported by the CBC that shoppers used up to 70% fewer bags since the charge came into effect.

The qualitative research findings below also found that Ontario fruit consumers overwhelmingly preferred "loose" packaging format for all fruit types (except grapes) (Section 3.1.3).

Convenience: fresh-cut, prepared, and washed

The trend of prepared or conveniently packaged fruit and vegetables is not only seen in consumer snack food but also in retail purchases. AC Nielsen also found that refrigerated bagged salads were the largest segment of pre-packaged fresh vegetables market, with sales of $371 million in 2007 (AAFC, 2007). Retail buyers prefer dealing with pre-packaged produce as it reduces the work required in store, reducing labour costs and is perceived to offer better food safety (Anonymous A, 2009).

Grocery shoppers often prefer to buy larger fruit, such as cantaloupe or watermelon, that is pre-cut into halves or quarter wedges. This may be due to the convenience of having it prepared at retail, but also likely relates to the volume required.

Food service also would rather buy produce that is cut to specification than train and pay an employee minimum wage to cut and slice produce. Fresh cut produce also creates more space in their coolers. For example, 50 lbs of diced carrots would take less space than one big 50 lb bag of carrots. According to Ohlemeier, larger hotels and country clubs are driving fresh cut sales (The Packer, May 12 2003).

For grocery and foodservice, fresh cut is a popular choice because it drives higher margins. It is not only convenient but saves labour costs. Within the retail sector, it also moves away from commodity pricing. All-Pro Food Service Inc., which sells produce to caterers and upper-end hotels, agrees. They report that companies making 10,000 - 15,000 sandwiches a week would rather buy green leaf filet for the sandwiches, rather than wash the leaves themselves. However, the small percentage of high end restaurants tends to prefer to do things by hand.

One key factor that has promoted fresh-cut sales is the technology. Breathable polypropylene film reduces the oxygen transmission rate of cut produce; slowing the respiration rate of the product to extend its shelf life. Consumers want to buy healthier food, but they also want smaller sizes and less work (Doiron, 2003).

Snack Foods

As consumers eat out more often and seek the convenience of prepared foods, there is a trend of increased consumption of snack foods (The Packer, May 2003). With increasing levels of obesity, healthier snacking is as important as opting for healthy meals. In The Packer study, conducted by AC Nelson, American 'snackers' reported that they do not necessarily eat healthy snack foods. Only 38% of respondents said they avoid high fat snacks. Fresh fruit and vegetable snacks were ranked as a preference by just 39% of respondents. Multiple responses were allowed on the survey. The most popular snack foods were popcorn, seeds, and nuts (61%), followed by chips and pretzels (57%).

To meet this growing snack trend, American grocery stores, have increased value-added packages, such as baby carrots with fat free ranch or dill dips, sliced apples with caramel dip, ants on a log (celery with peanut butter and raisins), sliced apple snack packs for school lunches, etc. This type of fresh fruit snack is not as prevalent in mainstream Canadian grocery stores but some stores do have specific fruit snack packs, such as Loblaws PC Mini Chefs Gala apples or PC Mini Chefs baby-cut carrots (Loblaws website, 2009).

Figure 2.14: PC Mini Chefs Gala Apples and Baby Carrots

2.1.6 Marketing

As addressed in more detail above in Section 2.1.1, Canadian consumers are not a homogeneous group. Factors such as lifestyle, demographics, ethnicity, disposable income, size of the family unit, and attitudes toward food itself as well as meal planning are all key considerations in food purchase decision making.

Despite these differences, a high level of awareness, strong attitudes and clear behaviours toward enhancing health and well being among consumers has been found to exist. An awareness of environmental issues is also increasing. These attitudes are reinforced by the media who provide information and marketers who hope to sell products by addressing related needs.

In her review of the literature related to Canadian Consumer Attitudes and Perceptions (2007), Dr. Heslop highlights the importance, in the development of effective marketing, promotion and branding strategies, of understanding *"how the consumer perceives the market offering relative to the competition.*" Specifically she contends that those selling food to today's consumers need to have a clear understanding of the following:

- What benefits consumers want their food choices to deliver, in what situations;
- What value the consumer places on these benefits and what they are willing to pay for them;
- How these benefits are translated into selection criteria;
- What marketplace alternatives are seen to deliver on those criteria;
- What cues (i.e., price, store, origin, production process, etc.) signal the capability of the product to deliver the desired benefits;
- What sources of information the consumer uses.

2.2 The Current Environment

The ability to provide customers with fresh, high quality fruit when products are perishable and fragile implies good logistics and procedures along with good information flow from growers to supermarkets and vice versa (Clements et al 2008); in other words a value chain of activities stretching from breeding and production through to consumer. Yet, in the current environment, the most powerful actors in the chain – the retailers, tend to dominate supply chains. Most retailers switch volumes between suppliers and buy at prices that will make them a profit. Growers tend to be of an independent mindset, selling their products to agents offering the best price (Hewett, 2003). However partly due to the perishable nature of the product and their need to sell in order to capture any return, suppliers are often forced to accept low prices to get volume growth, which does little to improve their immediate or long-term financial performance (Duffy 2005). Retailers have also been able to hold the balance of power in the chain because growers tend not to take a strategic standpoint and collaborate for long term gain and opportunity.

The English Food and Farming Partnership EFFP (2007) reported that two thirds of the food processors and manufacturers in the United Kingdom believed that farmers would strengthen their position as suppliers if they form themselves into collaborative groups. This would not only serve to improve communications with businesses situated between farmers and the consumer but it would also improve product quality and enhance growers' ability to improve the efficiency of their operations. And yet, despite the benefits of supply chain development, the fruit industry has been slow to adopt these practices compared to other industries (Collins, 2006; Collins, 2003).

This adversarial relationship between buyers and suppliers leads to an inability to guarantee consistent quality and supply. O'Keeffe (1996) describes how specific characteristics of the current food sector impede the process of building the trust necessary for the successful implementation of value chain management. The characteristics include the following.

- In commodity markets, the sum of the value created is fixed and so, the preoccupation becomes how to divide the value among the chain participants. Individual participants seek to either reduce costs or increase profits at the expense of other organizations. This is becoming more exasperated as the industry, particularly at the retail level, has consolidated.
- Auction systems isolate farmers, leaving them unable to gain insight into their customers.
- Processors have not needed to, nor have had the opportunity to, develop relationships with growers.
- The interdependence necessary to form and maintain closely aligned value chains is difficult to achieve due to the size and imbalance between retailers and farmers.

Within the current environment, growers possess a limited understanding of consumers, their product choice, how produce is presented to the final consumer, and the marketability of different varieties. Retailers sell the majority of fruit and are closest to consumers but possess a limited understanding of grower issues. Essentially, each member of the value chain has reverted to an individual rather than total view of the market (Mowat and Collins, 2000). This has not always been the case. Historically, operations took place on a much smaller and simpler scale. At this level, the grower, retailer and consumer had a much closer relationship and communication and feedback flowed smoothly along the chain.

Changes in industry structure, particularly retail consolidation, have negatively impacted the relationships and effectiveness of communication between players situated along the chain, and between the entire chain and consumers. This has far reaching affects. Opportunities are limited to continually innovate in relation to consumer demands, each level of the chain is unable to capture value by coordinating their operations and utilizing resources more effectively, and retailers are unable to differentiate themselves in the eyes of increasingly discerning consumers. Essentially, poor relationships and ineffective communication hinder the profitability and long term success of everyone involved in the Ontario fruit industry.

2.2.1 Suggestions for Change

Delivering economic benefits to all chain members by reducing variability in fruit quality in relation to end markets requires all members of the chain to be accountable for their actions and performance. This starts with growers adopting improved production and harvesting practices to reduce variability in quality of harvested fruit. Packers could use technologies such as near-infra-red spectroscopic grading systems to differentiate fruit according to its internal as well as external quality and exporters could improve the coordination of the flow of differentiated fruit from the various growing regions. As well, tracking and segregating batches of fruit in conjunction with ongoing consumer research to identify retail demographics could allow suppliers to match differentiated lines of fruit with particular consumer segments. Retailers need to ensure that the differentiated fruit is positioned, priced and promoted to achieve consumer satisfaction and acceptance (Mowat and Collins 2000).

The importance of innovation in the fruit sector cannot be over emphasized. As stated by Clements et al (2008), given the biological nature of fruit, their seasonal production cycles, unpredictable weather and pest or disease outbreaks, it is difficult to guarantee continuity of supply and the ability to maintain quality standards without coordinated innovation occurring at all steps in the value chain. Innovation is therefore an indication of well coordinated information flows and good strategic alignment between supermarkets, their suppliers, and other organizations involved in the supply chain. It also implies a high degree of responsiveness in order to reduce the impact of seasonal and unexpected shortfalls or over supply. It should also be noted that innovation that is customer focussed is a way of adding value to a product so that the chain can differentiate itself from its competitors and appropriate value for themselves.

For all of this to happen though, the Ontario fruit industry would need to foster a culture of partnership, with an alignment of business objectives and a well-aligned process between the businesses that was supported by investment in the necessary facilities and equipment. The logistics would have to be tightly managed through the production scheduling and storage, with fruit moving through the product chain quickly (Clements et al, 2008). This would facilitate, for instance, information in relation to seasonal problems that would impact supply being transmitted along the chain as soon as possible prior to shipment, thereby enabling wholesalers and supermarkets to reduce any negative impact this may have in the marketplace. Similarly, systems need to be put in place to allow for information on consumers' quality requirements to be communicated back to growers so that they can make the appropriate changes to production.

Improving the returns of all stakeholders relies upon possessing a clear understanding of, and ability to meet, consumers' perceptions of value. This can only occurs successfully when the information flows that provide feedback on the effectiveness of a value chains' operations in relation to changing market requirements occur within a closed loop that allows chains' management decisions and actions to occur separate to those of the wider industry (Mowat and Collins, 2000). As multiple chains begin to form, the onus of competition occurs between value chains, not between companies, with their success or failure ultimately dependent on the chains' ability to satisfy the end consumer market. The key to success stems from a chain's ability to get the right product to the right consumer at the right price and at the right time (Chrisopher and Towill 2001). Achieving this to a consistently high level of success is dependent on the establishment and operation of a closely-aligned value chain.

2.3 Defining (Fruit) Quality

Quality is defined by the International Organization for Standardization (ISO) as the "...totality of features and characteristics of a product that bear on its ability to satisfy stated or implied needs" (Bobelyn et al. 2003). How it is defined by the supply chain, including the consumer though is based on a number of subjective and objective measurements including, but not limited to, measures of purity, flavour, colour, maturity, safety, and nutrition (Bobelyn et al 2003; Hertog et al 2003). The importance of quality cannot be underestimated as it influences pricing and selection decisions that are made by wholesalers, distributors, processors, and consumers (Kleinhenz et al 2003).

The challenge with the term 'quality' however, is that there are different types of quality and the word typically is defined using a subjective point of view. Despite these differences, quality can be, and increasingly is, defined in objective terms particularly from a business to business standpoint (Kleinhenz et al 2003). While establishing an objective definition for fruit may be difficult, Crisosto et al (2006) suggests that three steps can be taken in an attempt to define it:

1. Conduct an industry quality survey of initial fruit quality attributes. This information will reveal the range of fruit quality attributes within the industry;
2. Conduct preliminary studies on the role of pre-harvest factors in relation to these parameters and;

3. Utilize a trained panel to identify the predominant sensory attributes for cultivars such as sweetness, sourness, flavour, aroma intensity and determined interrelationship among them.

Retailers in Canada and elsewhere view effective safety and quality control systems as critical necessities to build consumer confidence and maintain loyalty. They therefore aim to objectively measure quality by establishing standards and benchmarks to achieve consistent best practice throughout the value chain. Covered in more detail within the benchmarking section of the literature review (Section 2.4), ISO standards are one example of measuring standards used to evaluate performance throughout a value chain. ISO states that standards are important to "ensure that the most desirable characteristics of products and services such as quality, environmental friendliness, safety, reliability, efficiency and interchangeability [are achieved] at an economical cost" (ISO website, 2008).

More detailed information regarding the definitions of quality and the physical processes affecting fruit quality forms Appendix I.

2.4 Consumer Focus

As consumers have come to recognize the importance of fresh produce as part of an active healthy lifestyle, they are placing increasingly high demand on the quality of fruits and vegetables that they choose to consume (Shewfelt, 2006). Consumers perceive food quality to imply strict quality management protocols. Good information flows along the chain, which in turn implies greater assurance that food safety standards are being met may enable providers of food to charge a premium for supplying produce that meets or exceeds consumers' quality expectations (Clements et al, 2008; Walsh, 2006). Consumer loyalty is a function of their satisfaction toward a retail or food service outlet, or product(s), and occurs when the expectations raised by the fruit at the point of sale are met or exceeded by the experience of consumption (Mowat and Collins 2000). While meeting or exceeding consumer expectations is crucial to sustaining any business, it requires the effective collection and understanding of consumer requirements (Zokaei and Simons 2006).

Retail chains have realized that customer satisfaction and loyalty should be their primary concerns to retain competitiveness (Zokaei and Simons, 2006). By becoming more consumer focused (rather than product focused), supermarkets started to retail fresh produce in ways that represented value to their customers, despite the fact that the concept of what represents value widely and is quite is complex, "...involving attitudinal, cultural, socio-psychological and other factors" (Collins, 2007). Despite the variance in what defines quality and value, stores have identified that "...provid(ing) an attractive fresh and colourful display, (ultimately portrays a) symbol of the quality standards throughout the store" (Batt, 2006; Fearne and Hughes, 1999).

Being more consumer-focused has resulted in supermarkets changing their produce marketing strategies (Collins, 2006). During the 1980's and 1990's the fresh produce department in retail stores moved from the back of the store to the front and its shelf space has doubled (Fearne and Hughes, 1999). With produce becoming a point of difference that supermarkets can use to establish a competitive advantage, first in the United Kingdom, then increasingly elsewhere, fresh produce has become a "destination" category; meaning that produce is one of the few categories for which shoppers will actually switch stores. Interviews with Canadian retailers also confirmed that produce is the department that often determines whether customers choose to shop in a certain store.

Fresh produce is the only category that remains virtually unbranded, so it is difficult for suppliers to differentiate themselves from competitors' products featured within the same category. Secondary research shows that this environment results in supermarkets having the ability to exert considerable

influence and control over suppliers, and ensure that produce is a profit making department without necessarily having to maximize the efficiency and effectiveness of their operations.

In addition, while the produce department is amongst the most diverse, dynamic, and difficult to manage due to dependency on seasonal perishable products that are subject to weather and produced by a large number of operators using a vast array of production systems, retailers are often not motivated to better meet consumer demands through working with suppliers to enhance their in-store operations (Clements et al., 2008; Collins, 2003; Duffy, 2005; Fearne and Hughes, 1999). Lack of retailers' motivation or necessity to work with suppliers comes in part from the imbalance of power between retailers and suppliers' operations, and the extent to which their decisions and marketing strategies are changing in the structure and nature of food production (McEvilly, 2006).

These findings were countered by interviews with Canadian retail executives who expressed that retailers are highly motivated to create effective and efficient product departments because these departments are critical to consumers decision to choose a store, and are susceptible to "shrink", affecting profitability. Therefore, they have spent a 'great deal of energy, time and money to improve the effectiveness and efficiency of these departments, using lean retailing techniques from McKinsey (Anonymous A, 2009).

Particularly in the UK, the consolidated retail sector has moved to rationalize their supply base dramatically in recent years and now deal with just a handful of suppliers in often co-operative or even exclusive relationships, in key product areas, in order to gain greater control over availability and quality of supply and maintain consumer loyalty (Clements et al 2008; Duffy 2005). The suppliers with whom they do business are likely being leaders in the sector in which they compete. Due to varying population density of Canada and the UK, it should not be assumed that the exact model would be viable in Canada.

2.5 Value Chain Management

Minimizing costs and increasing value creation activities for all members of a chain by collaborating in line with consumer demands, sharing outcomes fairly, through a collection of management activities designed to improve the efficiency and the overall performance of firms located along the entire value chain, is known as value chain management.

Value chain management then, is the management of the entire chain, or flow, of business activities associated with a product, from 'field to fork' that satisfies the ever changing needs of a discerning customer (Duffy 2005; Hewett 2003; Zokaei and Simons 2006). Through providing the opportunity to simultaneously reduce transaction costs incurred at each level of the chain, while improving quality and service capabilities, and substantial reducing business costs through lessening waste, value chain management offers enormous opportunities to industry and individual businesses (Collins and Mowat, 2000; Collins, 2006; Wilson 1996).

Given the dynamic nature of the global horticultural industry and the perishable nature of its products, it is becoming increasingly important for businesses in the Ontario fruit industry to adopt value chain management principles and form close strategic relationships with their customers and suppliers. In doing so they have the opportunity to develop systems that, through the interaction of production, processing, transport, profits, communication and human relationships, could improve quality along the chain and provide a defensible competitive advantage that translates into greater profitability (Collins 2007; Collins 2003b).

Complementary models such as Lean Thinking and Efficient Consumer Response are presented in Appendix J.

2.5.1 Analyzing the effectiveness of a value chain

When marketing perishable goods through in the open market, firms are seldom able to guard themselves against risk or other exploitations (Wilson, 1996). This can result in them being unable to continuously meet customer needs while simultaneously lowering costs of production. The establishment of value chains can help firms do just that. As such, value chains have been heavily promoted as offering mutual benefits to both retailers and suppliers. While establishing an effective and profitable value chain can be challenging, if not done systematically and strategically, is probably no better at facilitating the development of a more profitable and competitive industry, than any other business model (Collins 2003b).

Various methods can be used to analyze the effectiveness of a value chain, particularly in terms of its ability to meet customer needs and reduce production costs. Collins (2003b) stated that the effectiveness of a value chain could be analyzed from four perspectives: flow of product, flow of information, flow of money and the existence of relationships. While no two value chains are exactly alike, Hewett (2003) suggests that the effectiveness of a value chain can be reliant on: the development of strategic alliances between firms with specialized skills; the creation of organizational structures that facilitate communication, information sharing and transparency between partners; human resource partnerships with all levels of staff in all firms in the chain having a common vision and commitment to excellence and; the utilization of advanced information technology systems (including electronic media, bar coding, GPS systems and appropriate software) to allow for instantaneous and timely feedback along the entire value chain.

2.5.1.1 Information Flow

On the open market, information tends to be tightly held within the operations of individual businesses, and is viewed as a source of bargaining power. Within a value chain, businesses compete as a system instead of individually, so sharing information is imperative to ensure the needs of participants are fully understood and met. Information can flow in two directions; from primary production (breeders, producers, etc.) to the end consumer market and back from the consumer market to primary production. There are two types of information that must be shared within an effective value chain; performance information and market information (Appendix L).

In an effective value chain, each member of the chain will have specific responsibilities in terms of maintaining and ensuring information flows both ways, and in a form that the entire chain can act upon for competitive advantage. For example, it is the responsibility of the grower to keep the marketer informed on product availability at least a week in advance, and the marketer is responsible for keeping the growers informed of market requirements so that product can be packed and directed accordingly (Collins, 2003b; Mowat and Collins, 2000).

Maintaining a focus on market information is especially important given that consumers' preferences and motivations for food purchases continually change. For example, consumers are becoming more aware and supportive of environmental and social issues related to food production, such as organic or fair trade agreements. This development increasingly relates to operations performed along the entire value chain, forcing retailers to explore how they can retain consumer loyalty by embracing marketing strategies whose success relies upon factors that occur beyond their own operations.

2.5.1.2 Relationships

While not minimizing the importance of information or financial flow, the importance of establishing and maintaining a network of constructive relationships within the value chain cannot be underestimated. It could be argued that the entire process of developing and maintaining a value chain hinges on the ability of the parties involved being able to create an environment of cooperation, mutual respect and open communication, facilitating discussion, lateral thinking and always re-

evaluating (Collins 2003b; Food Chain Centre 2005). The result: an empowered core group of stakeholders who take responsibility for quality decision making for their individual as well as collective benefit.

Developing strong relationships enables those in a value chain to differentiate themselves from their competitors and remain highly competitive, even in a rapidly changing business environment. This happens because the relationships provide each party with specific benefits.

Retailers gain access to adequate volumes of produce and are able to maintain a continuity of supply that is flexible with consumers' evolving desires. Retailers also gain exclusive access to the best and most innovative raw materials, which further supports the development, production and marketing of own label products. The reduction in search time for raw product and the integration of retailers and suppliers results in added economies of scale (Clements et al 2008; Duffy 2005). Retail stores are not the only ones to benefit from the development of close relationships along the chain. There is growing recognition by producers that being a preferred or exclusive supplier leads to increased security and reduced risk (Clements et al 2008).

However, the rate at which primary agriculture is recognizing the need to form and maintain strong relationships with the remainder of the chain is often slower than those operating closer to the end market. Fearne (1998) conducted a survey in which only 16% of UK beef producers described their current relationship with their customers as a "partnership". Looking to the future, over two thirds of the respondents agreed with the statement that "greater cooperation among producers is essential for the future prosperity of the industry" and 83% agreed that "greater cooperation between buyers and sellers throughout the industry is essential for its future prosperity. Many producers however indicated that it will be the next generation, not themselves, who will have to proactively develop those constructive relationships and closer links with the overall value chain.

Building the kinds of relationships that result in successful value chains is quite difficult since the parties typically want to remain independent but also want to work together to build on each other's their strengths. Fearne (1998) outlined some key factors of success for the development of these relationships, including the need to share a common vision of how to work together to meet volume and quality requirements, sharing a complimentary business culture, incentivizing management, fostering trust and commitment and the importance of leadership.

2.5.1.3 Technology

Technology is important to many aspects of value chain management. Up-to-date equipment and software allow for improved communications and performance reporting, which results in improved information flow and stronger relationships. This is particularly important when sharing information between organizations, or between functional groups within the same organization, in order to closely align operations along the entire value chain. As well, premiums are sustained through innovation, which is often bolstered by the introduction of new technology at multiple levels of the value chain. An example of this is provided in Appendix I, Physical Processes Impacting Fruit Quality, which illustrates the SmartFresh™ quality system and how it results in fruit that consumers deem to have a higher value. The effective use of technology is also key to objectively managing quality, and the processes involved with packing, sorting and distributing.

2.5.1.4 Summary

The literature pertaining to value chain management illustrates that the three things on which the effectiveness of a value chain can be assessed are: information flow, strong relationships and technology. The fourth most important element, governance systems, cannot be implemented or managed effectively without the first three elements already being in place. As outlined, additional information, including financial and market information, also needs to be able to be shared between all

players in the value chain. However, as with governance systems, this can only be done if the players have strong working relationships, built in a culture of constant improvement, and a high degree of trust. Furthermore, the ability to maintain strong constructive relationships between businesses relies on the participants being strategically aligned in their operations and objectives.

2.6 Strategic Alignment

Strategic alignment involves the development of a common strategy by the main partners in a value chain, and its execution across key functions, such as processing, operations and logistics, marketing and new product development (Fearne et al, 2008; Gattorna, 2006). As described previously, a collaborative and closely aligned value chain will be more effective and efficient, and accordingly more competitive, than businesses who operate in isolation. This section of the literature review covers four primary areas that relate to the strategic alignment of organizations within a value chain. They are:

1. Competitive forces driving the need for alignment;
2. Benefits of strategic alignment;
3. Opportunities and challenges in establishing strategic alignment between partners in the fresh produce industry;
4. The characteristics of successful strategic alignment.

2.6.1 Competitive forces driving need for alignment

The greater emphasis on strategic alignment is being driven by the trends in the competitive environment in which agri-food value chains operate (Fearne and Hughes, 2000; Hingley, 2001; Hingley, 2005). These forces are primarily:

1. Globalization of supply and markets, meaning more competition, as well as more opportunities;
2. Consolidation with the retail sector and other functions in the supply chain, leading to the greater importance of retaining customers because there are fewer alternatives;
3. Tighter food safety legislation, making traceability and confidence in suppliers' systems more critical;
4. Heightened consumer knowledge and power, placing more emphasis on new product development and offering greater opportunities for market segmentation, and
5. Wider availability of consumer insight.

2.6.2 Benefits of a strategic alignment within a value chain

In recent years especially, the management and coordination of supply chains for fresh product has become increasingly important as companies work to minimize distribution and inventory costs and maximize market opportunities (Wilson 1996) to remain competitive.

The objective of strategic alignment is to build sustainable competitive advantage as a partnership, and ultimately as a value chain. At it's most basic, strategic alignment reduces transaction costs, generates economies of scale and helps to manage uncertainty and complexity. Subsequently, as alignment develops, it strengthens business relationships.

Customers gain confidence in suppliers, and may benefit from preferential treatment in terms of service or priority. This might mean exclusivity over a new product or a particular geographical source, which offers the customer the potential for differentiation. For suppliers, this means greater loyalty from existing customers, which improves profitability because customer retention is usually more profitable than customer acquisition.

Strategic alignment can also lead to a willingness to invest in adopting lean thinking type value chain management approaches. As in some cases the costs of reducing waste occur in a different part of the chain from where the resultant savings are realized, the cooperation necessary for lean thinking approaches to be truly effective is more likely to occur where there is an established relationship

based on the sharing inter-firm costs and benefits. In addition, by aligning with its most important value chain partners, firms can supplement their own capabilities with those of its partners, and accordingly achieve the optimum configuration of competences along the chain. This means avoiding duplication, but it has much greater potential in breaking down boundaries between firms, sharing resources and learning.

Suppliers can be concerned that reliance on fewer customers may make them more vulnerable. However, this can be neutralized by exploiting the most significant opportunities offered by strategic alliances: the creation of value in the eyes of the consumer. This will make suppliers'/chains' products and services more attractive to their customers and retailers, offsetting some of the risks of dependence. Indeed, strategic alliances have been shown to reduce lead times on new products, and allow chains to respond more swiftly to significant changes in consumer preferences. In addition, when a chain uses shared consumer insight, it avoids the misallocation of resources to activities which create no value - from input suppliers to consumption / disposal - and reallocate them to innovation which adds value.

While a lack of innovation is a feature of commodity markets, supply chains provide the opportunity for increased profitability through innovation (Duffy, 2005). Furthermore, when innovation involves more than one partner (co-innovation), it becomes especially inimitable because other chains, lacking similar strategic alignment, will struggle to replicate the relationships, insight and resources necessary. It is the strength of the relationships that gives the confidence to co-invest in the expectation that value is created and realized effectively, and then distributed equitably (Fearne et al, 2008). Commodities that have benefited from innovation include bread (i.e. flax/added ingredients for health, bags to improve product life, dairy (i.e. added omega 3/DHA) and produce (i.e. cut fruit, bagged/prepared salad).

Zokaei and Simons (2006) argue that overall efficiency is contingent upon the effectiveness of the value chain. Without knowing that they are performing the right tasks in relation to the end market(s), value chains cannot optimize their value creating opportunities. For instance, a very efficient supply chain can deliver a product with fewer value added features and lose customers to a competitor who offers a similar product with features perceived to be of a superior value to the end consumer, even though their supply chain may be less efficient.

2.6.3 Specific opportunities and challenges related to fresh produce value chains

Commodity chains, including many fresh produce chains, involve high volume, low value products with multiple customers. They are widely characterized by increasing global competition, typically leading to oversupplied undifferentiated and unbranded markets, and consequently falling returns to suppliers (particularly producers) (Hingley, 2001). Since the total value of a commodity product is largely fixed, the focus falls on how that value is divided along any supply chain. This environment is not conducive to chains forming partnerships, especially when the product suffers from price volatility. Indeed, traditionally, relationships in fresh produce chains have been transactional in pursuit of lowest cost suppliers or highest price customers (Hingley, 2001; White, 2000; Zuurbier, 1999).

Conversely and as mentioned previously, value chain management focuses on value adding attributes, not only in the eyes of the consumer, but also through consistency and quality of product and service to customers. There are specific factors affecting fresh produce value chains, which make this form of strategic alignment an effective mechanism for building sustainable competitive advantage. Although it varies between products, relationships can be particularly influential in these chains because, as previously mentioned:

- The product is perishable, with seasonal supply and fluctuating demand, and so requiring exacting stock management throughout the chain;

- Fresh produce is often a destination category, with a strong influence on where consumers choose to shop, making consistent quality and availability essential, and
- It is sold as retailers' own label, making them responsible for the product in the eyes of shoppers, and hence they are even more assiduous over value chains' performance (Fearne and Hughes, 2000; White, 2000).

In commodity markets, like fresh fruit, there is less scope for differentiation, meaning that efficient and effective value chain management is critical to competitiveness. While this can be achieved more capably through strategic alignment, in general, chains that compete largely or even solely on price are competitively unsustainable. Particularly as in a globalized market, there is an ever present risk of a supplier emerging who can produce the same consistency of quality and availability at lower cost. In addition, once unnecessary costs have been take out of production and processing, this lowest cost strategy leads to eroding margins, which is a major cause of friction between the firms involved in a value chain.

A more competitively sustainable strategy in an oversupplied market is to compete on value. In many cases, this has led to a shift to fewer, larger, technically-efficient and innovative agri-food suppliers. Value has been created through innovation, such as new varieties and formats, extended shelf-life and convenience. Success has been achieved best in strategically aligned value chains, collaborating practically in access to, and use of market data; and culturally in creativity, openness to change and taking a long term perspective (Fearne and Hughes, 2000).

However, in fresh produce, innovation has been harder to exploit because:

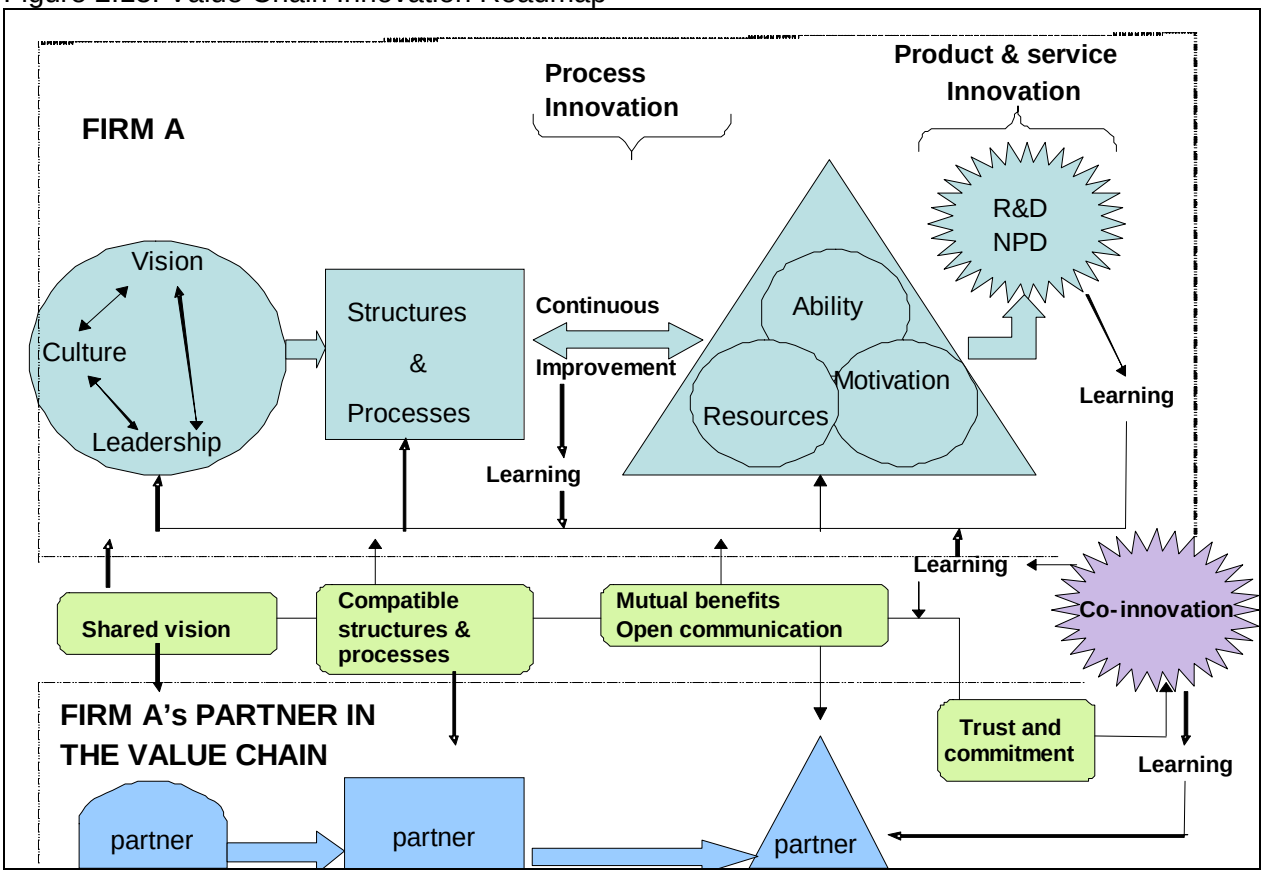
1. Processing is often limited, offering less scope for differentiation and value creation;
2. Margins are low, meaning the rewards for first movers in new product development are limited; and
3. First mover benefits are short-lived, because innovations are usually easily replicated by competitors, especially when they involve a single stage/firm in the supply chain (Fearne and Hughes, 2000).

This means that co-innovation's inimitability offers relatively more significant returns. Consequently, upstream firms should seek out opportunities to work with existing customers, or ones to which they are potentially more closely aligned. The alternative is to risk their customers supplementing or even substituting them with more innovative suppliers.

2.6.4 The characteristics of strategic alignment

With the above factors in mind, the Value Chain Innovation Roadmap (Bonney et al, 2007; Fearne et al, 2008) has been developed to illustrate the basis for chain alignment. It highlights how a firm's culture, vision and leadership shape its structures and processes, and in turn how these provide the means by which a firm deploys its resources, abilities and motivations. The interplay between the enabling environment (the structures and processes) and the drivers of action (resources, ability and motivation) gives rise to opportunities for continuous improvement of processing, product/service and systems. This is how individual firms innovate independently of their value chain partners.

Figure 2.15: Value Chain Innovation Roadmap



In an effective value chain, firms do not operate in isolation. Building upon factors described earlier, scope exists to develop strategic alignment between businesses when they have a shared vision; compatible structures and processes; trust, commitment and open communication; have a firm belief that mutual benefits can arise from cooperation; and focus on continuous improvement through learning from whatever they do together. As a result, firms compete as a supply chain, rather than independently and solely against direct competitors.

As the Roadmap illustrated, strategic alignment to create value consists of a number of components:

1. Shared vision
2. Culture and leadership;
3. Compatible structures and processes;
4. Mutual benefits through the alignment of ability, resources and motivation, and open communication;
5. Trust and commitment;
6. Open Communication; and
7. Continuous improvement, in particular through innovation in products, processes and systems.

The characteristics of these components in terms of what chain partners should aim for and how they should behave if they wish to achieve strategic alignment forms Appendix K.

While strategic alignment provides many opportunities, it is not essential in every relationship. For some members of the chain, transactional relationships are entirely appropriate, for example if a member of the chain's product/service has little potential to contribute to the chain's efficiency or effectiveness (Mentzer et al, 2000; Tang and Gattorna, 2003). Equally, strategic alignment is not

predicated upon, nor guarantees that in all cases win-win solutions can be found. There will always be tension in a commercial relationship, for example where some partners are part of multiple chains and sometimes they must trade off incompatible demands. The question is not whether all solutions are ideal, but whether the alliances are suitable for the long term.

Strategic alignment in a chain also does not mean that there must be a network in which all members of the chain have a relationship with all other members. It is often neither feasible, nor necessary for a firm to invest in developing these links. Rather, the chain's alignment may come from the collective alignment of a series of dyad (supplier/customer) relationships.

2.7 Benchmarking Quality

The purpose of benchmarking is to strengthen the value chain's competitiveness by aligning operations from orchard to retail and to deliver upon market expectations of quality, and wherever possible, reduce costs. As discussed in the literature review pertaining to quality and strategic alignment, quality is defined in many ways by each participant in the value chain. However, unless the chain's operation is aligned to consumers' demands, its competitiveness will be severely compromised. Therefore, despite the exact definition of what quality means for each chain and individual operating within a chain, the ability to maintain and continually improve quality is important and leads to continued demand for a product. This is particularly so because, ineffective quality management leads to an increase in operating costs as well as a loss of market share and competitiveness. This section starts with a discussion of benchmarking and its benefits; then examines how to develop a benchmarking program. A discussion of benchmarking and quality assurance schemes used throughout the global fruit industry forms Appendix H.

2.7.1 What is Benchmarking?

Benchmarking is an assessment activity used in all types of business that allows a company or organization to continuously compare their operations, or specific areas within their operations, with other like-businesses in order to identify differences in performance and adapt accordingly (Food Chain Centre, 2005; Department of Trade and Industry, 2008). A "benchmark is the measurement or standard used for comparison" (Department of Trade and Industry, 2008). The value in benchmarking is created by determining where and why differences are occurring, implementing procedures to manage them or adapt and monitoring their progress.

Figure 2.16: Benchmarking Activities

- COMPARE PERFORMANCE
- IDENTIFY PERFORMANCE GAPS
- PRACTICE IMPROVEMENTS
- MONITOR PROGRESS
- COMPARE PERFORMANCE

Benchmarking allows for continuous assessment of a business' operations against industry standards and averages (Food Chain Centre, 2005, Department of Trade and Industry, 2008). Despite a business's size, many operations within a business will be the same, therefore benchmarking can be valuable to operations of all size (Food Chain Centre, 2005). Also despite size and relative efficiency, there is always some component of an operation that can be improved – either through improved costing or improved quality or both.

Most commonly benchmarking is used to compare the financial health of a company, and in agriculture production yields are commonly compared. Xerox is credited with originally developing benchmarking in order to compare production costs between its Japanese and US operations (Food Chain Centre, 2007). However, anything that can be measured can potentially be benchmarked. In the case of Ontario fruits, bruising, shrink, size, colour, pressure, etc… could be measured and compared in order to have a better idea of how the quality of one crop stacks up against another.

In 2005, the Food Chain Centre conducted a survey of 900 farmers of all production types, and found that 17% of them utilized benchmarking as a tool to improve their operations (Food Chain Centre, 2005). Of the farmers who produce fruit and vegetables, 30% utilized benchmarking (Food Chain Centre, 2005). The British Tomato Growers have been benchmarking their performance for many years and decided that due to the high number of tomato imports into Britain they would also like to benchmark against their international competitors (Landles, 2007). Therefore the Food Chain Centre is currently working to develop a program that would provide them with international cost of production comparisons (Landles, 2007).

In order for a benchmarking exercise to be successful participants must be willing to share detailed information and have a desire to learn from others (Food Chain Centre, 2007). A participating industry or group of companies must then decide what measurements are most important and relevant to their goals – their Key Performance Indicators (KPIs). "KPIs are financial and non-financial metrics used to help an organization define and measure progress toward organizational goals" (Parmenter, 2007). These goals may be determined based on what customers need or may be based on progress in the business. In benchmarking studies with five or more participants, it is usual for each participant to receive both the group and their own data, which enables them to compare where they rank in their performance compared to their peers (FMI, 2007).

2.7.2 Benefits of Benchmarking

Whether benchmarking financial performance indicators or physical performance indicators, the process of benchmarking has provided many benefits to companies, organizations and/or industries who have participated in this process. Thelwall and Thelwall (2006) state the purpose of benchmarking is to achieve specific and measurable benefits. They also suggest that the benefits that are most highly valued are those that contribute to increased profitability and increased competitiveness.

In a review of benchmarking activities both within agriculture and outside of the agriculture industry, the following benefits were identified by participants (FCC, 2005; FCC, 2006; Stage-Gate Int'l, 2009):

- Financial improvement as a result of actions implemented after opportunities and weaknesses were highlighted
- Determine the operation's current position compared to others and the industry average
- Social benefits of participating in the process
- Improved relations with customers and lenders
- By recognizing opportunities for improvement or issues in a timely fashion and implementing actions for improvement the business is apt to be more sustainable
- Pinpoints weaknesses clearly, allowing for directed improvement
- Data collection and recording requirements provide discipline
- Helps farmers to begin to view their operations as businesses rather than simply a farm
- Provides information that shows what differing management techniques can do for yield, quality etc.
- Encourages innovation to deal with weaknesses
- Creates a sense of competitiveness and desire to improve when shown where the operation is positioned compared to the rest of the industry
- Planning for the future is improved when actions plans are required to improve weaknesses
- Challenges farmers to manage smarter

2.7.3 Developing a Benchmarking Program

If the Ontario tender fruit and table grape industry or groups within the industry agree that a quality benchmarking program would be an appropriate action for improving fruit quality, then it is

recommended that the following steps be followed in planning and implementing a benchmarking program. It covers the data collection and reporting process, along with critical success factors.

Based on the literature review and primary research, Section 5.3 presents a benchmarking framework that is appropriate for Ontario's fruit industry. .

In order to ensure that farmers are prepared to participate in the process and not discouraged from committing to a long-term benchmarking program, 'keeping it simple' must be the mantra of all involved.

2.7.3.1 Planning

- An industry association or group of farmers must lead the development of this process, there must be a 'champion' in order for it to occur
- The purpose of the benchmarking exercise must be identified and it must be focused on specific objectives. In this case and based on this project, the industry must increase the volume of fruit that meets retailers' or consumer specifications.
    - The purpose will help to identify the processes to benchmark.
- The benefits of the benchmarking process must be laid out very clearly so that the industry sees value in participating
    - Examples of processes from other jurisdictions may be a useful way to show benefits
- Choosing Participants
    - During the development stage it may be more manageable to start the process with a small(er) group of farmers (although if many farmers are interested, there is no need to discourage them from participating) that are eager to see this process work and take advantage of the benefits that it will create. This will allow the industry and the 3rd party data collector and analyzer to work out the process of data collection and data presentation prior to expanding to a larger scale
    - If a group of top farm managers or those seen as leaders in the industry are the original participants and can praise the process and information they received from it then it might lend itself to others joining the process voluntarily
    - Participants must be willing to share performance data and discuss results
- Choosing a reputable 3rd party to collect and analyze the data
    - The champion must choose a reputable 3rd party to conduct the process.
    - The 3rd party must be trusted by participants whether that means that the participants already know this party or it is a party that has a good track record of conducting these processes, since data confidentiality will be key to the process.

2.7.3.2 Data Collection

- The 'champion' and leading participant group will determine the quality measurements to collect and benchmark. These measurements must have value in improving the bottom line. Based on the measurements, the group will determine the frequency of the benchmarking process.
- What Key Performance Indicators (KPIs) need to be captured to set targets for improvement?
    - When choosing KPIs to benchmark the participants must think about which KPIs would make the biggest improvement to the bottom line and which KPIs would have the biggest effect on customer relations and quality?
    - Should include both leading and lagging KPIs
    - The data requests should stay as basic as possible
    - The KPIs chosen will determine the integrity of the process since they must have some meaning

- Form of Data Collection

- Above all, the data collection process must be relatively low effort for the farmers, because the biggest hurdle will be convincing farmers to enter this process and conduct more paperwork – this leads back to convincing farmers of the benefits of the process.
- There are a number of options for data collection:
  - On-line through a survey instrument
  - Mail-in (for those without computer access)
  - One-on-one interviews
- For the first few iterations of the process, while farmers are getting comfortable with recording the measurements required, it is advised that the 3rd party collecting and analyzing the data meet with each participant so that conversations can hash out any concerns and both parties ensure that the correct data is being collected.
- Throughout the data collection process, this 3rd party should have on-going interaction with participants.

2.7.3.3 Data Analysis and Presentation

- In what form do the participants want to see the analysis?
  - Participants and the champion must decide in what form they want to see the analysis; this decision will likely have to be discussed with the 3rd party and what the 3rd party can offer.
  - Participants need to see the analysis that compares the average (Or bottom, medium and top performers) with their own operations in order to fully understand their position within the industry.
- Results can be shown textually, graphically or both.
- Participants must decide whether they want the documents (no individual farm data) to be made public or whether all of the data will be kept for participants only.
- Results of the data analysis must be placed into context by the 3rd party. Therefore the 3rd party must meet with participants (or smaller groups) to discuss the findings, what they mean and what issues they identify. Participants must then share ideas on how to improve upon the weaknesses that are identified.

2.7.3.4 Continuous Improvement

- The program should be flexible enough so that if participants decide they would like include additional measurements to the analysis that this can be easily accommodated.
  - For example, most programs benchmark financial measurements; these could be included in the program along with quality measurements. The example in Section 2.3.5 includes financial KPIs.
- Beyond discussing how to improve upon weaknesses, the participants must develop plans on how to improve and then determine improvement based upon the next benchmarking cycle.

3. Consumer Research

This section describes the primary consumer research activities. The main objective of the first portion of this research is to understand the fruit purchasing process of consumers, and the drivers of behaviour. The results of this can be used to develop a strategy to influence purchase behaviour in favour of Ontario fruit, and guide the Ontario industry in identifying methods to improve upon current practices. Section 3.1 describes the qualitative research findings concluded from 21 ethnographic retail shop-alongs and Section 3.2 highlights the quantitative online survey findings.

Sections 3.3 and 3.4 present findings from the research to understand similarities and differences in opinion between 'traditional' and 'new' ethnic Canadians regarding fruit consumption and purchasing. Section 3.3 features qualitative data from eight focus groups. Section 3.4 presents findings from a quantitative survey conducted among 491 new Canadians.

An expansive description of the methodology and research results forms Appendices A, B, C and D.

Understanding the Fruit Purchasing Process among Consumers

3.1 Qualitative Store Walk-Throughs

3.1.1 Objectives and Methodology

The main objective of this research is to understand the fruit purchasing process by consumers in order to develop a strategy to influence purchase behaviour. Specific considerations include, but were not limited to:

- Consumers' behaviour as it relates to fruit shopping;
- Primary decision factors that motivate fruit purchases;
- How consumers define "quality";
- Visual cues consumers rely upon;
- Consumers' packaging preferences;
- Consumer selection (or not) of Ontario-grown fruit.

Research was conducted by Ipsos Camelford Graham. A series of 27, one-hour ethnographic walk-through sessions were conducted with specially selected consumers while they shopped in the produce department of a retail store across three locations (Toronto, Guelph, and Ottawa). Seven sessions were conducted between October 27 and November 3, 2008, 14 were conducted in June 2009. A further three, focusing primarily on peaches, were conducted in September 2009.

Respondents were recruited to the following broad specifications:

- Female heads of household, principal grocery shopper (or shared responsibility);
- Mix of ages from 25-60;
- Mix of households with kids at home (mix of ages);
- All respondents regularly buy and/or eat fruit including apples and pears.

This research is qualitative in nature. It is based on the opinions of 24 specially selected respondents, recruited to specific specifications, and the analysis of the moderator/ethnographer. Findings should therefore be treated as directional in nature rather than definitive.

More detailed information regarding this study is found in Appendix A.

3.1.2 Key Findings

- In season produce, including apples and pears typically have heightened functional and emotional benefits for consumers. During season, there is a strong preference (or assumption) that all products in the store will be local.
    - There is an opportunity to do more to celebrate products during season, and to further flag/differentiate local product at this time versus non-local.
- Despite a reported preference for local produce there was little sense that this information is consistently confirmed and sought out as part of the in-store decision making process. At the conscious level, consumers seem much more driven to "their" variety based on personal tastes and household preferences.
    - Reactions when non-local product was selected unknowingly or incorrectly (i.e. frustration, embarrassment, etc.) suggest that there is more potential to increase the overall profile of local produce and its importance in terms of attitudes and decision making.
    - There is an opportunity to do more in store though POP and other communications to make origin more explicit, and to further raise its profile in decision making.
- Overall, brand and grade play a very minor role (if any) in directing consumer choice and decision making. Quality is assessed piece by piece, based on personal preferences/needs. In some cases, the variety itself (e.g. Macintosh, Spartan) acted as a surrogate for brand – making a promise of quality/experience based on their tastes.
    - While local played a role in determining quality based on expectations about closeness to the tree, travel time, etc., there is opportunity to increase its role in determining quality more consistently, and at a conscious level.
- The Foodland Ontario symbol acts as a positive signal of local origin when noticed, though several were unclear as to what Foodland Ontario actually represented as a brand (i.e. a government or industry/producers body?).
    - There is an opportunity to increase the profile of Foodland Ontario in store, to further elevate its role in the decision making process (as a navigation/selection cue).
- A combination of the basket format, inconsistent quality and disappointments in the performance of previous purchases increases the unnecessary hassle that many consumers associate with Ontario peaches
    - Clear plastic user-friendly packaging trialed in September 2009 resonates with consumers and may encourage quicker impulse purchases through providing the ability to reduce perceived inconvenience and assess quality of entire container

3.1.3 Overview, by Fruit

3.1.3.1 Peaches

Local / origin	- Awareness of Ontario peach varieties when in season (preferred by many)
Variety	- For many 'a peach is a peach' – low familiarity with different peach varieties - Very low understanding of what 'grade' refers to - Branding is not significant to decision making
Quality	- Soft but not mushy - Unblemished - Preferred colour: from some yellow to all pink (yellow signifies ripeness)
Price and value	- Low impact on price given perception of few peach varieties (suggest little variation in price)

Presentation/merchandising/POS	- Little use or need for POS materials given perception of few peach varieties to distinguish between
Packaging	- Single selection was preferred for those with smaller families or no kids - Ontario peach basket preferred for those who needed larger quantities although perceived issues include: need to re-sort basket, extra handling spreads germs and creates bruising. Time and difficulty to assess quality in baskets. Fruit in basket doesn't last as long as those sold loose.

3.1.3.2 Apples

Origin (local)	- Awareness of Ontario as well as more regional varieties - Preference for local product for most, particularly when in season
Variety	- Highly subject to individual tastes re: texture, tartness, flavour (sometimes varies by member of household) - Very low understanding of what 'grade' refers to - Branding is not significant to decision making
Quality	- Colour appropriate to variety (i.e. Green for Granny Smith, etc.) - Size appropriate to expectations for variety - Unblemished skin - Shine (for some)
Price and value	- Given wide selection of varieties, stronger potential for price / sales to impact final selection
Presentation/merchandising/POS	- Navigation by the fruit itself (identifying familiar varieties) - POS used for price/value information, and origin (for a few)
Packaging	- Single serve preferred (to allow for individual quality control) - Bagged acceptable for larger families/kids (with visual check of quality through bag)

3.1.3.3 Pears

Local / origin	- Awareness of Ontario pear varieties, but perceived to be a limited (especially compared to standard selection) - Some preference for Ontario pears overall (for some, pear shopping happens primarily in season)
Variety	- Wide variety of pears and perceived differences between varieties → increased decision factors (e.g. use: cooking = Bosc, eating = Bartlett) - Very low understanding of what 'grade' refers to - Branding is not significant to decision making
Quality	- Firm with some 'give' - Consistent colour - Relatively unblemished (albeit blemishes acceptable when used for cooking)
Price and value	- Given wide selection of varieties, stronger potential for price / sales to impact final selection
Presentation/merchandising/POS	- Given wide selection and perceived difference between varieties, POS materials were considered more useful (in Loblaws: descriptions of usage, names, pictures of fruit)

	- Desire for some, to learn more about ideal pear ripeness and storage in home
Packaging	- Single serve preferred overall

3.1.3.4 Plums

Local / origin	- Limited awareness of Ontario varieties (yellow only) - low on radar
Variety	- Most preferred red or black varieties (none preferred yellow) - Very low understanding of what 'grade' refers to - Branding is not significant to decision making
Quality	- Firm with 'bounce' - Unblemished - Solid colour
Price and value	- Some price comparison across types when deciding between red and black (or how many of each to purchase)
Presentation/merchandising/POS	- Little use or need for POS materials given simple decisions based on visual (e.g. red/black)
Packaging	- Single serve preferred overall

3.1.3.5 Table Grapes

Local / origin	- Low awareness / appreciation of Ontario grape varieties (for some considered non-existent) - Some preference for California-U.S. grapes over other countries
Variety	- All prefer Seedless - Preference split between Green and Red varieties overall - Very low understanding of what 'grade' refers to - Branding is not significant to decision making
Quality	- Plump (suggests juiciness), round - Unblemished - Consistent bushel (few 'small grapes', rotting grapes) - Taste (preferred balance of sweet and bitter – tasted in store!) - Strong on the vine (few loose grapes)
Price and value	- Perception that grapes do go on sale! At $.99/pound vs. $1.99 per pound - Some wait until they see sales to buy
Presentation/merchandising/POS	- Little use or need for POS materials given simple decisions based on visual (e.g. red/green)
Packaging	- Clear, open bag is preferred - For some, desire for single serve display (as with other fruits)

3.1.4 The Produce Shopping Context

Produce is typically shopped from a list (mental or paper), based on familiarity with household staples and consumption. Despite this established sense of what they use and need, shopping the produce section was seen to be the most engaging and gratifying part of the store, and can be somewhat spontaneous, depending on:

- **Sales and Features** - drawn in to sales and deals, but also to larger or more elaborate POP displays that generate interest, or at least stimulate a closer look;

- **Seasonality** – additional selection during the season generates additional appeal and interest in taking advantage of product that is seen as higher quality at a specific time of year;
- **Desire for Variety** – for some, a desire to try the new, or prevent the household from becoming 'bored with the usual' may trigger consideration of less familiar or more exotic choices (e.g. star fruit);
- **Visual Appeal** - for instance, well stocked fruit suggests fresh, less 'picked-over' selection.

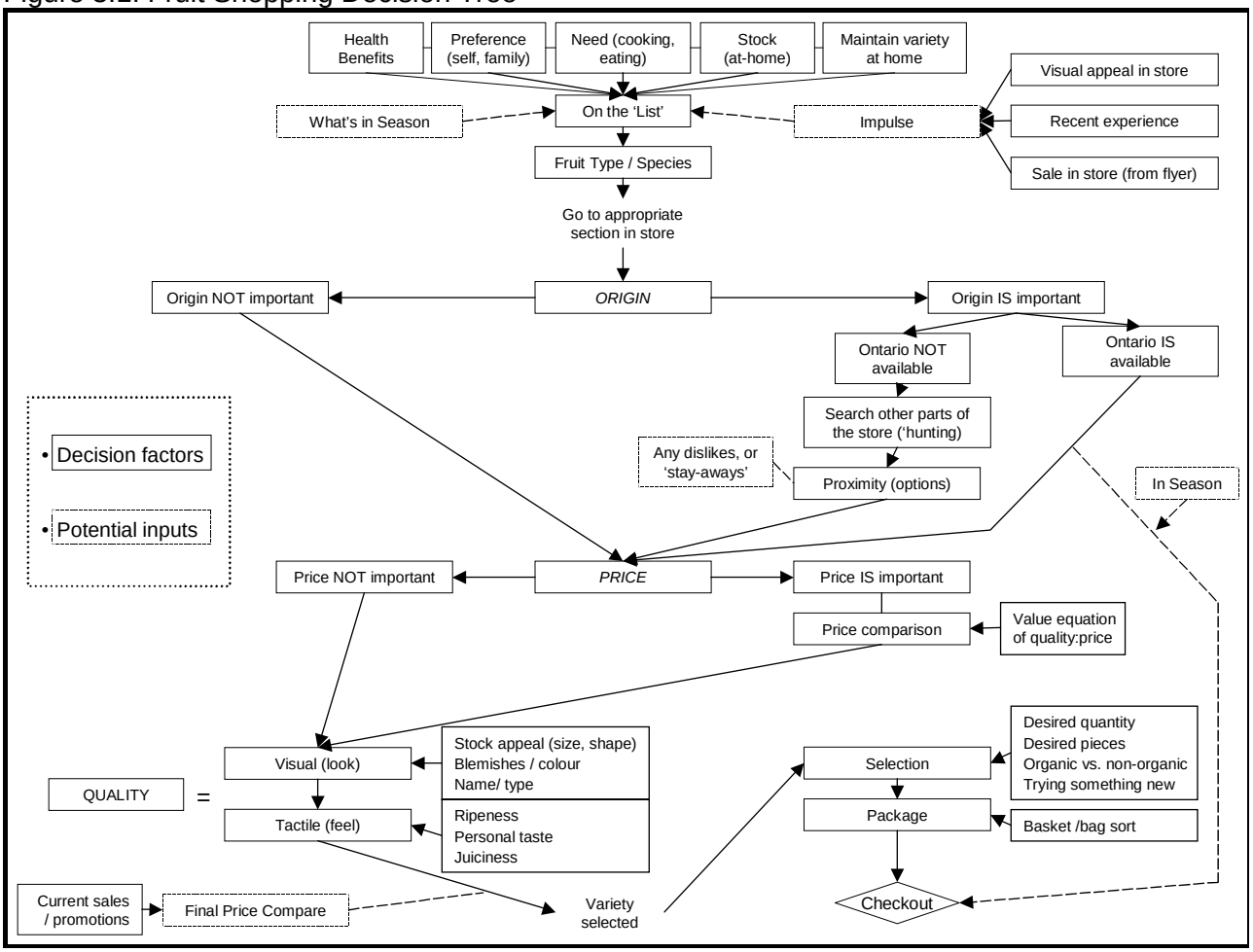
Certain fruits were seen as more staple items in the household. As a result, the shopping process for these tended to be more habitual and associated with simply 'picking up the usual' or 'stocking up'. For some, this was reinforced by the degree of choice for certain fruits (e.g. apples, pears, plums). For others it was a coping strategy, rather than selecting from wide range of varieties *every* shopping trip. This generally varied between different fruit types overall, as outlined below:

- Peaches – somewhat staple, lower range of selection and little variance in perceived taste; Apples – more staple, wide range of selection and very different tastes between varieties;
- Pears – less staple and wide range of selection (based on use, e.g. cooking vs. eating);
- Plums – more staple, somewhat wide range of selection and very different varieties (e.g. black, red, yellow);
- Grapes – less staple, but limited selection lends to habituated decision in store (i.e. Green, Seedless).

3.1.4.1 Decision Tree

The figure below is a decision tree that summarizes the fruit decision making process. At each stage there can be variations and fruit-specific factors that influence decisions, which are described in this section of the report. Please note that this decision tree is based on the 21 qualitative interviews (regarding a variety of different fruits) and has been amalgamated to represent the consumers' overall buying process. As such, it is directional only.

Figure 3.1: Fruit Shopping Decision Tree



Ipsos Forward Research, 2009

3.1.5 In Store Decision Making

The first step in the decision making process was selecting an appropriate and acceptable type of fruit, based upon:

- **Individual Tastes** – determined by their own preferences for fruit of any kind;
- **Family Preferences** – particularly kids, who were seen to be more selective in their fruit consumption;
    - For larger families, buying in bulk is more likely, though as much for convenience (not having to sort through and bag themselves) as for perceived cost savings;
- **Variety** – Again, linked to kids' tastes, and keeping a variety in the house to prevent 'burn out', usually associated with a cycle, but also associated with seasonality and value;
    - Sensitivity to the price of fruits and vegetables was not a strongly conscious one, though some exceptions did apply. Out of season, higher prices are assumed and are noticed/felt more keenly;
    - Take advantage of 'in season', fresh produce;
- **Need** – What the fruit will be used for (i.e. cooking vs. eaten on its own);
- **Stock** – Keep the household stocked with fruit. In part, a lower sensitivity to the cost of fruits and vegetables was linked to a feeling that fresh, healthy products were household necessities (rather than indulgences);
- **Health Benefits** (for a few) – linking specific fruits to associated health benefits (i.e. always selecting oranges to ensure vitamin C consumption).

Then the specific variety of fruit was determined, considering:

- Individual/Family Preferences
- Use/Purpose;
- Perceived Quality.

For many, organic was considered to be a separate variety. Choices also varied by fruit type, as outlined in Appendix A.

3.1.5.1 Quality

Quality is determined by a personal assessment, through visual inspection and touch. Except among high-volume households, there is a preference to personally select each piece of fruit. All had their own standards for quality in terms of fruit.

Overall bonds (reasons to buy) and barriers (reasons to avoid) in selecting fruit based on quality tended to highlight the following themes.

Figure 3.2: Bonds and Barriers to Fruit Purchases, based on Quality

Bonds	Barriers
• Appearance/colour e.g. bright & shiny for apples • Origin (for some) – local to community, Ontario, Canada first • Familiar variety – known experience (sweet vs. tart, etc.) • Size (mid-large) – for some, desire for as much fruit as possible (large), but for others too big is too much fruit! • Preferred ripeness (based on colour and feel/firmness) • Smell for a very select few	• Bruised/blemished • Punctured • Too shiny/waxy – suggests chemical/processed/unnatural (though not always for apples) • For pears/peaches/plums – too soft/hard depending on personal preference • Out of season – 'just know I'm not going to get a good one at this time of year…' • Unfamiliar variety (for some) – 'stick with the ones I know/love, or the one my family will eat' • One spoiled piece – casts doubts on all product (and other produce more widely) • Origin – Too far away (e.g. South America, Asia) for fruits when in season

3.1.5.2 Seasonality and Local Origin

In-season produce typically has heightened functional and emotional benefits for consumers. A paradox appears to exist between consumers' vocal support for local and the extent to which their purchase decisions reflect their voiced support for local. All participants had a good knowledge of when various produce was in season.

Functional Benefits of Seasonality

- ***Quality*** – An assumption that quality for the product was likely to be highest while the product was in season. This was associated with both taste and appearance.
- ***Value*** – An assumption and/or expectation that, when in season, apples, pears and other fruits/vegetables should be less costly. This was linked to assumptions that increased supply would lower costs, but also a perception that less shipping time/distance would reduce suppliers' costs.

Emotional Benefits of Seasonality

For some, there was also a more general 'excitement' or 'warmth' to these items when in season, creating an emotional benefit of closer connection to seasonality generally, reconnecting with natural cycles/nature or their youth/childhood when this was the only time of year such products were available/affordable. Reasons for choosing local tended to focus on the following themes:

- **Freshness & Quality** – Seen as being 'closer to the tree' means higher quality, tastier product. Not ripening in the case/on the truck.
- **Eco/Environmental** – Less energy/carbon footprint in transportation (more prominent in Toronto.)
- **Solidarity & Support for Local Industry** – Particularly for Guelph consumers, there was a sense that support for local product was seen as an important part of supporting the shared community and keeping money/economy focused on the local (less top of mind for Toronto consumers).

Local Origin

While local origin was often *reported* as an important factor in their decision making, observation suggests that, in *practice*, origin and locality are often not taken into (conscious) consideration. The shop-alongs found that:

- At a subconscious level, there is an assumption that all in-season produce is local.
- Given this lack of awareness, there was little sense that origin was being confirmed/checked as part of their regular shop.
- While not always noticed or sought out in the moment, the discovery that foreign/non-local product was available alongside (or instead of) local product in season created a strong negative response for some. At a conscious level, respondents rationalized that foreign producers/interests have the leverage of size (i.e. multinationals have more leverage than small local Ontario producers to get the product on the shelves).
- While most were familiar with the Foodland Ontario brand and logo, and it was recognized as a positive confirmation of origin and local production, there was a lack of understanding about what it actually represented.
- When featured on signage (Guelph only) or packaging (Guelph and Toronto) in-store, the Foodland Ontario logo was not noticed or mentioned unprompted. When prompted, respondents felt it had little direct impact on their decision making.

3.1.5.3 Packaging

Package preference varied greatly by household, depending on number of individuals in the home, but also preference for any one kind of fruit (or variety). As such, there was little sense of trend or theme across these interviews. Typically, less packaging was seen as better, as several consumers noted an increasing sensitivity to excess packaging in their wider shopping behaviour (e.g. re-useable bags at check out, etc.).

In addition, some perception that packaged fruits suggests lower quality fruit (e.g. 2-3 high quality pieces mixed with 1-2 low quality). While bags of apples (and other fruits/vegetables) were often seen as acceptable based on the need to buy in bulk, clamshell had stronger associations with excess packaging and restricted choice. Therefore, while respondents may not avoid clamshell packaging outright, it was not seen as ideal. Some would still grudgingly take the product if no alternatives were available. Loose fruits were seen as the ideal for all types and varieties (except for larger families and appetites), given the ability to pick exactly what they want, "how many we need, and to my exact quality specifications".

Peach Packaging

Traditional Basket Format

- Perceived benefits of the traditional Ontario peach basket include: value for money, ability to re-sort basket, convenient to carry, recyclable packaging, nostalgic. For some, the basket signifies "Ontario Fresh". However, not all immediately link the basket to 'Ontario'. For some, the link with the basket itself is non-existent and relies purely on signage and labelling.
    - Given the generally appreciated positives of Ontario produce, there is opportunity to further strengthen and clarify the link to 'Ontario'.
- Although some like the open basket because it is open to allow for re-packing, others found this to be a drawback.
    - Increased handling leads to spreading germs & lower quality (more handling= more bruising).
- Additional perceived weaknesses associated with baskets include:
    - Peaches 'bunched together' leads to excessive heat and moisture, reducing overall quality.
    - Damaged fruit may be unseen at the bottom of the basket.
    - Some consumers bypass the Ontario peach basket given the size of the basket (too much!) or miss it altogether because it is often merchandised separately from the regular selection of loose peaches.
    - Some desire for a mid-size option or the ability to find Ontario peaches on the single serve rack.

Alternative Format

Respondents were shown an example or picture of an alternative to the traditional basket. Overall, the alternative was well received with specific benefits and drawbacks identified in the following table.

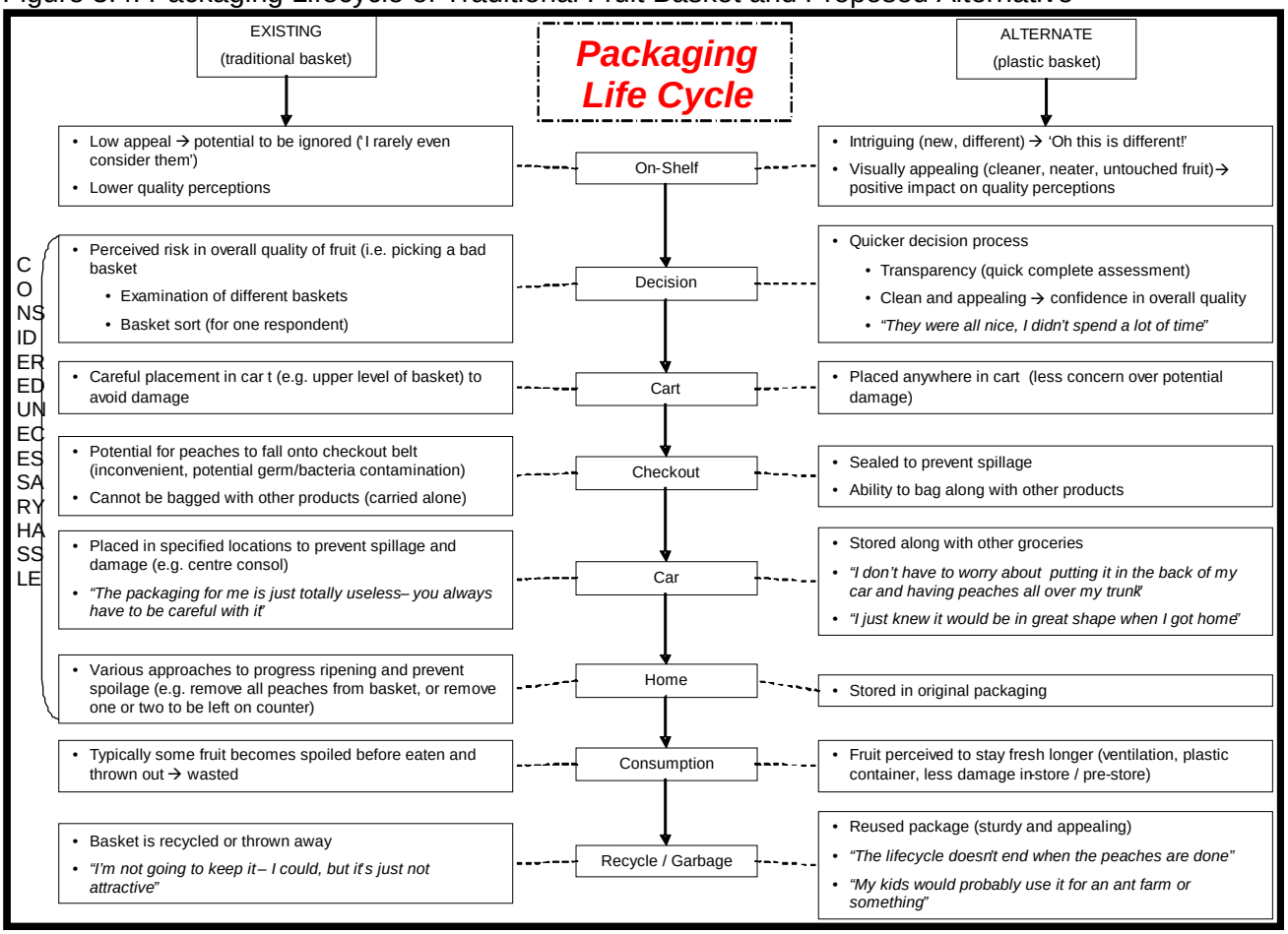
Figure 3.3: Perceived benefits and drawbacks of Alternative Packaging Format

Benefits / Strengths	Drawbacks / Weaknesses
- Transparent package - Ability to see / assess *all* the fruit - Appealing presentation (looks cleaner) – appealing shelf display was also anticipated (more organized) - Ventilation holes (air flow) so fruit stays fresher longer - Plastic doesn't collect moisture & fruit stays fresher longer - Sturdy: less chance of falling apart (e.g. handle falling off, cardboard ripping as with traditional basket) - Reusable (driven by sturdiness and appealing design) - Recyclable - Sealed (dome lid): Limits touching, squeezing, 'picking-through' therefore higher quality fruit and Lowers spread of germs / bacteria - Positive impact on shipping and storing (easier to carry) and peaches don't fall out - Convenient (no need for a plastic bag)	- Excess packaging (although being re-usable and recyclable overrides this for all) - Premium appearance suggests higher price point for some - Potential chemical residue from plastic - Sealed format suggests less fruit per package for some - Responses from other consumers (Toronto, Guelph) suggests that the ability to 'basket sort' would be missed

Among customers who preferred the traditional basket, for most the new packaging would not be considered a 'deal-breaker'.

Figure 3.4 summarizes the key differences throughout the lifecycle of the traditional fruit basket and the proposed plastic basket. Please note that this chart is based on a sample of three qualitative interviews. As such, it is directional only.

Figure 3.4: Packaging Lifecycle of Traditional Fruit Basket and Proposed Alternative



More detailed information regarding the use of peach baskets is included in Appendix B.

3.1.6 Conclusions and Recommendations

It was concluded that, "Variety is king". Consumers choose the variety they (and their families) prefer. Within that variety, visual quality must be excellent or there may be a switch to another variety, whether it is local or not.

The primary barrier to purchasing local product was lack of awareness. Shoppers either failed to notice signage that highlights origin, or assumed that local species/varieties are locally grown, particularly during season. While respondents were frustrated with the industry/retailer for making origin less prominent as part of their in-store communications, and for featuring non-local product rather than supporting local industry, there was little sense of vigilance in checking origin during these sessions. There is an opportunity to do more in store though POP and other communications to make origin more explicit, and to further raise its profile in decision making.

There is an already-established emotional bond with in-season and local that is not reinforced or exploited at retail. There is an opportunity to do more to celebrate products during season, reflecting

already-existing consumer excitement and attachment, and to further flag/differentiate local product at this time versus non-local.

3.2 Consumer Segmentation: Canadian Online Survey

3.2.1 Objectives and Methodology

The primary purpose of this research was to better understand consumers of fresh whole-fruit by identifying distinct market segments to help the industry make informed decisions regarding how best to position and market fresh whole-fruit to consumer segments. Questions in the survey were designed to extrapolate purchasing data (i.e. frequency, expenditure, primary retail location) as well as information regarding habits and attitudes relating to fruit.

This study was conducted by Ipsos Forward Research via an online survey methodology. Sample for this study was derived from their i-Say panel of over 220,000 Canadians. The study was fielded between March 16th and 23rd, 2009 with 1139 total surveys completed. Based on this sample size, n=1139, maximum statistical margin of error is +/-2.89% at the 95% confidence interval. A monadic sampling approach was utilized for some questions where sample was split into six "cells" of relatively equal size to reduce respondent burden and gather fruit-specific results.

In order to qualify for this study the respondent needed to have at least some grocery shopping responsibility for their household and have purchased fresh whole-fruit (apples, pears, peaches, nectarines, plums, grapes) at least once during the four weeks prior to the survey.

More detailed information regarding this study is found in Appendix B.

Key Findings

3.2.1.1 General Shopping Behaviour

- On average, Ontario grocery shoppers visit a grocery retail location approximately 8 times per month or twice a week not including urgent shopping trips.
- Overall, the majority of grocery shopping is conducted at mainstream or discount grocery stores with relatively small proportions indicating they routinely grocery shop at mass merchandisers, ethnic grocery stores, independents or farmers' markets.
- As with overall grocery shopping, the vast majority (81%) indicate they primarily purchase their fruit at a mainstream or discount grocery chain.
- On average, Ontario grocery shoppers spend $434 monthly on groceries for their household. Respondents indicated that of that total, approximately 17% ($73) is spent on fresh, whole fruit.

3.2.1.2 Fruit Purchase Volume and Seasonality

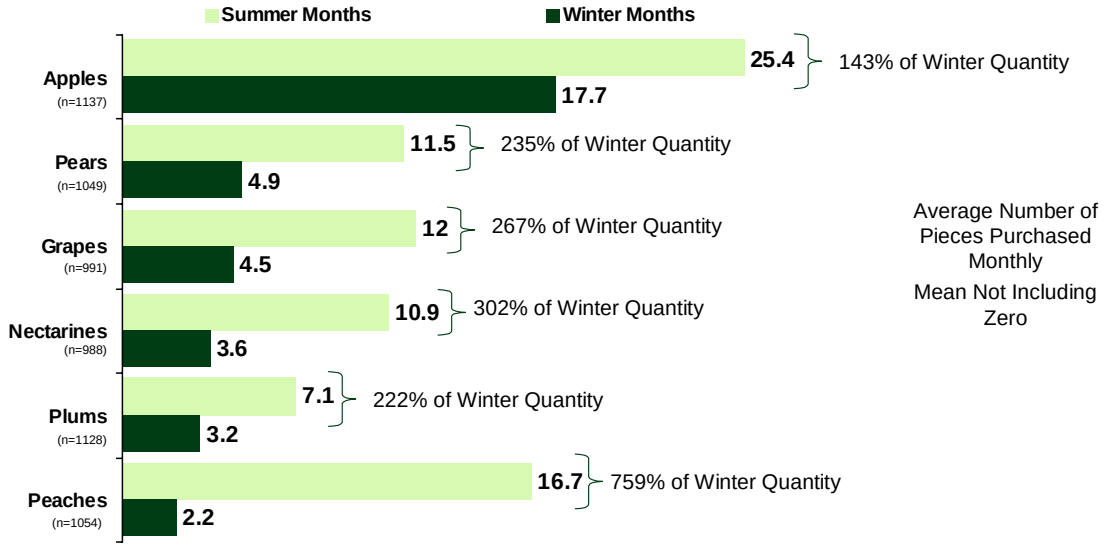
Respondents were asked to indicate which fruit, of an extensive list, they purchase often, sometimes, rarely or never. An analysis of results indicates the following:

- The core fruit types for Ontario consumers (often/sometimes purchased by 90% or more) include apples, bananas, citrus and grapes. Strawberries are often/sometimes purchased by 88%;
- Among the other Ontario fruit included in this research, pears and peaches are often/sometimes purchased by approximately two-thirds of Ontario fruit consumers;
- Nectarines and Plums are purchased often/sometimes by approximately half of Ontario fruit consumers.

The chart below illustrates the average number of pieces or clusters purchased by consumers in winter and summer months. In both winter and summer, apples lead all other fruit types in terms of pieces purchased, however, apple purchase volume increases least significantly in summer months.

Of all fruit types, peach purchase volume increases most significantly, from an average of 2.2 pieces in winter to 16.7 pieces in summer.

Figure 3.5: Purchase Seasonality



Q19. Thinking back over the past 4 weeks (winter months), approx how many of each fruit type have you purchased for your household? Q20. And thinking about a typical Aug/Sept, when ON fruit is typically in season, approx how many of each fruit type would you purchase for your household in a typical month.
Base: varies by fruit- fruits where respondent said at least rarely in Q8.

3.2.1.3 Quality

When asked to define quality in fresh whole fruit in their own words, Ontario fruit consumers most often mentioned taste (49%), freshness (43%) or appearance (33%). When asked to select a specific region they identified as providing specific fruit of "highest quality", responses varied significantly. It is important to note, however, that although Ontario performs well for many fruit types; imported options are widely viewed as being "also acceptable" in terms of quality.

Figure 3.6: Perception of Ontario Fruit Quality

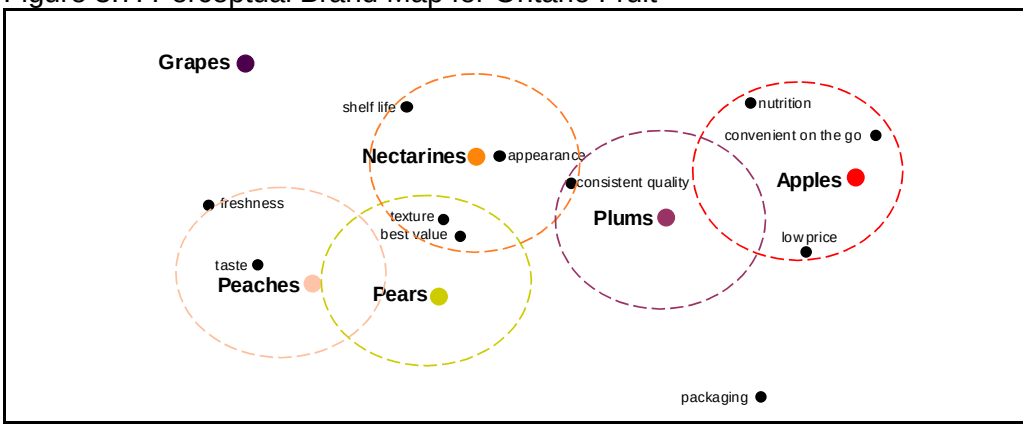
	Ontario is Best Quality	Ontario is Acceptable Quality	Total
Apples	70%	25%	95%
Peaches	62%	29%	91%
Pears	49%	18%	67%
Plums	39%	25%	64%
Nectarines	30%	18%	48%
Grapes	29%	22%	51%

3.2.1.4 Perceptual Brand Map for Ontario Fruit

The figure below shows the attributes more strongly associated with specific Ontario fruit types.

- Peaches: freshness and best taste.
- Nectarines: best appearance, longest after-purchase shelf life, best texture and best value for money.
- Pears: best texture and best value for money.
- Plums: highest consistency in quality and best appearance.
- Apples: convenient to eat 'on-the-go', highest nutritional value, and best price.

Figure 3.7: Perceptual Brand Map for Ontario Fruit



3.2.1.5 Selecting Ontario Fruit

- Although it varies somewhat by fruit category, a significant proportion of Ontario fruit consumers indicate they always or often "actively" search for Ontario fruit options while shopping.
- Overall, 80% of Ontario fruit consumers believe it is relatively easy for them to identify Ontario fruit at their grocery retailer. The leading methods of identifying Ontario fruit are stickers and packaging.
- When asked to rank a number of potential reasons for preferring Ontario fruit, 'fresher', 'supports local farmers' and 'better tasting' were the top-three selected items. Relative to other items available, the majority of respondents selected better for the environment and after purchase shelf life as either last or second last.
- When asked to estimate the total percent of their grocer's inventory that is product of Ontario by season, Ontario fruit consumers recognize seasonality of production and the presence of imported fruit during summer months.
- It is important to note, however, for all fruit that between 40%-50% of respondents estimated Ontario produced inventory to be between 75% and 100% during summer months.

Figure 3.8: Consumer Perceptions of Ontario Produced Inventory

	% of Total Fruit Inventory that is Ontario (Winter)	% of Total Fruit Inventory that is Ontario (Summer)
Apples	55%	81%
Peaches	23%	76%
Pears	23%	67%
Plums	20%	64%
Nectarines	14%	64%
Grapes	12%	55%

3.2.1.6 Fruit Packaging Preferences and Response to Concepts

When asked to identify the format that they most preferred for each specific fruit types, Ontario fruit consumers overwhelmingly indicated a preference for "loose" (except for grapes). Baskets were selected as most preferred by approximately one third for peaches and plastic pre-picked bags were selected as most preferred by approximately one third for apples.

Respondents were asked to provide specific advantages and disadvantages of Ontario peach baskets:

- Primary Advantages: Easy to identify as Ontario (36%), Easy to inspect fruit (23%)
- Primary Disadvantages: None (42%), Difficult to inspect fruit (18%), Quantity too large (16%)

3.2.2 Segmentation Process

The Ipsos Forward in-house marketing sciences professionals assisted with the development of the final segmentation solution. The process of developing the final segmentation solution included in this research included factor analysis as well as the development of a number of segmentation models.

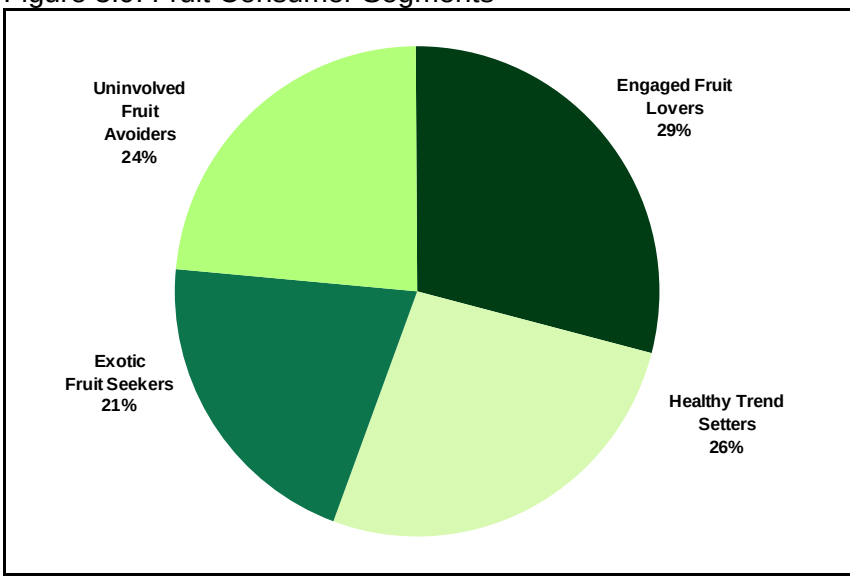
Respondents were classified into four clusters or groups taking into consideration the following:

- Respondents within each segment have similar attitudes and behaviour (often similar socio-demographic and psychographic profiles),
- A key aspect of our approach to segmentation is searching for meaningful differentiation across the segments; each segment needs to be a unique and credible marketing entity,
- In the case of this research, variances in fruit consumption across segments must be consistent with the client's "gut feel".

The questionnaire was designed to allow for segmentation to be run on attitudinal, behavioural and lifestyle variables.

The figure below depicts the segments identified in this research along with their relative proportions among the Ontario population.

Figure 3.9: Fruit Consumer Segments



The Figure below illustrates the key identification criteria for each segment.

Figure 3.10: Key Distinguishing Characteristics of Fruit Consumer Segmentation

	Engaged Fruit Lovers n=330	**Healthy Trend Setters n=299**	**Exotic Fruit Seekers n=235**	**Uninvolved Fruit Avoiders n=268**
Involvement With Fruit	• Very high involvement with fruit • Pro-Ontario and supportive of local producers	• Average involvement with fruit • Pro-Ontario and supportive of local producers	• Most involved with diverse spectrum of fruit, especially exotics	• Very uninvolved with fruit
Volume	• High volume of fruit purchases • High expenditure on food overall and second highest on fruit • High volume of fruit purchases during winter months	• Average volume of apples, less for other fruits • Average expenditure on food overall and fruit • Much higher purchases of peaches in summer months	• High volume of variety of fruits but less grapes • High expenditure on food overall and highest on fruit • Seasons do not have big impact on fruit purchases	• Average volume of apples, but very low on all others • Lowest expenditure on food overall including fruit • Seasons do not impact fruit purchases
Attributes Associated with Ontario Fruit	• Freshness, best taste, consistent quality, and texture	• Freshness, best taste, consistent quality, best texture, best appearance, and value for money	• Least likely to associate “highest quality fruits” with Ontario • Unlikely to associate positive fruit attributes with Ontario-produced fruit	• Unlikely to associate positive fruit attributes with Ontario fruit
Shopping	• Highly engaged and enjoys shopping for fruit	• Low engagement but price is not a barrier	• Average level of engagement toward grocery shopping	• Unengaged shopper
Food Lifestyle Choices	• Fruit plays a very active role in diet	• Actively avoids processed foods and prefers organic	• Actively avoids processed foods and reads literature about healthy eating	• Fruit is not an active part of lifestyle
Purchase From	• Majority of fresh whole-fruit purchased from large and discount grocery stores	• Majority of fresh whole-fruit purchased from large chains and least likely from discount grocery stores	• Discount and large chain food retailers are where most consumers purchase fruit	• Fresh whole-fruit is purchased most often from discount and large chain grocery stores
Personal Situation	• More women than men • Middle age and more likely to be retired	• More women than men • Middle age and more likely to be retired	• More women than men • Least likely to be born in Canada • Most likely to be employed full-time	• More men than women • Likely to be born in Canada • Likely to be employed full-time • Most likely to be in a domestic partnership

3.2.3 Conclusions and Recommendations

With approximately four-in-five Ontario fruit consumers purchasing their fruit predominantly via mainstream and discount grocery stores, the opportunities for Ontario fruit marketers to "move the needle" significantly relies on them focusing on these outlets. While farmers' markets and independent retailers represent tangible opportunities, the effectiveness of strategies executed via these channels is limited by shopper penetration. Ontario's fruit industry should therefore consider mainstream and discount grocery chains as the primary conduits to their target market.

There is a high degree of seasonality in consumption of all fruit among Ontario fruit consumers, in the extreme case (peaches), consumption in pieces increases by over 700% in summer months relative to winter. Due to the growing season in Ontario, Ontario fruit marketers therefore have the opportunity to match "the right product" with peak demand.

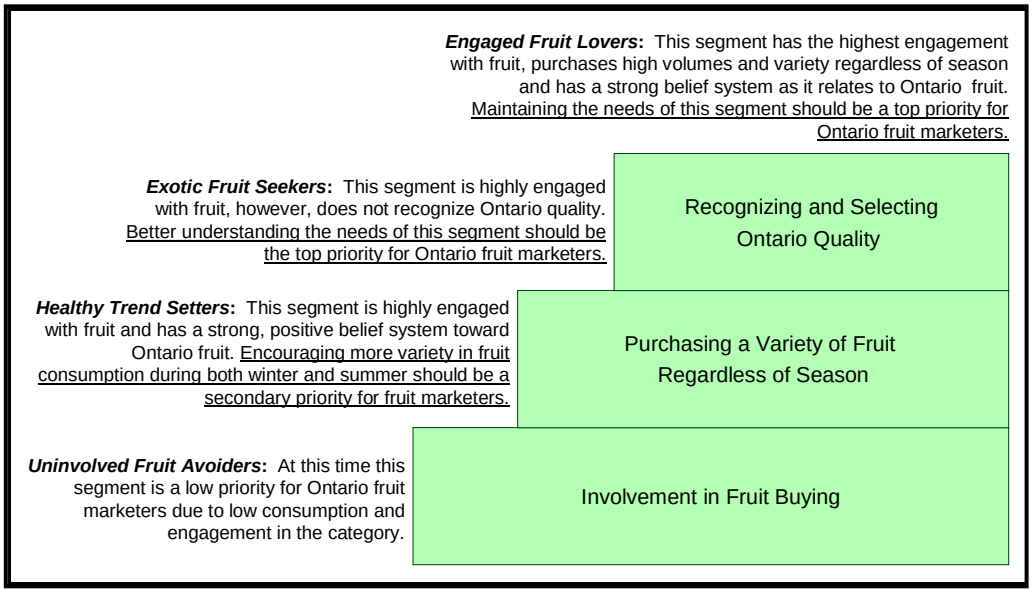
A by-product of seasonal availability of local fruit is that Ontario fruit consumers establish a habitual acceptance of imported fruit, as there are no other options for many fruit during winter months. Although not perceived as being "highest quality", imported fruit scores nearly on par with Ontario for being of "acceptable quality". Ontario fruit marketers need to ensure that Ontario labelling and branding is noticeable and breaks through habitual fruit shopping behaviour – approximately 40% of consumers estimate that 75%-100% of fruit available at their retailer in summer is from Ontario. Further, the Ontario fruit industry needs to ensure that the perception of "best quality" is delivered upon in the retail environment.

There is sufficient evidence to support the continued use of the traditional Ontario fruit baskets in targeting specific consumer segments. When asked to list advantages, fruit consumers were most likely to mention, "identifies Ontario" while over 40% were unable to list a disadvantage of the baskets. While Ontario's fruit industry should proceed with caution when considering a change from Ontario fruit baskets to another format, the limited in-store research of consumers' perceptions toward clear plastic 'baskets' was encouraging. So was consumers' interest in purchasing individual and smaller packs of fruit.

That said, the online responses to the new packaging and merchandising concepts were mixed. The Ontario fruit industry should therefore consider a more thorough examination of these concepts before proceeding with a change in packaging or recommended merchandising for retailers.

The segmentation exercise established four unique segments. The fruit industry should consider the "persuasion staircase" on the following slide before identifying which segments need to be targeted with maintenance strategies, and which segments need to be targeted through acquisition strategies. The chart below illustrates the prioritization rationale for each segment identified in this research.

Figure 3.11: Persuasion Staircase for Segmentation



Established vs. New Ethnic Canadians

3.3 Qualitative Focus Groups with Ethnic Canadians

3.3.1 Objectives and Methodology

The key objectives for this portion of the research were to understand overall trends in fruit consumption among new and established immigrants to Canada, as well as to identify cultural differences between the two groups. The focus groups also aimed to understand how attitudes and behaviours change as new Canadians spend more time in Canada. Specific areas included in the research were:

- How fruit is consumed in terms of preparation;
- Situational factors that influence fruit consumption;
- Seasonal variance in consumption;
- Explore and identify attitudes toward Ontario produced fruit;
- Gather response to specific packaging concepts;
- Gather response to specific merchandising concepts.

During the evenings of June 8th, 9th and 10th, 2009, eight 90 minute focus groups were conducted in Toronto with Punjabi and Chinese women who are the primary grocery shoppers for their household.

Of the eight one-hour long focus groups that were completed:

- Four groups conducted with *New Canadians* (those who have lived in Canada for 1 to 5 years). Two were conducted in Punjabi and two in Mandarin.
- Four focus groups conducted with *Established Canadians* (those who have lived in Canada for 6 to 10 years). All were conducted in English.

More detailed information regarding this study is found in Appendix C.

3.3.2 Key Findings

- New Canadians, when talking about their first time visiting a Western Style grocery store unanimously mention a sense of wonder and awe of the abundance of high quality fruit varieties and types. Another commonly mentioned response was how “easy it is to shop in Canada”. Not surprisingly, this perception has translated into virtually all new Canadians shopping at Western style stores as their main grocery store. A majority of those surveyed

indicated a preference for shopping at discount grocery chains including No Frills, Food Basics and Price Chopper.

- Ethnic grocery stores are still routinely shopped. However, a slow migration toward mainstream availability of many products (including specialty items) has eroded the necessity of routine shopping trips to ethnic stores. Despite the perceived high price and low convenience offered by ethnic grocery stores, the cultural connection established through shopping at these outlets is an important driver of choice.

- Overall, shopping behaviour among those included in this research varies significantly from one individual to another based on personal/family situation.

- New Canadians are "fruit enthusiasts" with most indicating they have increased their fruit consumption since moving to Canada. Many mention that the low cost and large variety of fruit in Canada allowed for an "affordable luxury" during their early years in Canada. As such, fruit continues to be an important part of their whole family's diet.

When asked to compare their shopping behaviour now versus prior to immigrating to Canada, there was consensus on three main themes:

1. Seasonality was a factor that was mentioned in all groups. In China/India not all fruits were available year-round. In Canada, virtually all fruit types and varieties are readily available regardless of season.
2. The number of specific fruit types and varieties available in Canada is significantly greater than that in China or India.
3. The fruit available in Canada is larger in size and appears to be of higher quality. Chinese respondents mentioned sorting through rotten/over-ripe pieces to find suitable pieces to purchase back home. There is a widely held perception that while fruit available in Canada appears to be of higher quality, the taste is bland or less sweet than similar fruit available back home.

Although nearly all respondents mentioned a preference for Canadian fruit, subsequent discussion illuminates a passive preference in terms of actual product purchased. As consumers born in Canada, what ethnic shoppers "say" and "do" can often be different things:

<u>What New Canadians say:</u>

When asked for their impression of Ontario fruit, most initially say the "right" things. For instance:

- Most claim they actively search for Ontario produced fruit first.
- Most believe that Ontario produce is higher quality, less expensive, eco-friendly, and will be fresher because of less transportation.
- Most, if given the choice between Ontario and imported fruit, say they choose Ontario.

<u>What New Canadians do:</u>

When probed for further detail on how they shop for Ontario products, respondents revealed:

- Many indicated they do not actively look for country of origin when shopping for fruit in Canadian grocery stores.
- Virtually all respondents said they are not willing to pay a premium for Ontario produced fruit, in fact most believe there should be an economic discount because of decreased transportation and storage costs.
- Imported fruit quality is considered to be good enough all year round, not just for the winter months when no Ontario options are available.

3.4 Consumer Segmentation: Online Survey with Ethnic Canadians

3.4.1 Objectives and Methodology

The primary purpose of this portion of the research was to better understand consumers of fresh whole-fruit by identifying distinct opportunities among ethnic grocery shoppers. Objects of this research study include, but are not limited to:

- Understanding consumer involvement with fresh whole-fruit;
- Measuring expenditure on food overall and fresh whole-fruit;
- Determining frequency in purchase and volume of various fruits by season;
- Identifying the primary location where consumers purchase fresh whole-fruit;
- Assessing the importance of specific fruit attributes;
- Exploring consumer shopping habits and attitudes;
- Evaluating the degree to which consumers actively look for origin of fruit;
- Assessing the importance of and reasons for purchasing locally grown products;
- And, uncovering fruit attribute association with Canadian or American produce.

Managed by Ipsos Forward Research, this study was conducted using an online survey methodology. Sample for this study was derived from Ipsos proprietary panel of approximately 3,000 new Canadians. The study was fielded between August 20th and 24th, 2009 with 491 total surveys completed. Based on this sample size, n=491, maximum statistical margin of error is +/- 2.89% at the 95% confidence interval. Participants included:

- Canadians of South Asian Origin
  - New Canadians (1 – 5 years in Canada) of South Asian origin, n= 73
  - Established Canadians (6 – 10 years in Canada) of South Asian origin, n= 164
- Canadians of Chinese Origin
  - New Canadians (1 – 5 years in Canada) of Chinese origin, n= 26
  - Established Canadians (6 – 10 years in Canada) of Chinese origin, n= 164

In order to qualify for this study the respondent needed to be Ontario residents, of South Asian or Chinese origin, having lived in Canada for 10 or fewer years. Respondents must also have sole or joint responsibility for shopping and have purchased apples, pears, grapes, peaches, nectarines or plums during the past four weeks.

More detailed information regarding this study forms Appendix D.

3.4.2 Key Findings

3.4.2.1 Overall Grocery Shopping Behaviour

- The average ethnic grocery shopper visits a food retail location between 8 and 9 times per month (not including urgent shopping trips). This is slightly higher than that measured for the general population, which visits a food retail location 7 to 8 times per month.
- When asked to identify the food retail location shopped most often, ethnic grocery shoppers were most likely to mention discount chains (58% very/somewhat often) followed by ethnic grocery stores (42%) and large chain grocery stores (37%). This is quite different than among the general population where large grocery chains lead all other store types for share of regular shoppers (53% very/somewhat often) and ethnic grocery stores are a niche market (4% very/somewhat often).
- Ethnic grocery shoppers spend an average of $407 monthly on food-related groceries, a level approximately 6% lower than that among the general population ($434). As time spent in Canada increases, so does average grocery spend with “New Canadians” (1-5 years) spending an average of $371 and “Established Canadians” (6-10 years) spending an average of $418.

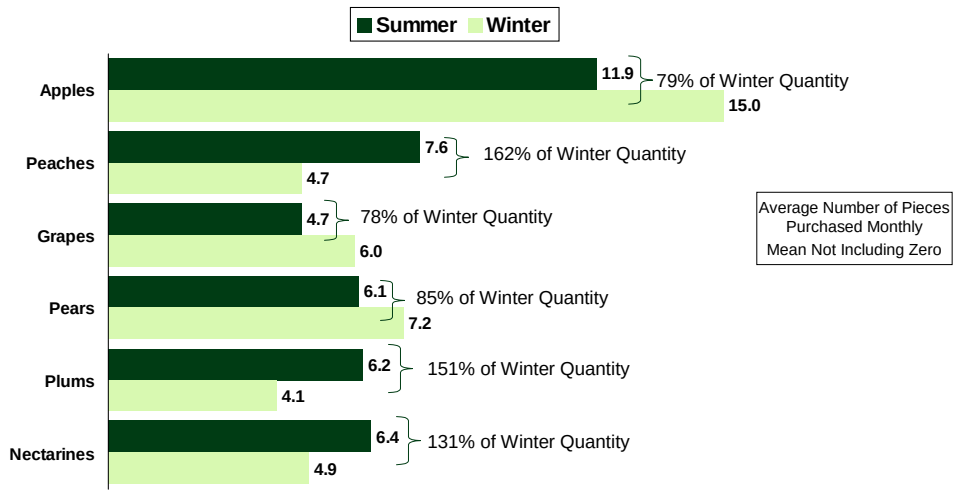
3.4.2.2 Fruit Shopping Behaviour

- An analysis of fruit purchase frequency illustrates that ethnic grocery shoppers are routine purchasers of a wide variety of fruit. Apples (95%), Bananas (95%), Grapes (93%) and Citrus (92%) are nearly universally purchased often/sometimes during a typical month. The majority of ethnic grocery shoppers' often/sometimes purchase plums (63%), nectarines (67%) and/or peaches (74%).
- Ethnic grocery shoppers tend to purchase their fruit where they do the majority of their shopping with discount grocery stores being the most frequently shopped fruit retail location by a significant margin.
    - Chinese shoppers are far more likely to indicate they routinely purchase fruit at an ethnic grocery store than South Asian Shoppers.
- Total average monthly spend on fruit indicates that ethnic grocery shoppers are a core fruit-consuming segment. On average ethnic grocery shoppers spend $101.70 on fruit during a given month, a level approximately 40% higher than that among the general population ($72.60).

3.4.2.3 Seasonal Purchase Behaviour

The figure below illustrates the average number of pieces or clusters purchased by consumers in winter and summer months. Although some strong seasonality does exist among ethnic grocery shoppers (peaches, plums, nectarines consumption increases in summer), the season variance is significantly lower than among the general population where seasonal variance exceeded 200% for several fruit (and over 700% for peaches).

Figure 3.12: Seasonal Purchase Behaviour, by Fruit



Q19. Thinking back over the past 4 weeks (summer months), approx how many of each fruit type have you purchased for your household? Q20. And thinking about a typical Jan/Feb, when ON fruit is typically not in season, approx how many of each fruit type would you purchase for your household in a typical month. Base: varies by fruit- fruits where respondent said at least rarely in Q8.

3.4.2.4 Attitudes Relating to Ontario-produced Fruit

- Awareness of specific fruit produced on Ontario farms and orchards ranges considerably with nearly universal awareness for apples (90% aware) to less than half for nectarines:
    - 90% of ethnic shoppers are aware apples are produced in Ontario;
    - 64% of ethnic shoppers are aware peaches are produced in Ontario;
    - 56% of ethnic shoppers are aware grapes are produced in Ontario;
    - 52% of ethnic shoppers are aware pears are produced in Ontario;
    - 45% of ethnic shoppers are aware plums are produced in Ontario;
    - 40% of ethnic shoppers are aware nectarines are produced in Ontario.

- Despite, in some cases, relatively low awareness of the availability of Ontario fruit options; the majority (70%) indicate it is easy to identify Ontario fruit while shopping.

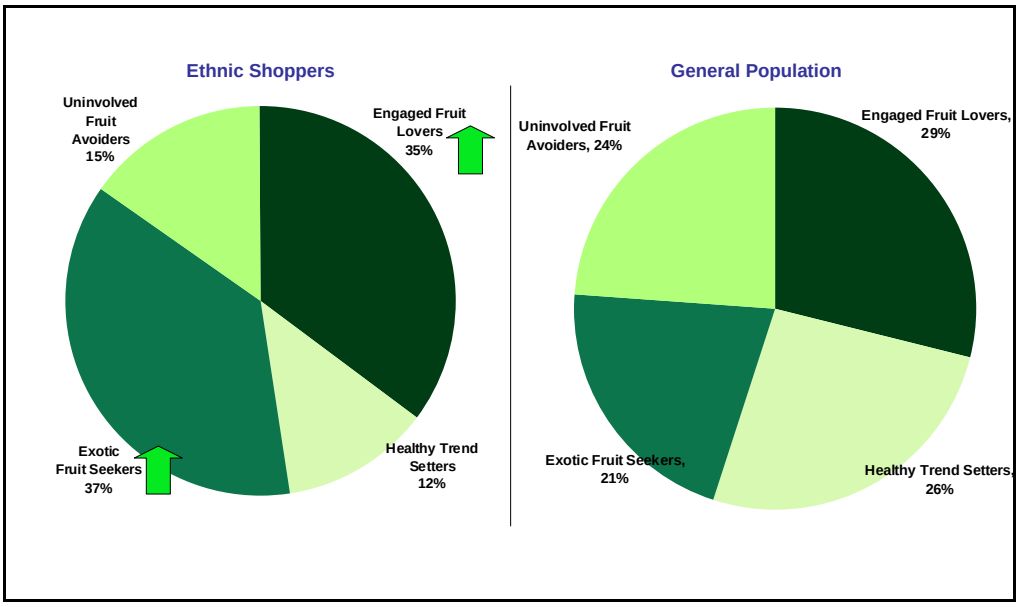
- Relative to the general population, however, ethnic grocery shoppers are far less likely to actively look for province/country of origin while shopping:
  - Apples – 39% of ethnic grocery shoppers always/often look (64% among general population)
  - Peaches – 31% of ethnic grocery shoppers always/often look (57% among general population)
  - Grapes – 27% of ethnic grocery shoppers always/often look (52% among general population)
  - Pears – 26% of ethnic grocery shoppers always/often look (51% among general population)
  - Nectarines – 27% of ethnic grocery shoppers always/often look (47% among general population)
  - Plums – 26% of ethnic grocery shoppers always/often look (48% among general population)

- Ethnic grocery shoppers are also significantly less likely to identify Ontario/Canada-produced fruit as offering the highest quality:
  - Apples – 54% identify Ontario/Canada-produced as highest quality (67% among general population)
  - Peaches – 47% identify Ontario/Canada-produced as highest quality (62% among general population)
  - Grapes – 40% identify Ontario/Canada-produced as highest quality (67% among general population)
  - Nectarines – 35% identify Ontario/Canada-produced as highest quality (57% among general population)
  - Pears – 37% identify Ontario/Canada-produced as highest quality (68% among general population)
  - Plums – 36% identify Ontario/Canada-produced as highest quality (64% among general population)

- Among those who have some preference for Ontario/Canada-produced fruit, the motivations for doing so are relatively consistent with the general population, with one exception: support for local economy/farmers is less likely to be considered an important motivation.
  - Fresher Fruit – 66% select as Most/2nd Most Important (60% among general population)
  - Better Tasting – 43% select as Most/2nd Most Important (41% among general population)
  - Higher Food Safety Standards – 39% select as Most/2nd Most Important (34% among general population)
  - Support Local Farmers/Economy – 21% select as Most/2nd Most Important (44% among general population)
  - Better for Enviro. – 15% select as Most/2nd Most Important (14% among general population)
  - After Purchase Shelf Life – 15% select as Most/2nd Most Important (8% among general population)

An analysis of the segmentation results shows that ethnic grocery shoppers index much higher for “Engaged Fruit Lovers” and “Exotic Fruit Seekers”, the two highest volume fruit consuming segments in the Canadian population. In fact, 72% of ethnic grocery shoppers are classified in these two segments.

Figure 3.13: Consumer Segmentation comparing Ethnic Shoppers vs. Average Canadian



3.4.3 Conclusions and Recommendations

The ethnic grocery shopper represents a significant immediate and critical long-term opportunity for the Ontario fruit producer:

- Despite lower average monthly grocery spend than the general population, ethnic grocery shoppers report spending approximately 40% more on fresh whole fruit. Further, this fruit spend appears to be broadly distributed across a wide range of domestic and imported fruit.
- Segmentation reveals that nearly three quarters of ethnic grocery shoppers are "Engaged Fruit Lovers" or "Exotic Fruit Seekers", the two most valuable segments to fruit marketers. These segments have achieved high involvement in fruit purchasing and purchase a variety of fruit regardless of season. The only stage of the persuasion staircase potentially left unfulfilled is to recognize and select Ontario quality.
- The literature review indicates that the number of ethnic shoppers is expanding rapidly: *"Depending on the projection scenario used, Canada's visible minority population could number between 6.3 million and 8.5 million in 2017; that is, it could be anywhere from 56% to 111% larger than in 2001"*

Recommendation: Ethnic grocery shoppers should be a top priority segment for the Ontario fruit industry. Better serving the needs of the ethnic grocery shopper could be a long-term competitive advantage.

Despite being a highly desirable audience in terms of consumption, ethnic grocery shoppers pose a significant challenge to Ontario fruit marketers:

- Shopping location suggests a large proportion of ethnic grocery shoppers are motivated by low price. It may be difficult to establish loyalty if price is the primary motivator.
- A sizeable proportion of fruit shopping, especially for Chinese Canadians, is occurring at ethnic grocery stores. This means multiple points of contact for the industry with varying levels of size and sophistication.
- Ethnic grocery shoppers demonstrate significantly less seasonality in purchase volume. The lack of a summer "surge" in demand is incongruent with the Ontario growing season.
- Ethnic grocery shoppers are less likely to "actively look" for country of origin. Additionally, a sizeable proportion of ethnic shoppers are simply unaware of Ontario production for all fruit except apples.

- Ethnic grocery shoppers are less likely to perceive Ontario as “the best” source of high quality fruit.
- For ethnic grocery shoppers, the preference for Ontario fruit is linked directly to functional factors such as quality, freshness and taste. “Supporting Local” is not a strong motivator for preference.

Recommendation: While the ethnic market provides a broad array of challenges and barriers to entry, the rapidly expanding size of this market makes it too large to be ignored by Ontario fruit marketers. The Ontario fruit industry should act now and develop an action plan to address each of the issues listed above. While some may be relatively easy to address, others (such as motivating new Canadian consumer segments to look for and recognizing Ontario quality) will require a long-term sustained effort at all levels of the value chain.

4. Value Chain Research

Section four begins by presenting the objectives and methodology for this portion of the research. Findings are then included from an overall industry viewpoint, followed by a more specific analysis by each fruit type. The analysis was conducted on a series of value chains involved in producing, packing, marketing, and delivering Ontario-grown fruit to consumers. Each segment of the value chain analysis begins by showing a schematic diagram, which accurately depicts the nature of chains analyzed during the research, the activities performed along those chains, and factors that were identified as impacting the end quality of fruit purchased by consumers.

Each map is followed by a review of metrics used by each sector of the Ontario fruit industry to manage quality. A summary of insights gained from physically walking the value chain from orchard to point of purchase and interviewing people who manage activities performed along the value chain(s) analyzed, both operational and strategically. The summaries contain observations and insights pertaining to current processes as well as opportunities to improve performance. Again, to protect commercially in confidence information, the summaries are anonymous in nature.

Due to the number of similarities found between fruits the studied, an overall industry chain map and summaries are presented first in section 4.2. Also presented is an overall industry SWOT. The SWOT tables for each specific fruit build upon this, with items pertinent to that fruit highlighted in bold.

4.1 Objectives and Methodology

The purpose of the value chain research is not to apportion blame or to criticize. It seeks only to objectively assess the effectiveness of representative value chains for delivering recognized value to consumers of Ontario fruit by successfully managing quality in order to reduce costs and, potentially, increase revenue along the entire value chain, from the orchard through to consumers.

The specific objectives of the research included:

- Enabling comparisons to be made between customers' and consumers' perceptions of Ontario suppliers versus international suppliers of apples, pears, peaches, plums, and table grapes;
- Identifying opportunities to increase the value of Ontario grown apples, pears, peaches, plums, and table grapes at the point of purchase in retail (and potentially foodservice) outlets;
- Assessing the effectiveness and efficiency of current processes used to manage the quality of Ontario fruit marketed to Ontario consumers; and
- Developing better practice quality management benchmarks for use along the entire value chain, from farm or input supplier through to retailer (or foodservice operator).

To this end, over 100 semi-structured interviews, often lasting between 60 and 90 minutes, were conducted with individuals from businesses that together span the entire chain from the orchard through to the retail store. Interviewees included operational managers and executives from organizations operating downstream of the orchard (e.g. packers, shippers, distributors, wholesalers, independent and corporate retailers as well as industry groups). For each fruit type researched, insights from the production level of the chain were gathered through in-depth interviews and focus groups with fruit producers from across Ontario. In addition to the structured data gathering process, informal interviews occurred in situ with produce department managers in a number of retail stores. The overall research and data gathering process was coordinated by the Value Chain Management Centre.

4.2 Overall Findings

4.2.1 Process of Analysis

The value chain analysis was conducted using mapping and analytical tools that have been developed to understand the current state of the entire value chain stretching from farm and input supplier through to retailer and consumer. The overall purpose of the research was to identify inefficient or ineffective activities that impact the performance of individual elements of the chain, or the entire chain overall. Then propose actions which could help address the present situation. Inefficiency or ineffectiveness commonly results from bottlenecks in information or material flow, lack of trust of commitment between chain participants, wasteful or non value-adding activities, or incompatible cultures or structures.

The process of analysing each of the chosen sectors of the Ontario fruit industry began by consulting the background literature review to identify factors that the value chain research needed to reflect in order to provide meaningful results. These factors were than developed into an interview guide that forms Appendix G. Industry experts were than consulted to identify the most suitable chains for analysis and who within those chains should be interviewed to gain informed insights into the chains' operation. In addition to a total of over 100 interviews being conducted with informed industry stakeholders, many hours were spent physically walking value chains that stretched from orchard to retail. In addition to on-farm visits, insights into on-farm management practices and overall quality issues associated with Ontario fruit were gained through four groups attended by approximately 80 producers.

To protect commercially in confidence information and encourage frank discussion with stakeholders situated along the entire length of multiple value chains, the reporting is anonymous. The extent of the data gathering process and subsequent analysis lessened the subjectivity, which invariably occurs if interviewing only a small number of people or relying solely on anecdotal insights provided by third parties. It also enabled factors that impact the effectiveness of current quality management processes to be identified and discussed with the appropriate stakeholders.

To help convey the extensive array of information gathered during the research in an easily digestible format, the findings are presented concisely and objectively. To ensure that the report reflects the wider industry, the reporting only identifies factors which were found to occur in multiple situations. Each section of the reporting commences with a value chain map which portrays the route that each of the Ontario produced fruits follows as it progressively moves from the point of production through to the point of retail. The only exception is for processed apples, where the analysis ended at the purchase of the product by a secondary processor. The maps also identify the physical processes that were found to impact fruit quality at each step along the value chain and how effectively these processes appear to be managed across the overall industry.

The chain maps are followed by tables that have been designed to portray in greater detail how effectively fruit quality is managed at each macro step along the chain. They also portray how closely aligned (or not) current quality management practices are to meeting or exceeding consumers' expectations. Not meeting expectations impacts the potential for each of the participants to fully benefit financially from their endeavours. As effective management is an outcome of business behaviour, listed in a separate table are factors that were found to be influencing the effectiveness of the quality management processes adopted by each of the identified stakeholder groups. The overall results are then presented in the form of a SWOT.

4.2.2 Overall Industry Value Chain Map

Researchers expected to find more differences than similarities among the five sectors in terms of how well they manage the quality of the fruit they produce in relation to consumers' expectations. This was not the case. While differences do occur between the effectiveness of quality

management processes occurring in the chosen fruit sectors, which will be highlighted in the appropriate sections, overall we found more similarities than differences. From the physical perspective, they include that the fruits commonly follow a similar route to market. From a quality management perspective, many of the similarities revolve around the extent to which orchard, on-farm post harvest, and grading/packing practices all too often negatively impact the quality and value of fruit from a customer and consumer perspective. Simultaneously practices occurring at the grower and packer level in particular incur unnecessarily high costs that impact their own and the overall value chain's profitability. For these reasons we have constructed a generic value map that typifies quality management processes and issues, and how they relate to the financial and operational performance of each link along the chain and the chain overall. While these factors have been found to be impacting the overall performance of the researched sectors of Ontario's fruit industry, as described in the following sections, the extent to which each of them occur and impact the operations of individual businesses and value chains differs markedly according to their management capabilities.

Most of the maps are divided into three sections. Each section loosely portrays a macro link in the value chain that is reflected in the following tables describing the state of current quality management practices and factors that influence the effectiveness and efficiency of the value chains. Moving from left to right:

1. The first map highlights processes that occur in the orchard and immediate post harvest processes identified as having a significant influence on fruit quality and value. The first map ends at Node 'A' and continues on the next page.
2. The second map highlights the shipping and grading processes that influence fruit quality and value. As can be seen, the outcomes of these processes are often impacted by processes that occur on the farm where the fruit was grown. The map commences at Node 'A' and ends at Node 'B', continuing on the next page.
3. The third map highlights packing, shipping, and retailing processes that significantly influence fruit quality and value. The map commences at Node 'B' and includes the remaining series of links that, together with those contained in the first and second maps, comprise the overall value chain.

Figure 4.1: Ontario Fruit Value Chain Map #1 (Inputs at left →A)

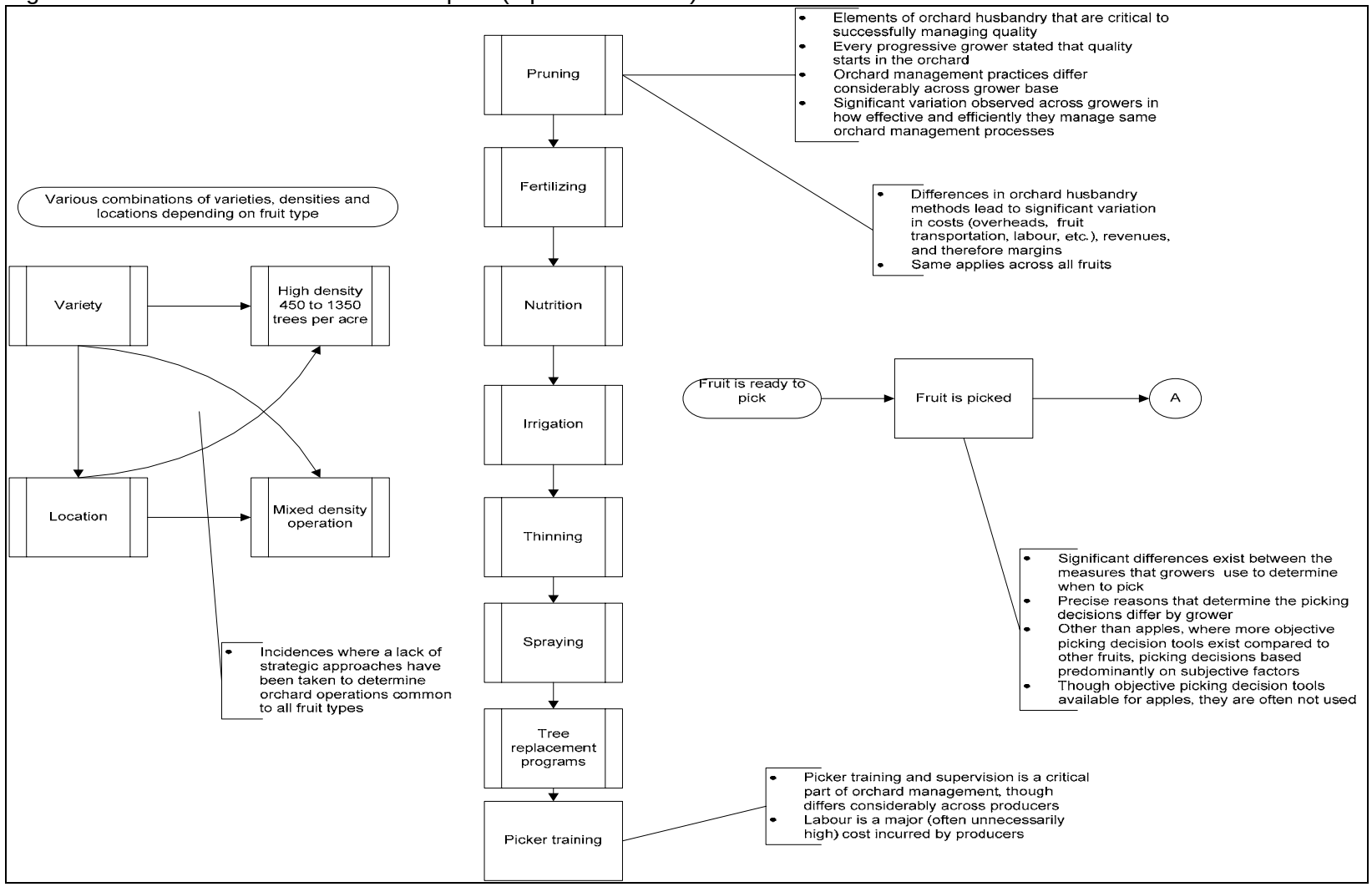


Figure 4.2: Ontario Fruit Value Chain Map #2 (A→B)

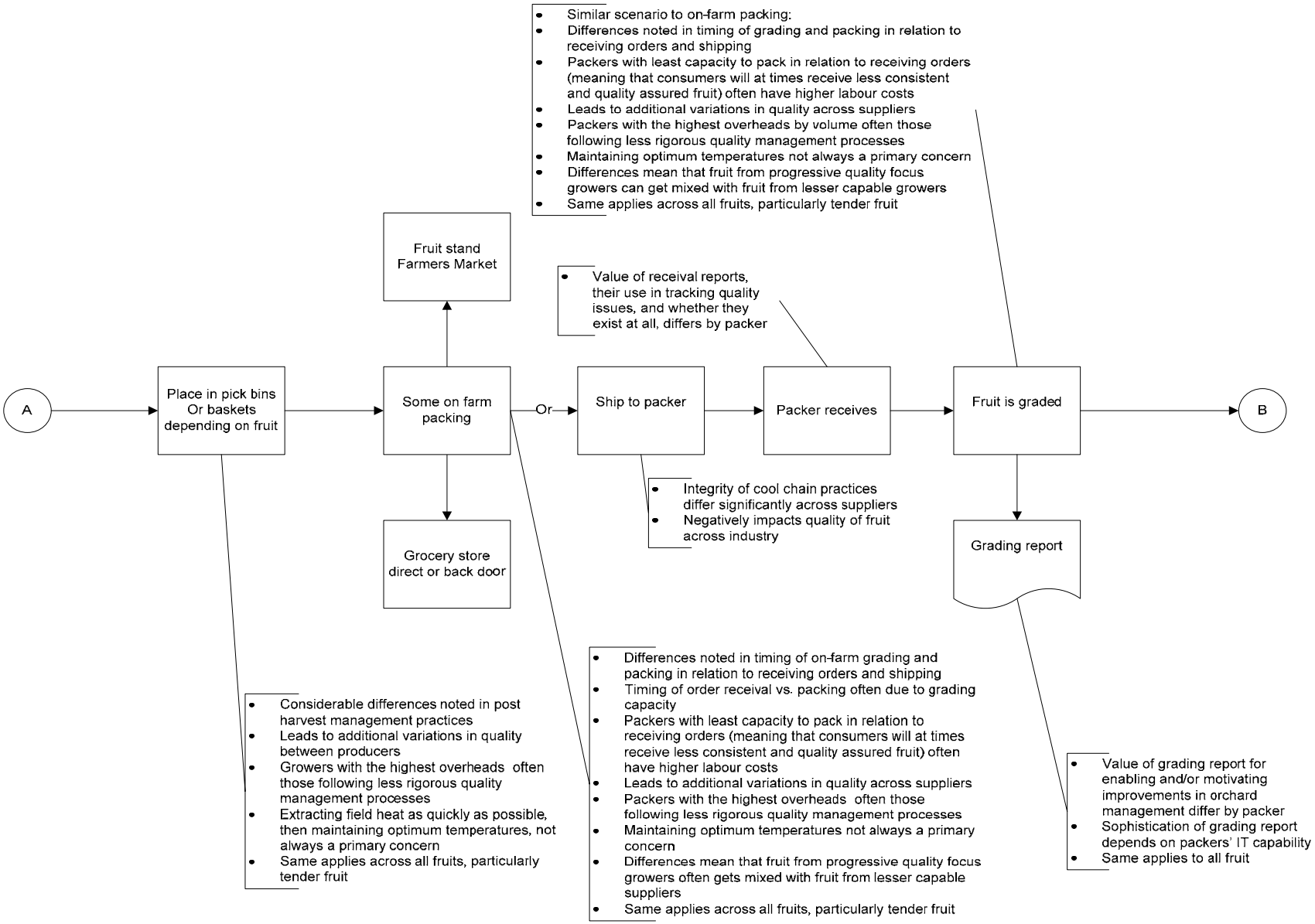
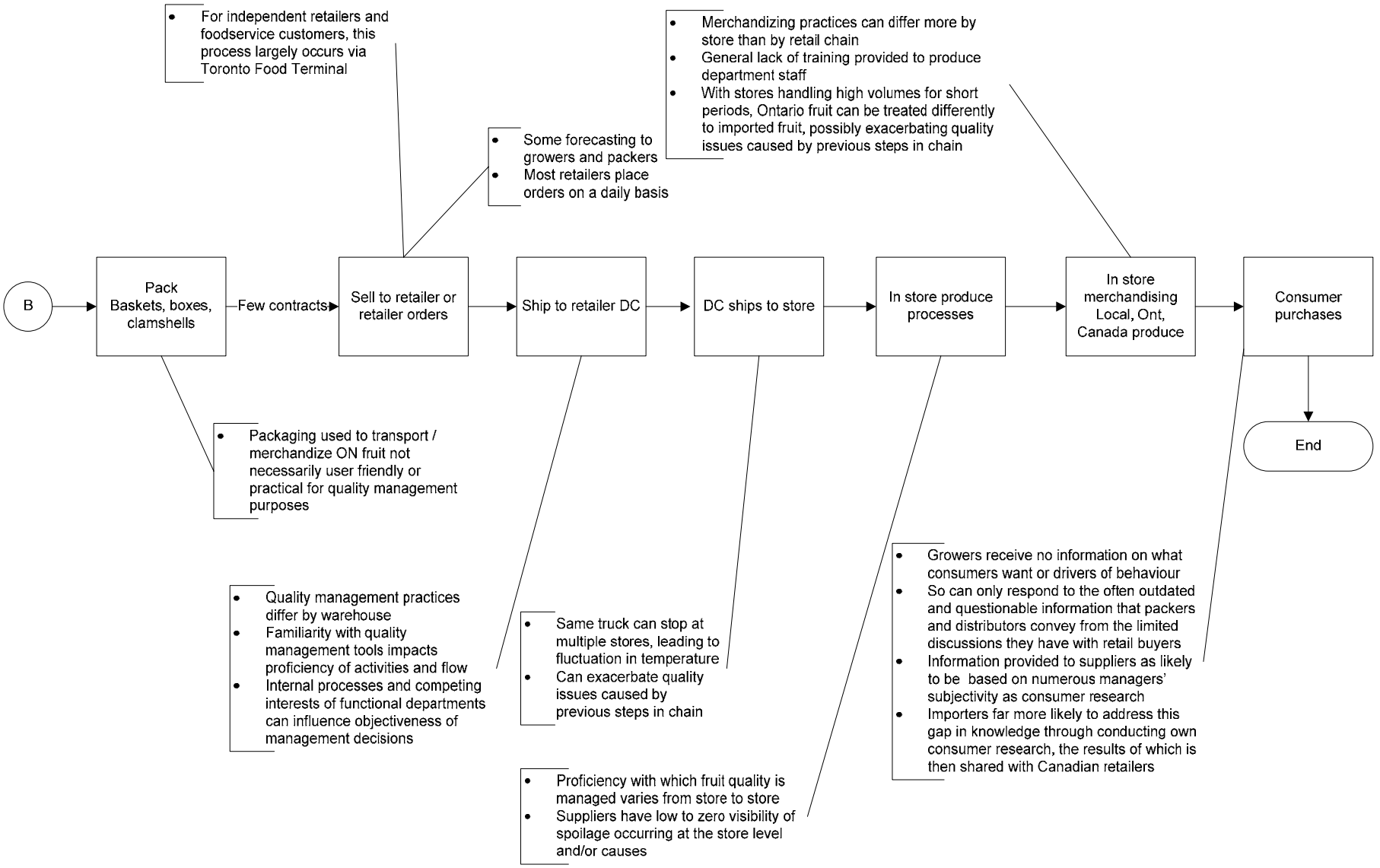


Figure 4.3: Ontario Fruit Value Chain Map #3 (B→End)



4.2.3 Summary of Overall Chain Issues Relating to Quality Management

The following table illustrates that distinct stakeholder groups exist at each link along the value chain, from production through to consumption. It also illustrates distinct differences that characterize each of these stakeholder groups in relation to a specific issue, such as their strategic focus or occurrence in the overall population. The reason for presenting an overall assessment in this manner is that the research identified that in each sector of the fruit industry distinctions can be made between those stakeholders who for whatever reason are driven to succeed and innovate, and those who do not possess the same drive to succeed from a business perspective or innovate in relation to market demands. Taken from respondents' feedback, in the primary production link of the value chain we gave those two groups the descriptive names of "leaders" and "laggers". In the packing and distributing links of the value chain the more innovative and strategic players are descriptively referred to as "progressive"; while those who follow more of a trading than strategic approach to business are descriptively referred to as "transactional". A point worth noting is that, compared to the other sectors analyzed, the apple sector appears to have the highest proportion of leaders and progressive stakeholders. Reasons for this and other differences are described in the appropriate sections.

Given that demarcations between retailers were commonly based on their target markets or internal structures, for reporting purposes we have categorized those players situated in the retail link of the chain as "corporate" or "independent". Amongst consumers, the research identified the extent to which distinct differences between Established Canadians and New Canadians influence their fruit purchasing and consumption behaviour. The most important of these differences are also detailed in the following table.

Figure 4.4: Factors Impacting the Effectiveness of Quality Management in Ontario versus Imported Fruit

Link in chain	Fruit producers *(growers)*	Packers *(often growers)*	Distributors	Retailers	Consumers
Strategic focus of identified industry groups	**Leaders** • Develop business model that differentiates their business in a competitive market • Develop capabilities required to produce high value fruit **Laggers** • Pressure market to support current business model • Build business model around current capabilities • Focus on producing	**Progressive** • Focus on maximizing value • Develop resources needed to compete in 21st Century • Manage determinants of quality & competitiveness **Transactional** • Focus on filling capacity • Focused on competing with other packers on daily basis • Seek to increase efficiency of outdated systems	**Progressive** • Build strong relationships across multiple functions • Develop capabilities to manage retail category • Gain value thru reducing retailers' problems **Transactional** • Be a good trader • Move volume • Exploit short term opportunities	**Corporate** • Drive traffic thru pricing fruit low • Remain competitive in difficult industry with razor thin margins • Increasingly looking to suppliers to help manage fruit category **Independent** • Use Ontario fruit to help create sense of excitement • Differentiate through doing things corporate retailers can't • Use short routes to	**Established Canadians** • Benchmark for overall fruit quality set by imports • Interested in seasonality, not driven by seasonality • Voice support for local **New Canadians** • Price / value determines purchase decisions • Memories of poor quality deters

Link in chain	Fruit producers *(growers)*	Packers *(often growers)*	Distributors	Retailers	Consumers
	maximum volume at minimum cost			manage risks posed by Ontario fruit quality	loyalty to local • Neutral about local/ON • **Segment to Maintain: Engaged Fruit Lovers** • **Segment to Grow: Exotic Fruit Seekers**
Occurrence in overall population	**Leaders** • Minority numerically **Laggers** • Majority numerically	**Progressive** • Minority numerically **Transactional** • Majority numerically	**Progressive** • Minority numerically **Transactional** • Majority numerically	**Corporate** • Minority, majority of ON retailing **Independent** • Majority, minority of ON retailing	**Established Canadians** • Majority of Ontario **New Canadians** • Important growing minority
Comparative differences between identified groups	**Leaders** • Innovative 'fruit growers' • Often younger than overall pop • Tertiary educated • Seek out learning opportunities • CEOs of their business • Global perspective • Cannot control nature, though can limit its impact on quality • Experience outside of farming • Aligned(ing) with capable businesses **Laggers** • Transactional 'growers of fruit'	**Progressive** • Mostly those exposed to international competition • Base business decisions on processes and data • Global perspective • CEOs of their business • Experience outside fruit • Tertiary education • Aligned(ing) with capable businesses **Transactional** • Handle only ON fruit • View source as sufficient to provide unique platform of differentiation • Behaviour characterized as blinkered and bickering	**Progressive** • Base business decisions on processes and data • Mostly those exposed to international competition • Experience outside of fruit • Global perspective **Transactional** • Handle ON fruit in Canada • Base many business decisions on today's prices • Part of 'old boys club' • Short term traders • Behaviour characterized as blinkered and bickering	**Corporate** • Emotionally (not objectively) connected to Ontario fruit • Large, complex, bureaucratic • Promotions set weeks/months ahead and difficult to change • Large array of resources, often with international experience **Independent** • Stay competitive through being innovative and creating consumer excitement • Use short nimble supply routes • Connected to key consumers	**Established Canadians** • Packaging signifies Ontario yet does not necessarily translate into purchases • Ontario fruit can excite • A range of emotions drive purchase behaviour **New Canadians** • Buy on value, not origin • Look for experience and enjoyment, not sustenance • High fruit consumption

Link in chain	Fruit producers *(growers)*	Packers *(often growers)*	Distributors	Retailers	Consumers
	• Usually older than leaders • Street smart traders • Traditional, affirmed culture • View nature as key determinant of quality				• Lower empathy to ON fruit & farmers
Attitudes that are said to drive differences in behaviour	**Leaders** • Change is opportunity • I am accountable • My competition is global • View farming as a business, not a lifestyle **Laggers** • Change is negative • I am entitled and disadvantaged • Nature determines quality • Nostalgic about 'yesterday' • Not investing as planning to retire • Believe importers receive unfair support	**Progressive** • Ontario fruit industry has wonderful opportunity • Must develop and manage resources appropriately • What I know & do today is not enough for tomorrow **Transactional** • Local means a problem can quickly be fixed • Know should change, but not sufficiently motivated • Look to the future through same 'eyes' as look at past • Need protection and help	**Progressive** • Competitiveness comes from minimizing retailers' problems • Local presents opportunity • No one owes me anything • Market determines success • Controlling own destiny **Transactional** • Local sufficiently unique to not compete with imports • Look to limit accountability through blaming others • Outdated perceptions of importers' competencies	**Corporate** • Ontario's fruit season is a very large two edged sword • Approach season warily, feel sense of relief when over • Accountable to consumers and external stakeholders (investors) **Independent** • Ontario fruit is an opportunity • Local industry (growers/packers) could do far better • Innovation key to staying viable • Sympathetic to growers plight, though not at their expense	**Established Canadians** • Aesthetics very important • ON fruit is a summer treat • View ON fruit as potentially tasty 'price deal' • Buy fruit at major grocery chains so better quality **New Canadians** • Lots of other fruit on offer • Fruit has important place in culture, not just diet • Price is influential driver • Buy at discount retailers • Limited emotive link to ON
Perceptions held toward other links in the value chain	**Leaders** • Being in Ontario provides me with excellent opportunities • Collaboration with suitable chain partners is key to	**Progressive** • Success depends on having constructive relationships • Not interested in outdated producers and/or packers	**Progressive** • I can created value through assisting my customers • Less innovative and driven stakeholders not my issue **Transactional**	**Corporate** • Ontario's fruit industry is reactive, not proactive • Expect suppliers to mask poor quality by 'top dressing'	**Established Canadians** • Buy fruit at major grocery chains so good quality • Expect to pay less for Ontario than imported fruit

Link in chain	Fruit producers *(growers)*	Packers *(often growers)*	Distributors	Retailers	Consumers
	success **Laggers** • Being in Ontario gives me a right to market my fruit here • Downstream links make better living than me, at my expense • Everyone is my competitor	**Transactional** • Insecure, defensive, want to stay in comfort zone • Others' make better living than me, at my expense • Everyone is my competitor	• Price determines sales. Not quality, packaging, service. • Ontario is what makes us different, retailers need us	• Many ON suppliers bicker rather than manage processes well **Independent** • Some producers are excellent • Industry misses opportunities to increase value of fruit	• Majority expect 75-100% of fruit in retail store to be from ON when in season **New Canadians** • Major grocers expensive • Many view Ontario fruit as an unreliable commodity • Expect higher quality than often feel is delivered
Behaviours toward managing quality	**Leaders** • Base business decisions on processes and data • Manage factors impacting fruit quality to best of their ability • Need to develop the resources necessary to run their business **Laggers** • Base business decisions on politics and opinions • Use subjective measures to manage quality • In the tonnage business (with associated overheads)	**Progressive** • Base business decisions on processes and data • Looking to use objective measures where possible • Quality critical to success • Investing in new capabilities • Create value by proactively solving others' problems **Transactional** • Often base business decisions on politics and opinions • Use subjective measures to manage quality • Use flawed tribal knowledge, not processes	**Progressive** • Objective measures (where possible) help reduce costs • Quality critical to success • Investing in capabilities to manage quality better **Transactional** • Continue trying to manage quality subjectively • Volume & margin first, quality second • Protecting fiefdoms rather than looking to future	**Corporate** • Look to minimize risks posed by often unsophisticated suppliers • Often sell ON fruit at discounts to flow through chain quickly • Will not continue to put up with current issues forever! **Independent** • Collaborating with proven dependable suppliers • Often manage risk through daily purchasing on sight and feel • Ensure supply system is flexible and responsive	**Established Canadian** • Expect quality of ON fruit to be inconsistent • Basking in summer leads to some forgiveness of quality • ON fruit = healthy food **New Canadians** • Overall quality of fruit on offer better than at 'home' • ON fruit often less attractive than imports • ON apples best for quality

Link in chain	Fruit producers *(growers)*	Packers *(often growers)*	Distributors	Retailers	Consumers
		• Protecting fiefdom ahead of assisting industry success			
Opportunities vs. Opportunity costs	**Leaders** • Good opportunities, though fighting against industry culture **Laggers** • Don't know due to few records • Dying death of a thousand cuts	**Leaders** • Good opportunities, though can feel vilified by laggers **Laggers** • Entrenched mindsets mean will likely go down with ship	**Leaders** • Driven by sophisticated stakeholders, in good stead **Laggers** • Don't really know, guessing • Hindered by polarized view	**Corporate** • ON fruit industry is lucky not to be competing against Quebec **Independent** • Many in ON fruit industry bring problems on themselves	**Established Canadian** • If ON fruit was not cheap, would not buy same volume **New Canadians** • Will not buy ON fruit just because of where its grown
Factors external to the chain that impacts quality management	• Policies that support continuation of outdated systems, mindsets, and approaches • Disconnect between most researchers, government, industry, and consumers • Lack of visionary political and industry leadership • Lack of effective strategies	• Business environment does not motivate collaboration • Policies that support continuation of outdated systems and mindsets • Disconnected from customers and customers • Lack of effective strategies • Lack of education resources	• Business environment does not motivate collaboration • Policies that support continuation of outdated systems and mindsets • Lack of strategic long-term government investment • Lack of effective strategies • Cost of new technology	• Business environment does not motivate collaboration • Impact of policy and legislation on stakeholder relationships • Sophistication of the global fruit industry compared to ON • Culture of using promotional fliers • Government policies & 'political' pressure to stock ON fruit	• Influence of media, education, travel, and immigration on the behaviour of the overall Canadian population • Market fragmenting into specific segments

The overall research points to the fact that the majority of Ontario's fruit industry (particularly those operating at the producer, packer and shipper levels of the value chain) are not investing sufficiently in developing techniques that would enable them to benefit from better meeting customer and consumer demands. Furthermore, as detailed in the sections dedicated to each of the fruits, it is common for management decisions (again particularly those occurring at the primary production and packer level) to not adequately reflect consumers' expectations and perceptions of value. Much of the industry is seeking to reduce prices and costs to remain competitive, though in a fragmented fashion and without using reliable data to guide business decisions. This is negatively impacting quality and leading them on a downward cycle. This lack of a proactive strategy constitutes a major weakness in the overall industry and results in many participants following commercial approaches that see them incur higher than necessary overheads and, simultaneously, lessens their potential revenue. In such an environment only the more innovative will survive.

Furthermore, a number of senior retail executives stated that the overall market value of Ontario fruit is impacted by most growers desire to provide identical products to all customers. This goes against a trend occurring at the other end of the value chain, where retailers are seeking to develop a unique value proposition (UVP) in order to lessen consumers' focus on price. When the same product is available to all retailers it quickly loses its ability to demand a premium and price again becomes the dominant issue. This is a zero sum game and the situation in which much of Ontario's fruit industry currently finds itself.

The following section uses a SWOT to encapsulate these findings within a broader context. For instance, the Ontario fruit industry is facing far reaching implications due to following a business approach that, compared to leading importers, is akin to an analogy being made between General Motors and Toyota. The 'General Motors' approach primarily focuses on aggressively cost cutting and attempting to be everything to everyone without adequately researching the market and using the resulting insights to proactively allocate resources along the entire value chain. The 'Toyota' approach uses market research to identify what constitutes value in the eyes of consumers, and then continually improve only those processes which are necessary to establish a satisfied loyal customer base and maintain strong business relationships. Out of which flow opportunities to reduce costs and increase profitability.

4.2.4 Overall SWOT Analysis

To be effective, a SWOT analysis must be oriented to a specific objective or desired end state. In relation to the project's objectives, the objective of the SWOT is to:

Develop the competitiveness of Ontario's fruit industry (particularly peaches, apples, pears, plums and grapes) to profitably supply high quality Ontario-grown fruit to Ontario consumers, by meeting or exceeding consumers' definitions of quality and value.

This section draws on the secondary and primary research to provide an analysis of the current opportunities and threats, and strengths and weaknesses that could play a role in either enabling or hindering Ontario's fruit industry to achieve this objective.

Strengths and weaknesses are factors internal to Ontario's fruit industry, and over which it may therefore be able to exert direct control and influence. Strengths are internal factors that could help Ontario's fruit industry achieve its objective. Conversely, weaknesses are internal factors that could hinder Ontario's fruit industry from achieving its objective(s).

Opportunities and threats are attributes of the environment that are external to Ontario's fruit industry and that may either help or hinder the provincial fruit industry in achieving its objective.

Many of the identified opportunities directly relate to the industry's current strengths and weaknesses.

The SWOT analysis helps to identify areas of development that are needed to achieve the objective of developing the ability of Ontario's fruit industry to successfully deliver consumer defined products to consumers today and over the long term.

	Potential to Help Achieve Objective	Potential to Hinder Objective Being Met
External Factors	**OPPORTUNITIES**	**THREATS**
Internal Factors	**STRENGTHS**	**WEAKNESSES**

Factors identified in the table below are repeated as appropriate within the following sub-sections, pertaining to individual fruit categories.

Figure 4.5: SWOT, All Fruits

Strengths • Excellent growers (albeit minority of overall population): *from whom other producers can learn* • Innovative packers and distributors: *from whom other packers and distributors can learn* • Short 'local' season creates consumer excitement • Agronomic research and extension capabilities • Successful capable leaders exist at all levels of the chain: *though many are tired of fighting a general culture that resists change and is not innovative* • Retailers see benefit of actively supporting Ontario fruit industry: *partly due to consumers' increasing interest in local*	**Weaknesses** • Lack of a market-oriented industry strategy • High overheads and low revenues associated with producers focusing on tonnage, not quality • Commonly find inconsistent quality in same shipments • Retailers flawed produce practices – both merchandizing and distribution/operations • Affect of policies and legislation on quality standards and management capabilities • ON industry does not combine resources, so lacks infrastructure and capabilities compared to leading importers • Culture of entitlement negates many growers' motivation to innovate and adapt to the market • Majority of ON growers' age and education level • Lack of information sharing and feedback along the value chain • Lack of proactive visionary industry leaders • Many growers' belief that close proximity means down-stream problems can be fixed quickly and cheaply • Few markets (processing) for off-grade fruit
Opportunities • Motivate and enable capable leaders to take a great role in initiating change • Conduct ongoing consumer research, and use insights to develop and implement innovative strategies and processes along value chain • Create a greater number closely-aligned, functional value chains than currently exist • Improve orchard management practices across wider industry • Cool chain improvements • Develop more objective quality management processes and encourage their use amongst wider industry population • Quality management & process improvement training • Streamline breeding programs to enables greater develop of varieties that appeal to consumers	**Threats** • Competitors' "can-do" attitude • Competitors' age, education level & experience • Competitors' increasing management capabilities • The efficiency and effectiveness of competitors' systems and processes • Importers' ability to influence retailers' decisions • Impact of other jurisdictions' policies & legislation on motivating / enabling competitors' market-focused research & innovation • Consumers' changing purchasing habits

• Develop new package and presentation formats • Develop export markets • Improve producers' business skills • Proximity to a large market • Access to major transportation routes	

4.3 Peaches

Section 4.3 commences with a value chain map for peaches. Subsequent to the map we present a summary of research findings, followed by a SWOT. All information is presented anonymously.

4.3.1 Value Chain Map

This section begins with a schematic diagram developed from an analysis of value chains supplying fresh peaches grown in Ontario to retailers located in Ontario, Quebec, and Atlantic Canada. It has been compiled from interviewing value chain participants' and physically walking the value chain to observe activities performed as the fruit moves from the orchard to the end market.

The value chain map is presented using the same format as that used to describe the overall fruit industry. That is, one page generally represents a specific segment of the industry, with Node 'A' following onto the second series of segments along the value chain, and Node 'B' following onto the remaining series of links that, together with those contained in the first and second maps, comprise the overall value chain.

Two primary sales routes were found to exist for the peach industry. The first, as described in the first three pages of the value chain map accounts for the majority of Ontario peaches. It spans inputs and production at the orchard level through to mass retail. The fourth and final page of the value chain maps presents an alternative sales model that leads on from Node 'A'. This is where producers sell peaches direct to retail stores, or directly to consumers at either the farm gate or a roadside stand.

Figure 4.6: Peaches Value Chain Map #1 (Inputs at left →A)

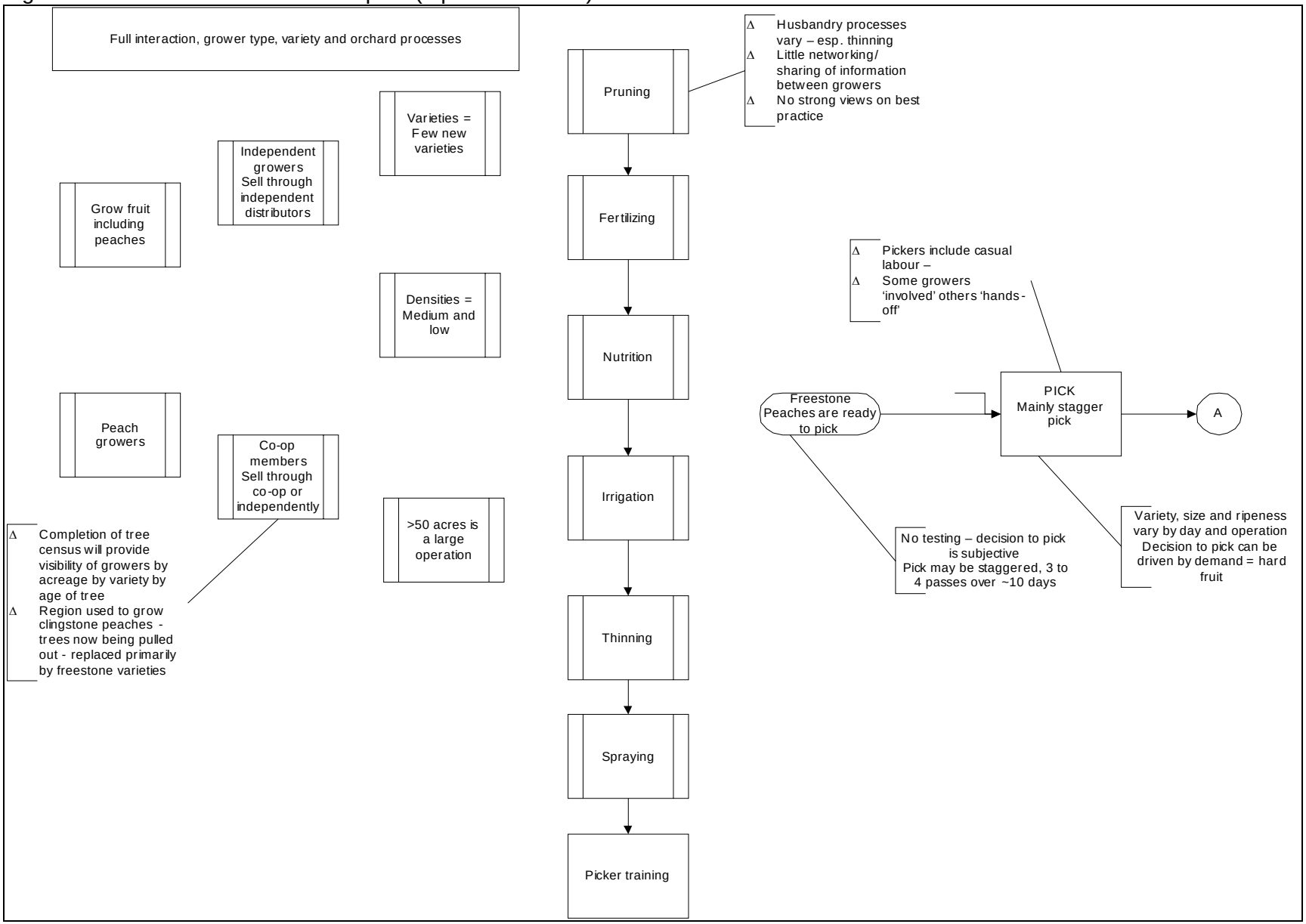


Figure 4.7: Peaches Value Chain Map #2 (A→B)

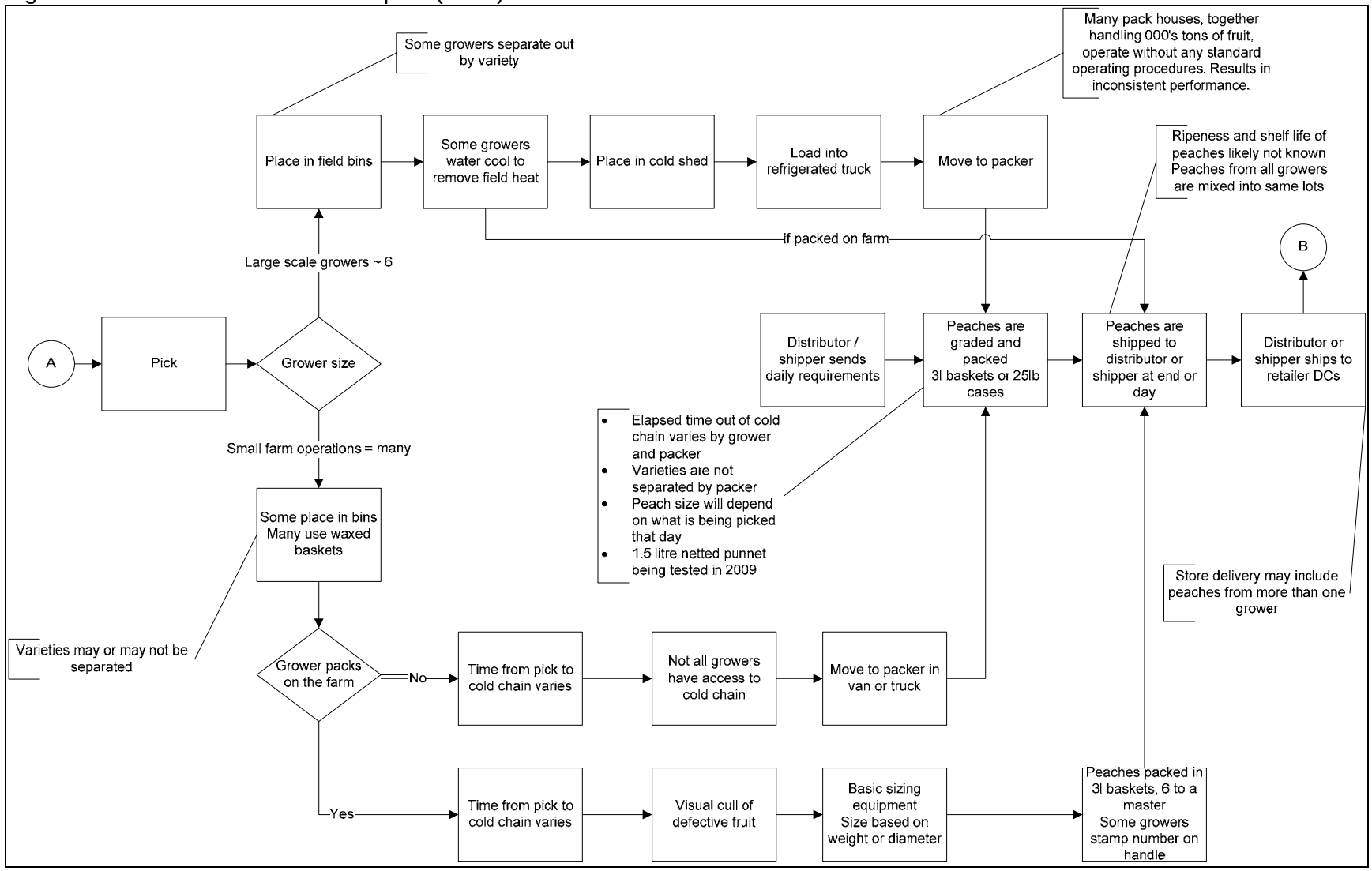


Figure 4.8: Peaches Value Chain Map #3 (B→End)

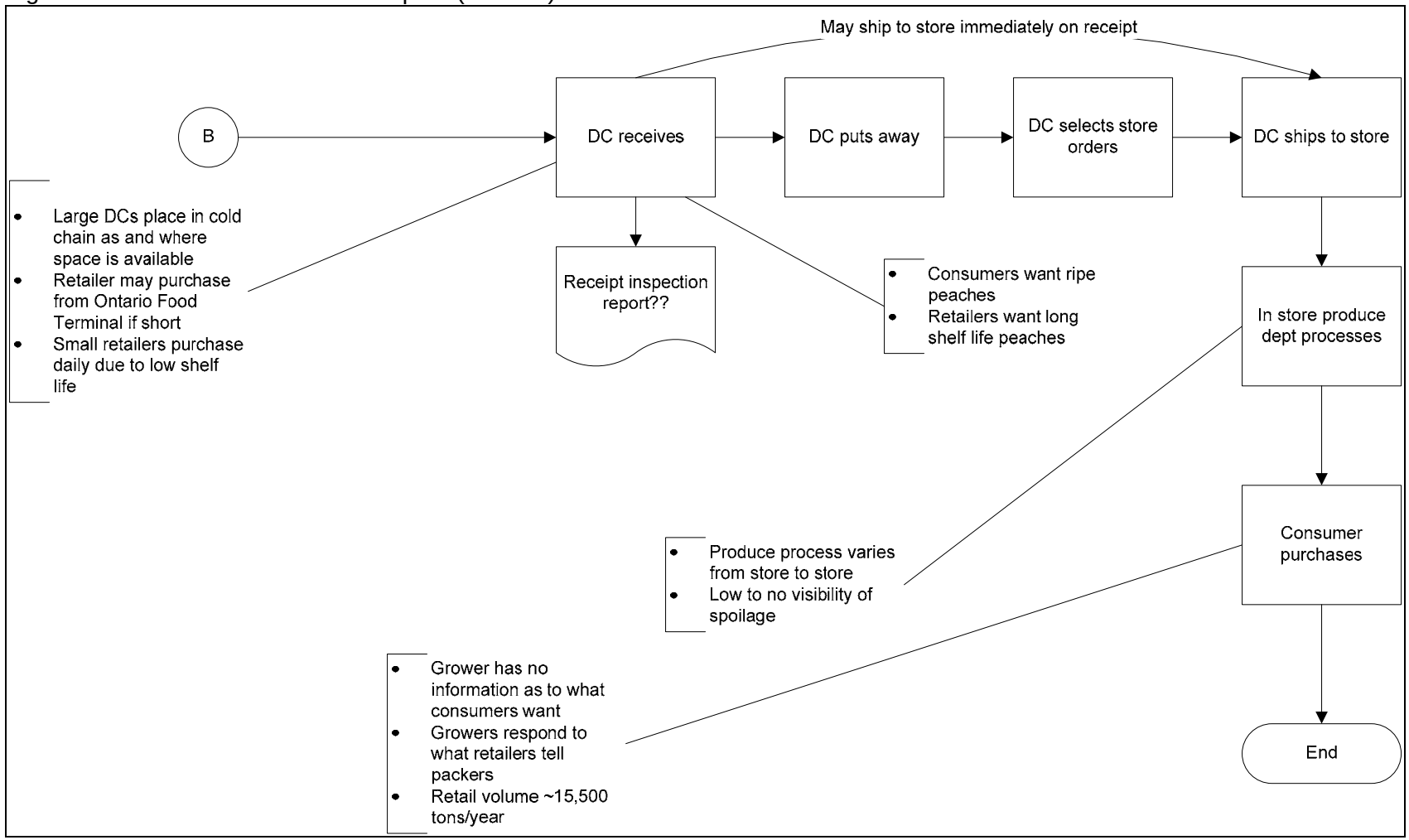
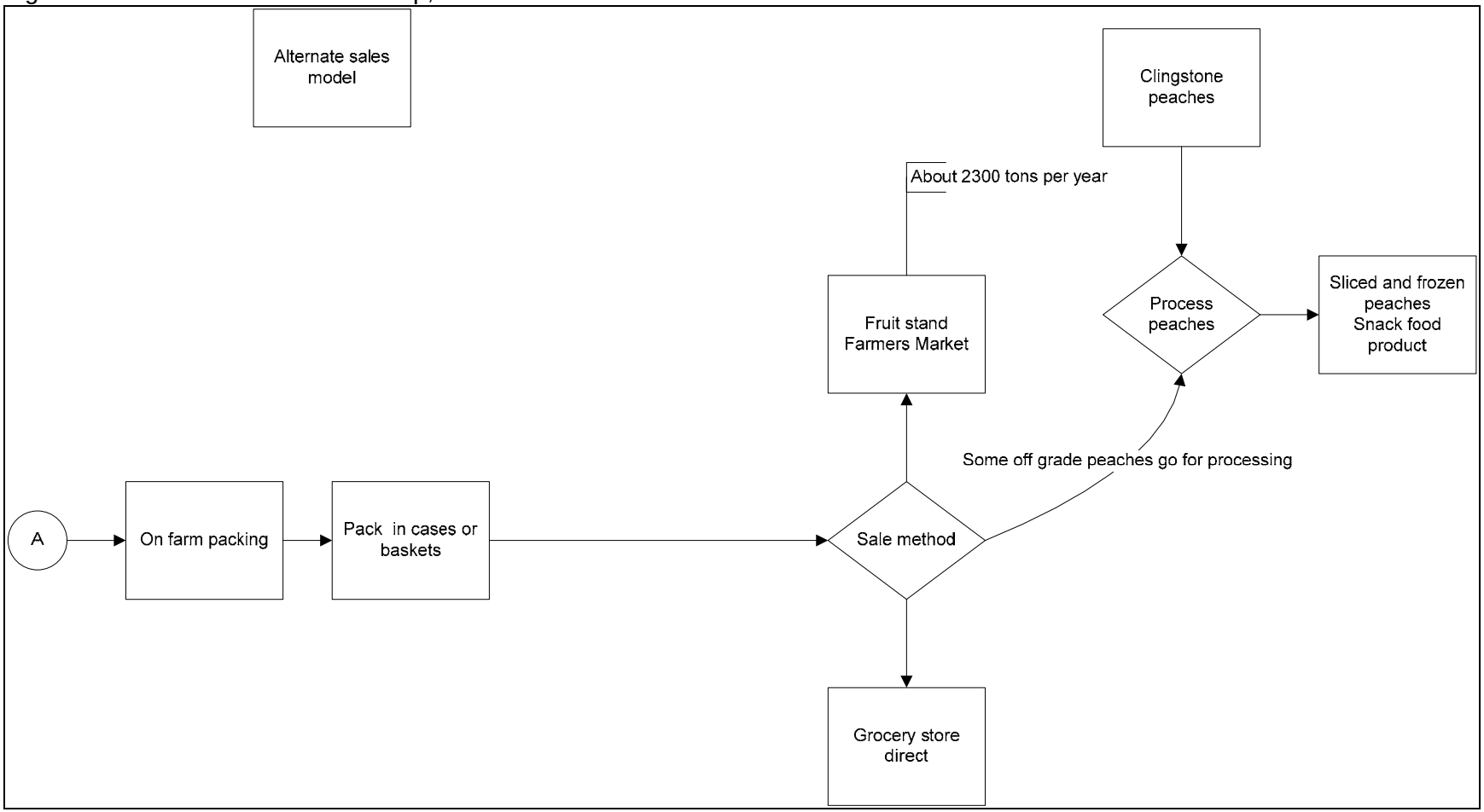


Figure 4.9: Peaches Value Chain Map, Alternative Sales Model



4.3.2 Summary of Quality Management and Chain Related Issues Specific to Peaches

Out of the industry sectors analyzed for this project, Ontario's peach industry appears to be least effective in managing the quality of its fruit. Two statements made by individuals involved in supplying Ontario peaches to retailers typify much of what we saw and heard during our investigations. The first is that *"in a legislated environment you don't need to focus as much on quality"*. The second is that *"Ontario peaches do not compete with imported peaches"*. Both statements illustrate the extent to which much of Ontario's peach industry is disconnected from its customers and consumers. While Ontario's peach sector undoubtedly has innovative and ingenious leaders, some of whom we met during the research, attitudes that are said to be borne largely out of a legislated marketing system appear (at least in part) to lie at the heart of why more industry stakeholders have not been motivated to more effectively manage quality and, in doing so,

more successfully adapt to changing market demands. Particularly compared to the increasing capable importers against which they compete.

Figure 4.10 describes the techniques that stakeholders situated along the value chain use to manage quality. Ontario's peach industry almost invariably uses only subjective measures to manage quality. This includes decisions on when to harvest. Regardless of other factors which further impact quality, such as orchard practices, cool chain management, grading, and packing, this invariably translates into differences in quality across suppliers, individual shipments, and peaches purchased by consumers. Also detailed are quality issues that were commonly found to occur at each level of the value chain and how such issues might be addressed. The table also presents the descriptions that interviewed respondents used to compare Ontario's peach industry to that of leading competitors. To illustrate the extent to which the quality of Ontario peaches influence consumers' attitudes and behaviour, the far right column brings a consumer perspective to the analysis. As can be seen from the results, Ontario peaches do not meet the expectations of many consumers and disconnects exist between what consumers are seeking and how quality is managed along the chain. This includes that only minimal information is shared between most participants situated along the value chain; and that consumers have to change their fruit purchasing and handling behaviours in order to accommodate Ontario peach season. This discourages many consumers from purchasing Ontario peaches. It also negatively impacts the perceived value of Ontario peaches.

Figure 4.10: Quality Management Systems and Metrics Used At Each Stage of The Value Chain for Peaches

	Fruit Producers (Growers)	**Packers (often growers)**	**Shippers / Distributors**	**Retailers**	**Consumer Factors**
Types of processes used by majority of ON industry to manage quality compared to best in class	**Ontario** • Largely manage quality subjectively (sight & feel) **Leading importers** • Manage quality using scientific (objective) processes and data	**Ontario** • Largely manage quality subjectively (sight & feel) **Leading importers** • Use scientific (objective) processes and data	**Ontario** • Largely manage quality subjectively (sight & feel) **Leading importers** • Use scientific (objective) processes and data	**Corporate** • Deal directly with supplier • Increasingly use scientific (objective) based processes **Independent** • Have preferred flexible sources • Largely use subjective metrics	**When Buying** • For many '*a peach is a peach'* – low familiarity with different varieties o Results in general low impact on price • One bad peach can impact perception of whole display • Memory of past eating experience discourages future purchases **Baskets have many benefits & drawbacks:** +good value +encourages consumption +can "create" own basket +nostalgic +convenient - too much for small families/individuals - less personal quality control

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Consumer Factors
					- merchandized separately so overlooked/forgotten
Metrics used to manage quality	**Ontario and leading importers** • Colour • Size • Varieties • Traceability (limited in ON) **Leading importers only** • Maturity • Ethylene • Pressure • Brix • Acid	**Ontario and leading importers** • Colour • Size • Varieties • Traceability (limited in ON) • Consistency • Temperature **Leading importers only** • Maturity • Ethylene • Pressure • Brix • Acid • Food safety (swab testing)	**Ontario and leading importers** • Colour • Size • Varieties • Brix • Traceability (limited in ON) • Consistency • Temperature **Leading importers only** • Maturity • Ethylene • Pressure • Acid • Food safety (swab testing)	**Retailers overall** • Colour • Size • Varieties • Maturity/ethylene • Pressure • Brix • Acid • Temperature • Consistency • Food safety (swab testing) • Traceability (limited in ON)	**When consuming** • Soft but not mushy • Unblemished • Preferred colour: from some yellow to all pink (yellow signifies ripeness)Taste / eating experience • Consistency
Common quality issues associated with Ontario peaches	• Lack of consistency Temperature (broken cold chain)	• Lack of consistency • Temperature (broken cold chain) • Lack of good varieties • Appearance (fruit) • Pack appearance • Pack size • Fruit size	• Lack of consistency • Appearance (fruit) • Pack appearance • Pack size • Fruit size • Temperature (broken cold chain) • Shrinkage	• Lack of consistency • Poor shelf-life • Lack of good varieties • Shrinkage • Pack size • Fruit size • Pack appearance • Appearance (fruit) • Colour • Grading • Spoilage • Temperature (broken cold chain)	• Lack of consistency • Don't know if it's good until you try it (need dependable quality) • Fruit size • Appearance (fruit) • Pack appearance • Pack size o Prefer loose for small family/individual o Prefer basket for large family • Volume of shrink/waste
Possible solutions to address quality issues, and where they can be implemented along	• Improve cold chain • Extension support • Orchard husbandry • Objective picking decision processes	• Improve packing and grading technology • Improve cold chain • Objective standards and certification	• Improve cold chain • Improved packing and grading • Objective standards and certification	• Improve produce department practices • Greater collaboration with suppliers • Objective standards	While consumers are more emotionally connected to ON peaches than any other ON fruit, sufficient anecdotal evidence exists

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Consumer Factors
the value chain	• Objective standards and certification			and certification	to suggest that inconsistent quality is leading to missed market opportunities because consumers increasing do not trust baskets of peaches
Comparisons made between Ontario fruit producers and leading competitors	**Ontario** • Largely reactive sellers of fruit **Leading competitors** • Proactive capable marketers	**Ontario** • Largely transactional **Leading competitors** • Highly capable, efficient	**Ontario** • Most focus on moving fruit • Little market awareness **Leading competitors** • Focused on creating value • Extensive market research	**Ontario** • Reactive 'movers of fruit' • Bickerers rather than managers • Performance rated at 3 -5 out of 10 **Leading competitors** • Highly professional and capable • Good category managers • Performance rated at 8 or 9 out of 10	**Ontario** • Appearance, quality issues • Buy because cheap • Have higher expectations from ON fruit **Leading competitors** • Lack taste compared to good local peaches • Consistently available

As improving the quality of Ontario grown peaches could have the most positive impact on the performance of Ontario's overall fruit industry, Appendix E presents a Suppliers, Inputs, Process, Outputs, and Customers (SIPOC) diagram for peaches. It shows the factors that relate to the quality of Ontario peaches and could be measured at the start of a quality improvement project. Often used in conjunction with a SIPOC analysis, in order to better understand relationships between different factors and their ultimate impact on end quality, is a second technique called a Failure Modes & Effects Analysis (FMEA) model. A FMEA for peaches forms Appendix F. The two tools could be used in conjunction to guide improvements in the quality and consistency (thereby increasing the value) of Ontario grown peaches.

Figure 4.11 details factors that the research identified as influencing the effectiveness of processes used to manage the quality of Ontario grown peaches. It also details the economic impacts that current practices have on each level of the value chain and the industry overall. It then describes how these factors together translate into the business relationships that were found to typify Ontario's peach industry. It illustrates how the combined effects of strained business relationships, an unwillingness to share information, and both strategic and operational disconnects are impacting the effectiveness with which the quality of Ontario peaches are currently managed as the move along the value chain.

Figure 4.11: Chain Related Factors Impacting the Effectiveness of Quality Management, Specific to Ontario Peach Industry

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Outcome/Impact
Reasons given for how the present commercial environment leads to differences in the quality of Ontario vs. imported peaches	• One price for essentially all growers leads to greater focus being placed on tonnage than quality • Belief that cordial relationships with retailers sufficient for industry to remain competitive • Keeps outdated systems on 'life support' while not motivating industry to improve management capabilities • Only small portion of check-off funds used to support consumer-focused innovation • More resources invested in influencing retailers' through industry (political) pressure than business-level capabilities • Often stated that a belief amongst many ON growers that they own the market by right (entitlement), and that the current system perpetuates that attitude	• Impacts drive to continually innovate & adapt to market • Lack of strategic marketing. E.g. highest quality fruit sold in bulk not baskets • Key focus is moving volume not managing quality • Combined effects of packers concern about losing supply and current payment systems result in them being unwilling or unable to convey market signals by sufficiently penalizing or rewarding growers on the basis of quality • Supports continuation of inefficient & ineffective packing operations • No technically-capable packers who can motivate innovation at industry level	• Believe good growers lose out in legislated marketing system as efforts lost amongst the high volume of mediocrity • Industry generally lacks market focus and ability to develop the capabilities possessed by importers • Not all marketers view quality as critical to success of ON peach industry • Focus commonly placed on moving volume ahead of managing quality	• Industry focuses on volume not quality • Retailers reaction in part due to political pressure placed on them to sell the greatest volume of ON peaches possible • Legislated marketing prevents market signals from flowing through to ON growers • Little drive for suppliers to consolidate, which is required for them to develop the necessary resources • Believe legislation reduces growers drive to innovate • Does not challenge retailers' culture of using ON peaches as loss leader, partly as a way of flowing peaches through their distribution systems quickly; • Does not provide capabilities necessary to help improve retailers' flawed produce department practices	• Current situation often polarizes viewpoints of 'opposing' stakeholders • Leads to stakeholders focusing more on their differences than their similarities • All too often results in a zero sum 'blame game' of bickering rather than focusing on how to jointly improving capabilities • Current system creates environment not conducive to fostering second-order learning: *so focus is on improving or protecting current systems, not on creating systems and processes that are more appropriate to competing in a global fruit industry*
Resulting (estimated) losses and economic impacts	• Variation in yield and value • Estimate 5% when packing • Unable to secure premium over imports • Few incentives to	• 5% to 50% of crop will be graded out – sent to landfill • Few incentives to change varieties, differentiate product or improve quality	• Incidents of part or entire pallets being frozen • Unable to secure premiums over imports	• Pay most when fruit is in worst condition – e.g. start of season • ON shrink = ~10-15%+ • Imported shrink = ~5% o Leads to considerable admin costs and	• Unnecessary costs occur throughout the value chain • Limited opportunity for industry leaders to differentiate themselves from wider

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Outcome/Impact
	change varieties, differentiate product or improve quality • Lowest quality has significant influence on price and determines markets you can target			erosion of margins when handling ON peaches • Peaches rejected by corporate retailers often disposed of through Toronto Food Terminal and deep discount markets.	supply base • Lost market opportunities • Lost or reduced revenue streams • Peaches sold through deep discount markets negatively impact market value of ON peaches
Resulting views toward ON industry	• Retailers chose to sell ON peaches at low prices • Retailers make good money at our expense • Retailers do not handle ON peaches well • Retailers do not understand the market • Many growers fear losing control over what is packed	• Retailers chose to sell ON peaches at low prices • Retailers make good money at our expense • Retailers do not handle ON peaches well • Retailers do not understand the market	• Industry voices are often those of less progressive growers • Industry lacks strategic focus • Most retailers use ON fruit as a 'football' to attract consumers into their stores • Good growers lose out in marketing board system • Baskets difficult to handle • Check-off funded rebates regarded as a significant cost which provides little if any reward to better growers	• View general industry as perpetually citing a victim mentality • Consider industry voices to reflect less progressive growers • OTFPMB communicates volume expectations well, though not proactive in delivering quality • Importers viewed as more professional and capable • See ON as reactive sellers, not proactive marketers • Baskets difficult to handle	• Overall ON industry generally viewed as unsophisticated and missing market opportunities • Many stakeholders view each other with suspicion and a sense of resentment • Most stakeholders believe others do not feel accountable for the performance of another level of the chain, which impacts their own preparedness to accept accountability
Impact of above issues on chain relationships	• Growers disconnected from the market and customers • Reduces growers' motivation for growers to collaborate with each other, and overall chain • Sometimes animosity, often distrusting. Do not share info	• Leading packers sometimes at odds with growers over what is acceptable • All packers at times have issues with those retailers that continually use ON peaches as a loss leader	• Increasingly, progressive distributors only dealing directly with chosen growers	• Fragmented and distrusting, not willing to share information • Do not respect ON suppliers to same extent as importers • OTFPMB viewed as barrier to change & key reason for ON falling behind competitors	• Strained, arms length, saps desire to innovate • Strategic and operational disconnects between virtually all value chain intermediaries • The chains' fragmented structure commonly leads to stakeholders placing more effort into

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Outcome/Impact
					wrestling about margins, rather than solving problems and continually improving performance

A distinct finding of the research is that in focusing primarily on volume rather than quality and not following a strategic approach to business, Ontario's peach industry is missing opportunities to capture greater value from its operations. This includes missed opportunities to sell peaches at a higher price in both Ontario and elsewhere and the extent to which current operations incur unnecessarily high costs, from the orchard through to retail. It also leaves the industry in a vulnerable position compared to leading competitors and with fewer market opportunities than would otherwise exist – both in Canada and internationally. This disadvantages the entire industry's value chain, not just individual links.

A significant reason for the current situation appears to be the impact that marketing legislation has on polarizing the differing viewpoints of suppliers and buyers, and the effect that what is effectively a single pricing structure has on many stakeholders' behaviour. This includes many customers (as well as other industry stakeholders) believing that a single pricing scheme leads to suppliers focusing on productivity rather than quality, partly because it takes the onus of them having to be accountable for their individual performance. This situation results in strained relationships and a general unwillingness to share anything other than transactional information, and for each link in the chain to expect others to adapt their operations to suit the quality of fruit that is currently produces. It also significantly lessens stakeholders' motivation to work closer together for mutual benefit.

The present situation results in stakeholders eyeing each other with suspicion. This, along with refusing to share anything other than transactional information, creates a general feeling of distrust and an unwillingness to accept accountability for their performance. It also negatively impacts the motivation of farmers and other businesses operating on the supplier side of the industry, to innovate in relation to market demands and increasingly capable competitors. A potentially more damaging outcome of the present lack of motivation to innovate is that individual businesses are not forced to look for non-traditional ways to substantially improve their performance. Therefore, for instance, a short season continues to be cited as a key reason for why the industry can only improve to a finite level compared to other jurisdictions. Even though examples exist of where taking a more strategic approach to fruit production has helped other jurisdictions successfully overcome similar hurdles.

4.3.3 Peach SWOT Analysis

Section 4.3.3 takes the factors described in the previous sections and synthesizes them into the overall context within which Ontario's peach industry competes for market share.

Strengths and weaknesses are factors internal to Ontario's peach industry, and over which it may therefore be able to exert direct control and influence. Strengths are internal factors that could help Ontario's peach industry achieve its objective. Conversely, weaknesses are internal factors that could hinder Ontario's peach industry from achieving its objective.

Opportunities and threats are attributes of the environment that are external to Ontario's peach industry and that may either help or hinder the provincial peach industry in achieving its objective. Many of the opportunities identified below have come out of the industry's strengths and weaknesses.

Points highlighted in bold are specific to Ontario's peach industry. The remaining points are common to all of the fruits studied.

Figure 4.12: SWOT, Peaches

Strengths	**Weaknesses**
• **Ontario peach season viewed as a rare and important event in the retailers' calendar** • **OTFPMB viewed by many producers as a trustworthy advocate and knows a lot about peach industry** • **OTFPMB has a historical relationship with retailers** • Excellent growers (albeit minority of overall population): *from whom other producers can learn* • Innovative packers and distributors: *from whom other packers and distributors can learn* • Short 'local' season creates consumer excitement • Agronomic research and extension capabilities • Successful capable leaders exist at all levels of the chain: *though many are tired of fighting a general culture that resists change and is not innovative* • Retailers see benefit of actively supporting Ontario fruit industry: *partly due to consumers' increasing interest in local*	• **ON peaches' reputation for inconsistent quality** • **3L baskets good at conveying source, though impractical for managing quality** • **Consumers' unfamiliarity and/or unwillingness to correctly manage quality of a 3L basket at home** • **Lack of objective quality standards & processes** • **Inadequate pack and cool chain facilities** • **Short season limits ability to utilize investment** • **Few markets for off-grade fruit** • **Planting too many trees for the ON market** • **Government bureaucracy slows release of new improved varieties** • Lack of a market-oriented industry strategy • High overheads and low revenues associated with producers focusing on tonnage, not quality • Commonly find inconsistent quality in same shipments • Retailers flawed produce practices – both merchandizing and distribution/operations • Affect of policies and legislation on quality standards and management capabilities • ON industry does not combine resources, so lacks infrastructure and capabilities compared to leading importers • Culture of entitlement negates many growers' motivation to innovate and adapt to the market • Majority of ON growers' age and education level • Lack of information sharing and feedback along the value chain • Lack of proactive visionary industry leaders • Many growers' belief that close proximity means down-stream problems can be fixed quickly and cheaply • Few markets for off-grade fruit
Opportunities	**Threats**
• **Reposition OTFPMB as responsible for overall industry development and innovation** • **Invest check-off funds into driving and enabling strategic long-term innovation**	• **Competitors' knowledge of the ON market** • **Competitors' relationships with ON retailers** • **Domestic political pressure may cease to have current level of influence ON retailers**

• **Amortize investments in new technology more effectively by expanding crops handled by same infrastructure** • **Motivate producers to focus on quality ahead of tonnage** • Motivate and enable capable leaders to take a great role in initiating change • Conduct ongoing consumer research, and use insights to develop and implement innovative strategies and processes along value chain • Create a greater number closely-aligned, functional value chains than currently exist • Improve orchard management practices across wider industry • Cool chain improvements • Develop more objective quality management processes and encourage their use amongst wider industry population • Quality management & process improvement training • Streamline breeding programs to enables greater develop of varieties that appeal to consumers • Develop new package and presentation formats • Develop export markets • Improve producers' business skills • Proximity to a large market • Access to major transportation routes	• **Strategic connectivity between competing jurisdictions' research, business and government stakeholders** • **Length of time ON peach market is supplied solely by imports** • Competitors' "can-do" attitude • Competitors' age, education level & experience • Competitors' increasing management capabilities • The efficiency and effectiveness of competitors' systems and processes • Importers' ability to influence retailers' decisions • Impact of other jurisdictions' policies & legislation on motivating / enabling competitors' market-focused research & innovation • Consumers' changing purchasing habits

4.4 Apples

Section 4.4 commences with a value chain map. Subsequent to the map we present a summary of research findings, followed by a SWOT. All information is presented anonymously.

4.4.1 Value Chain Map

This section begins with a schematic diagram developed from an analysis of value chains supplying fresh apples grown in Ontario to retailers located in Ontario, the Atlantic regions of Canada, and Europe. It has been compiled from physically walking the value chain to observe activities performed as the fruit moves from the orchard to the end market and interviewing value chain participants. The entire value chain map is found on the following three pages.

Figure 4.13: Apples Value Chain Map #1 (Inputs at left →A)

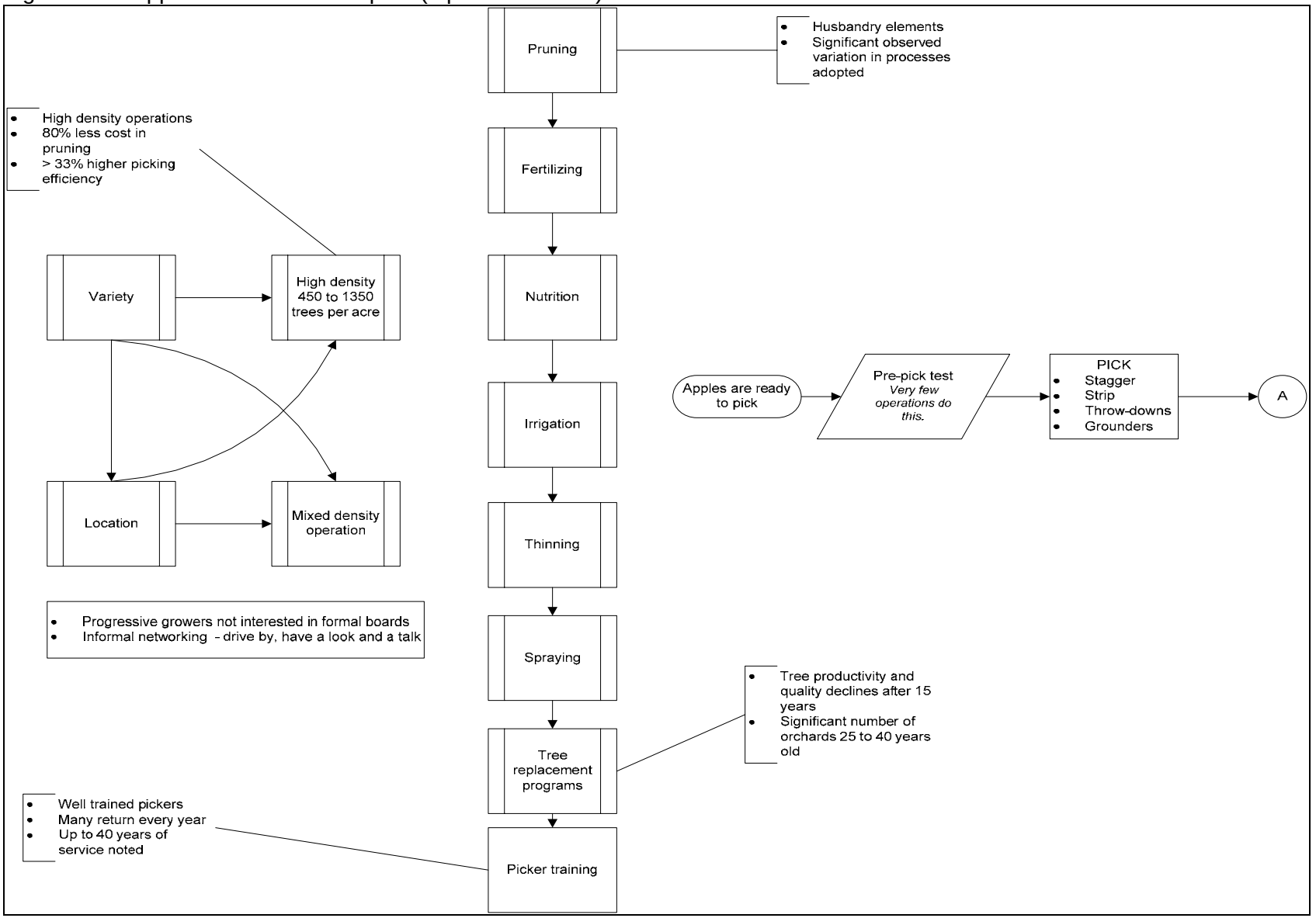


Figure 4.14: Apples Value Chain Map #2 (A→B)

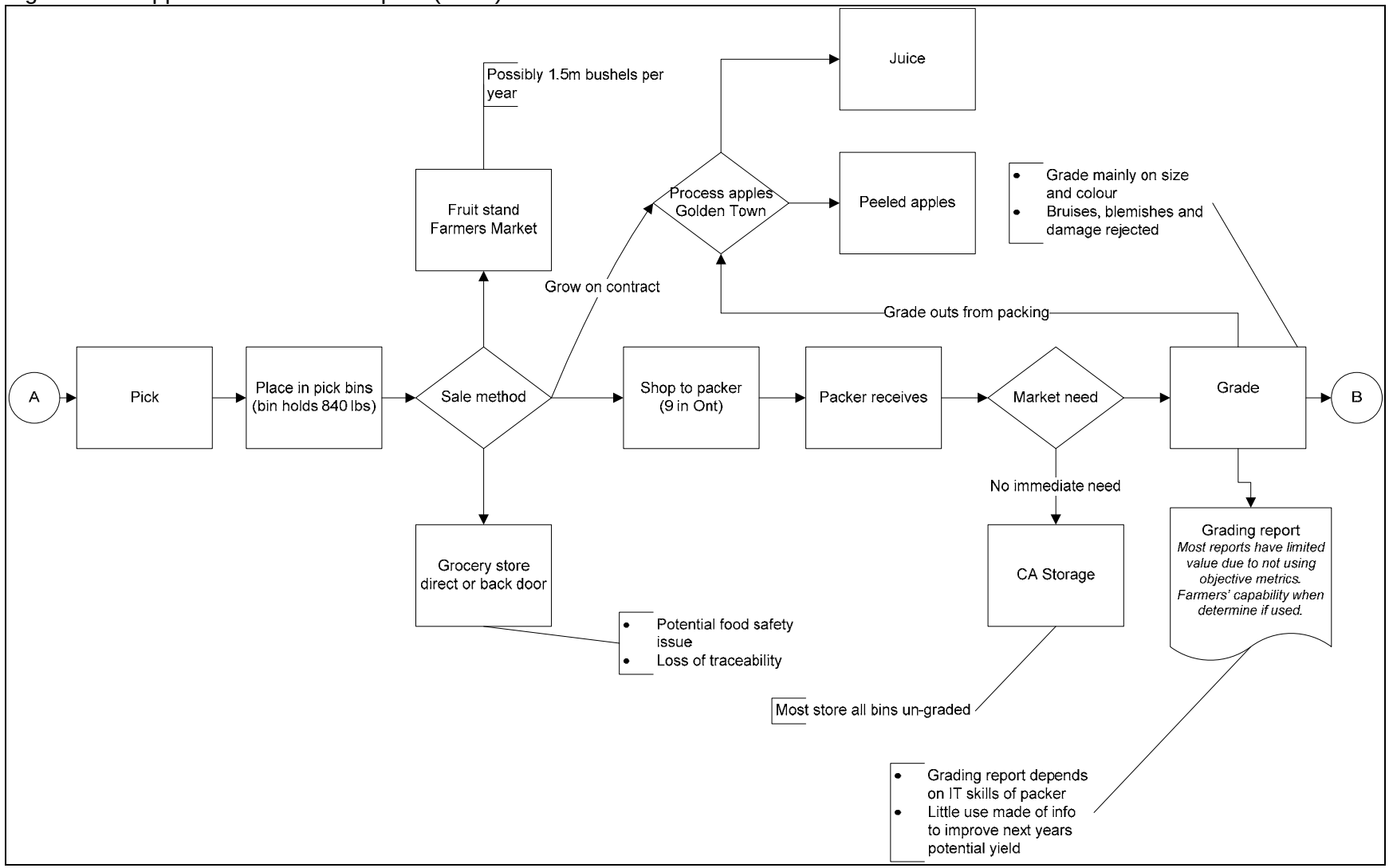
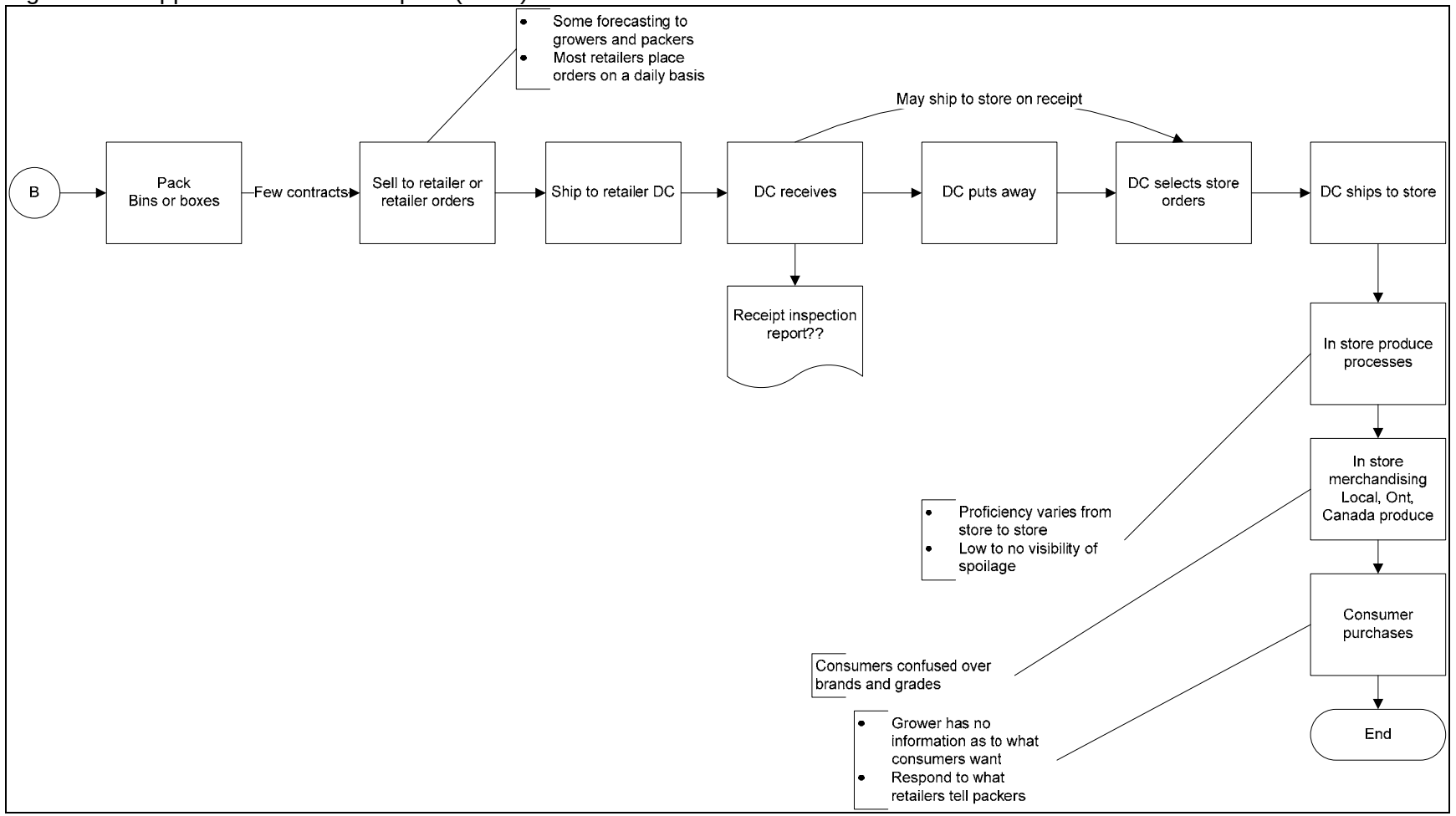


Figure 4.15: Apples Value Chain Map #3 (B→C)



4.4.2 Summary of Quality Management and Chain Related Issues Specific to Fresh Apples

Out of the five segments of the Ontario fruit industry analyzed for the purposes of this research, Ontario's apple industry manages quality most effectively. However, significant differences exist between the performance of 'leaders' and 'laggers'. Figure 4.16 describes the techniques that stakeholders along the value chain use to manage quality. A critical difference between Ontario's apple sector and the other sectors researched is the extent to which it uses objective science-based tests and rigorous processes to manage quality. This includes the sophisticated approaches that some industry leaders follow to determine the optimum time to harvest a given variety for a specific market. That said, much of the apple industry has not yet reached the same level of sophistication as continues to use subjective quality management practices.

As shown later on in this section, many within the apple sector continue to use outdated orchard husbandry practices. These factors result in a higher percentage of quality issues occurring amongst fruit produced by laggers versus leaders. It also results in laggers experiencing lower levels of profitability and following an opportunistic rather than strategic approach to business. Contained in the table below are quality issues commonly found to occur at each level of the apple value chain, how they might be addressed. It also describes that the comparisons that interviewees made between Ontario's overall apple industry and leading importers. To illustrate the extent to which the quality of Ontario apples influences consumers' attitudes and behaviour, the far right column brings a consumer perspective to the analysis. As can be seen from the results, a sizeable chunk of Ontario apples do not meet consumers' expectations and are missing market opportunities.

Figure 4.16: Quality Management Systems and Metrics Used At Each Stage of The Value Chain for Fresh Apples

	Fruit Producers (Growers)	**Packers (often growers)**	**Shippers / Distributors**	**Retailers**	**Consumer Factors**
Types of processes used by majority of ON industry to manage quality compared to best in class	**Ontario** • Increasing use of objective science-based processes • Though many still use subjective tests (sight & taste) **Leading importers** • Manage quality using objective science-based processes	**Ontario** • Increasing use of objective science-based processes • Though often not as sophisticated as importers **Leading importers** • Use sophisticated scientific-based processes and data	**Ontario** • Increasing use of objective science-based processes • Though often not as sophisticated as importers **Leading importers** • Use sophisticated scientific-based processes and data	**Corporate** • Deal directly with supplier • Increasing use of objective science-based processes **Independent** • Have preferred flexible sources • Largely use subjective metrics	**When buying** • Assume most apples are ON during Ontario apple season but US shares same varieties as ON • Appearance of individual pieces of fruit • Size: prefer 100 count or less • Appearance of 'group' of fruit – e.g. display/bag • Expect bags to contain some lesser quality fruit • Memory of past eating experience

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Consumer Factors
					• Price affects sales with wide selection to choose from
Metrics used to manage quality	**Ontario and leading importers** • Size • Colour • Taste • Variety • Brix • Pressure **Mostly only leading importers** • Ripeness • Statistical consistency • Maturity • Ethylene • Starch • Pressure	**Ontario and leading importers** • Size • Colour • Variety • Physical appearance • Maturity • Ethylene • Starch • Pressure • Taste • Brix • Acid • Temperature • Grade **Mostly only leading importers** • Food safety (swab testing)	**Ontario and leading importers** • Size • Colour • Variety • Physical appearance • Maturity • Ethylene • Starch • Pressure • Taste • Brix • Acid • Temperature • Grade **Mostly only leading importers** • Statistical consistency	**Retailers overall** • Size • Colour • Freshness • Taste • Variety • Ripeness • Consistency • Traceability • Food safety (swab testing) • Shelf-life • Brix • Taste • Grade **Moving toward** • Maturity • Ethylene • Starch	**When consuming** • Colour appropriate to variety (i.e. Green for Granny Smith, etc.) • Size appropriate to expectations for variety • Unblemished skin • Shine (for some/others find shine=less natural)Taste / eating experience as expected by variety • Consistency • Retail display - Having just 1 or 2 fruit of lesser quality leads to consumers expecting entire offer to be of questionable quality and value
Common quality issues associated with Ontario apples	• Lack of consistency • Lack of good varieties • Grading • Spoilage • Quality is less than possible due to orchard management	• Lack of consistency • Grading • Temperature	• Lack of consistency • Pack size	• Lack of consistency • Spoilage • Pack size • Shrinkage	• Lack of consistency • Don't know if it's good until you try it (need dependable quality) • From Ontario (vs. imports) • Appearance (fruit) • Pack appearance • Pack size • Shrinkage
Possible solutions to address quality issues, and where they can be implemented along the value chain	• Improve cold chain • Extension support • Improve orchard husbandry • Objective picking decision processes	• Improve packing and grading technology • Improve cold chain • Objective standards and certification	• Improve cold chain • Improved packing and grading • Objective standards and certification	• Improve produce department practices • Improve buying practices • Greater collaboration with suppliers	• Ensure greater percentage of ON apples make premium grade • Improve differentiation between ON and

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Consumer Factors
	• Objective standards and certification • • Strategically plant varieties in regions with suitable climate • Introduce replant program			• Objective standards and certification	imported apples • Ensure ON apples reflect consumer expectations of being fresher and of better quality than imports • Promote to ethnic consumers who are less influenced by seasonal variances
Comparisons made between Ontario fruit producers and leading competitors	**Ontario** • Older growers with hunkered down subjective mentality • No succession plan or strategy • Incorrectly believe US growers are good because subsidized **Leading competitors** • Younger enthusiastic growers who are hungry for knowledge • Succession plans and long-term perspective/ strategy • Excellent extension programs • Higher percentage of production suited to premium markets	**Ontario** • Changing and consolidating • Starting to collaborate behind the scenes • Investing in technology **Leading competitors** • Highly capable, efficient • Quick to act on information	**Ontario** • Increasing focused on quality and value • Increasing market awareness • Has very capable leaders **Leading competitors** • Focused on creating value • Extensive market research • Bring innovations to retailer	**Ontario** • Increasingly capable through having learnt from UK market • Still playing catch-up • Performance rated at 7 - 9 out of 10 **Leading competitors** • Highly professional and capable • Very good category managers • Regularly conduct market research and quick to act on information • Performance rated at 9 out of 10	**Ontario** • Some appearance and general quality issues • Have higher expectations from ON fruit • Often unable to distinguish between ON and imported • Bagged apples not expected to all be top quality• Ethnic study found respondents do not actively look for area of origin & expect local to cost less **Leading competitors** • Consistent, marketed well • Interesting varieties • Considered comparable/acceptable quality

Reasons for why Ontario's apple industry appears to manage quality more effectively than the other sectors researched include:

- A history of exports, which has exposed the industry to sophisticated international markets and driven suppliers to continually innovate and improve management practices;
- Consolidation has led to successful growers, packers and distributors developing the resources required to enable investments in technological and management capabilities;
- The existence of visionary innovative business leaders, some of which have been mentored by other leaders;
- A crop that can stored and marketed for longer periods of time than most Ontario grown fruits;
- The lack of a legislated minimum pricing / quality structure which to some extent reflects the performance of less capable growers, not industry leaders.

That said, Ontario's overall apple industry is not considered to be as innovative as its competitors (including those situated in New York State). This is impacting the industry's overall performance and market opportunities. As can be seen from the table below, factors such as a larger number of packers and distributors compared to hectares in production, and the multitude of varieties planted together without adequate regard to climate and orchard management practices leads to large parts of Ontario's apple industry remaining relatively inefficient and not possessing the same quality management capabilities as leading importers.

Figure 4.17: Chain Related Factors Impacting The Effectiveness of Quality Management, Specific to Ontario Fresh Apple Industry

	Fruit Producers (Growers)	**Packers (often growers)**	**Shippers / Distributors**	**Retailers**	**Overall Result/Impact**
Reasons given for how the present commercial environment leads to differences in the quality of Ontario vs. imported apples	• Producing old varieties to low quality standards • Often stated that a belief amongst ON growers that they own the market by right (entitlement) is a barrier to industry development • Too many growers influenced by sense of entitlement • Many orchards use outdated management practices • Most ON orchards still low density, producing lower value fruit per Ha than competitors • Varieties often not planted where produce best quality	• Too many packers given size of ON apple industry • Inconsistency of supply and quality due to fragmented base of small producers (often 15-20 acres) • Small producers often grow too many varieties for size • Lack of technically-capable packing & storage facilities • Common lack of empathy between packers & growers • Said to not be aggressive when grading for fresh mkt	• While ON has capable packers and leaders, often stated that fragmented industry limits opportunity for them to acquire same capabilities as importers • Too many packers/ shippers /distributors given size of ON apple industry • A lot of fruit downgraded b/c of outdated growing method • Have insufficient economic mass to develop same capabilities as importers • Insufficient focus on differentiation	• Lack of critical mass limits resources necessary to develop capabilities of importers • Each shipment represents a higher percentage of overall production compared to importers'. So ON tends to wrestle about the margins when problems occur, not look at the big picture and move on • Some suppliers take view that being within 1 hour drive means problems can be fixed if they occur. Not focused making sure problems don't occur in the first place.	• Steady move away from historic situation, where commercial environment was not sufficient to motivate market-focused innovation • Many suppliers appear to lack the drive to innovate & continually communicate with retailers between suppliers

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Result/Impact
		• Inappropriate crops put into storage, leading to losses			
Resulting (estimated) losses and economic impacts	• Compared to low density, labour costs considerably lower in high density orchards o Pruning costs ~$100 vs. $500 o 30% higher pick efficiency • Low density orchards result in higher % of overall crop being processed or discounted • Lowest quality has significant influence on price and determines markets you can target	• 5% to 30+% of crop will be graded out and sent to processing • Lack of objective processes can lead to 50% losses in stored apples • Miss out on premium prices due to undifferentiated fruit	• With lack of new varieties and improved quality, apples are a commodity • Differentiated then comes down more to price than other factors	• ~5% shrink due to high stacking and multiple handling rather than 'one-touch' system used by UK retailers such as Tesco o Leads to considerable admin costs and erosion of margins when handling ON peaches	• Unnecessary costs occur throughout the value chain • Limited opportunity for industry leaders to differentiate themselves from wider supply base • Production of old varieties diminishing margins, causing ON business to decline
Resulting views toward ON industry	• ON has too many old entrenched growers who do not take a business approach to managing their orchards • Production methods behind those of most competitors • Many growers biding their time to retirement	• Many growers try to exploit opportunities you provide them with, can't be trusted • Retailers can be good business partners • Improving their capabilities • Growers may only be paid when fruit is packed, with less accountability on packers to max quality when storing and handling	• Not producing sufficient volumes of new varieties • Industry voices often those of less progressive growers • ON retailers said to be supportive of progressive distributors • Industry too political and not sufficiently business driven • Larger growers and suppliers often very good. Smaller guys often the main problem	• Industry lacks strategic focus • ON can produce larger more consistent and valuable apples than currently does • Current practices mean too many apples are bagged rather than sold as premium fruit • Larger growers and suppliers often very good. Smaller guys often the main problem • ON often contrasted as poor cousin of Quebec due to lack of investment in infrastructure	• While industry has progressive growers and suppliers, its overall progress is handicapped by the many more that stick to traditional approaches and lack business acumen • Quebec viewed as an example of how investing in infrastructure can motivate industry to collaborate better and develop new value-added capabilities
Impact of above issues on chain	• Many growers disconnected from	• Lack of trust between many producers and	• Retailers' respect for progressive	• Retailers have increased respect for	• Results in strategic disconnects between

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Result/Impact
relationships	customers & consumers • Reduces growers' motivation for growers to collaborate with each other, and overall chain	packers • Increasing trust between progressive packers and retailers	stakeholders increasing, resulting in stronger relationships	ON apple packers • Looking for ON suppliers to take greater role in managing apple category	growers • The fragmented structure of some chains leads to stakeholders wrestling about margins, rather continually improving performance

4.4.2.1 Differences in Orchard Management Practices

Figures 4.18 and 4.19 highlight differences in orchard management practices that the research found to impact fruit quality and, in turn, overall revenues and costs per acre. Apples are used for the purposes of this exercise, not because the variation in best versus lesser practices is greater than other fruits examined, but because the differences are easier to convey through photographs.

Figure 4.18 is a high density irrigated orchard of approximately 1,100 trees per acre. While this approach requires a higher initial investment than traditional growing, that it can produce a greater volume of consistently high quality fruit per acre and a lower percentage of fruit suited to discount or processing markets, which results in higher revenues. It also requires up to five times less manpower and significantly fewer chemicals than traditional low density orchards.

Figure 4.18: Example of high density well managed apple orchard in Ontario

Figure 4.19 is a low density orchard of approximately 250 trees per acre. This is by no means the worst practice identified during the research. Higher costs, lower revenues, often combined with older trees and lower value varieties, lead to inconsistent quality and a general lack of competitiveness. And this is before any post farm activities that affect quality, costs and revenues are taken into account.

Figure 4.19: Example of low density, poorly managed apple orchard in Ontario

The two orchard management techniques reflect very different approaches to managing quality at one of the most important points along the value chain, in the orchard. The high density orchard approach reflects a grower who is proactively managing the determinants of quality. They are not taking a reactive approach to managing quality, which would see that the grower largely managing quality through grading what has already been produced. Given that high density orchards are likely to comprise newer high value varieties than older low density orchards, the resulting revenues and cost savings lead to the potential profit margins of high density orchards being ten (or more) times higher than low density production.

4.4.3 Fresh Apples SWOT Analysis

Section 4.4.4 takes the factors described in the above sections above and synthesizes them into the overall context within which Ontario's fresh apple industry competes for market share.

Strengths and weaknesses are factors internal to Ontario's apple industry, and over which it may therefore be able to exert direct control and influence. Strengths are internal factors that could help Ontario's apple industry achieve its objective. Conversely, weaknesses are internal factors that could hinder Ontario's apple industry from achieving its objective.

Opportunities and threats are attributes of the environment that are external to Ontario's apple industry and that may either help or hinder the provincial apple industry in achieving its objective. Many of the opportunities identified below have come out of the industry's strengths and weaknesses.

Points highlighted in bold are specific to the fresh apple industry. Other points were identified as being common to all of the fruits studied.

Figure 4.20: SWOT, Fresh Apples

Strengths	**Weaknesses**
• **Apples can store well, enabling them to have an almost year-round presence in retail stores** • **Excellent post harvest researchers & capabilities** • **Consolidation resulting in more efficient and effective packing facilities** • **Consolidation resulting in greater access to and more effective use of technology** • **Experience supplying apples to sophisticated international markets resulting in Ontario possessing a number of innovative and capable packers & distributors** • Excellent growers (albeit minority of overall population): *from whom other producers can learn* • Innovative packers and distributors: *from whom other packers and distributors can learn* • Short 'local' season creates consumer excitement • Agronomic research and extension capabilities • Successful capable leaders exist at all levels of the chain: *though many are tired of fighting a general culture that resists change and is not innovative* • Retailers see benefit of actively supporting Ontario fruit industry: *partly due to consumers' increasing interest in local*	• **Too many varieties for size of industry** • **Disconnect between producers and the market** • **Age of many trees and/or outdated production methods negatively impacts competitiveness** • **Many growers view processing market as clearing house, not a strategic choice** • **Varieties often planted anywhere, not planted strategically to maximize quality & capabilities** • **Many low density orchards = *hard work, higher operating costs, lower margins, less quality, when compared to high density production*** • Lack of a market-oriented industry strategy • High overheads and low revenues associated with producers focusing on tonnage, not quality • Commonly find inconsistent quality in same shipments • Retailers flawed produce practices – both merchandizing and distribution/operations • Affect of policies and legislation on quality standards and management capabilities • ON industry does not combine resources, so lacks infrastructure and capabilities compared to leading importers • Culture of entitlement negates many growers' motivation to innovate and adapt to the market • Majority of ON growers' age and education level • Lack of information sharing and feedback along the value chain

	• Lack of proactive visionary industry leaders • Many growers' belief that close proximity means down-stream problems can be fixed quickly and cheaply • Few markets for off-grade fruit
Opportunities • **Encourage more producers to view processing sector as a strategic choice, not a dumping ground for grounders & poor quality apples** • **Establish close strategic relationships with international apple breeders** • **Improve quality management processes, especially for apples placed into storage** • Motivate and enable capable leaders to take a great role in initiating change • Conduct ongoing consumer research, and use insights to develop and implement innovative strategies and processes along value chain • Create a greater number closely-aligned, functional value chains than currently exist • Improve orchard management practices across wider industry • Cool chain improvements • Develop more objective quality management processes and encourage their use amongst wider industry population • Quality management & process improvement training • Streamline breeding programs to enables greater develop of varieties that appeal to consumers • Develop new package and presentation formats • Develop export markets • Improve producers' business skills • Proximity to a large market • Access to major transportation routes	**Threats** • **Competitors' knowledge of the Canadian market** • **Age of new entrants into competitors' industry** • **Competitors' development & marketing of new innovative consumer-focused varieties** • **Competitors' continual improvement of quality management systems** • **International markets moving away from varieties traditionally supplied by Canada** • Competitors' "can-do" attitude • Competitors' age, education level & experience • Competitors' increasing management capabilities • The efficiency and effectiveness of competitors' systems and processes • Importers' ability to influence retailers' decisions • Impact of other jurisdictions' policies & legislation on motivating / enabling competitors' market-focused research & innovation • Consumers' changing purchasing habits

4.4.4 Summary of Quality Management and Chain Related Issues Specific to Processed Apples

An adjunct of the overall Ontario apple industry is the processed apple sector. As the value chain for processing apples is very similar in many respects to the chain for fresh apples, and the research went only so far as the customer, a value chain map has not been produced for processing apples. Instead it has been incorporated into the overall apple value chain map presented in Section 4.4.1. Presented below are findings pertaining to the processed apple sector. For obvious reasons many of the factors also relate to the fresh apple industry.

As with fresh apples, the most successful stakeholders use above average levels of objective scientific based techniques to manage the quality of processing apples. A distinct finding of the research was that many of Ontario's apple growers (and some packers) consider the processing sector to literally be a dumping grown for sub-quality apples. This leads to them incurring higher costs and lower revenues than could be achieved by taking a more strategic approach to their growing and marketing operations.

Figure 4.21: Quality Management Systems and Metrics Used At Each Stage of the Value Chain for Processed Apples

	Fruit Producers (Growers)	Packers (often growers)	Processors	Customers	Overall Impact
Types of processes used by majority of ON industry to manage quality compared to best in class	**Ontario** • Increasing use of objective science-based processes • Though many still use subjective tests (sight & taste) **Leading importers** • Manage quality using objective science-based processes	**Ontario** • Increasing use of objective science-based processes • Though often not as sophisticated as importers **Leading importers** • Use sophisticated scientific-based processes and data	**Ontario** • Increasing use of objective science-based processes • Increasing use of modern technology per se **Leading importers** • Use sophisticated scientific-based processes and data • Using sophisticated modern technology	• Two types of customers o Juice o Slices • Wide use of objective science-based processes	• Ontario possesses the technical capabilities necessary to expand the market for processing apples
Metrics used to manage quality	**Ontario and leading importers** • Size • Colour • Taste • Variety • Brix • Pressure **Mostly only leading importers** • Ripeness • Statistical consistency	**Ontario and leading importers** • Size • Colour • Variety • Physical appearance • Maturity • Ethylene • Starch • Pressure • Taste • Brix • Acid	**Ontario and leading importers** • Size • External colour (skin) • Internal colour (flesh) • Variety • Starch • Physical appearance • Pressure • Brix • Spoilage (mould, etc.) • Trash (grass, wood, etc.)	**Processors overall** • Colour • Size (if slices) • Temperature • Taste • Variety • Ripeness • Consistency • Traceability • Food safety • Brix • Taste • Bacteria	• Downstream of primary production, the ON industry apple processing industry uses almost identical quality measures to competing importers

	Fruit Producers (Growers)	Packers (often growers)	Processors	Customers	Overall Impact
	• Maturity • Ethylene • Starch • Pressure	• Temperature • Grade **Mostly only leading importers** • Food safety testing	• Bacteria • Acid **Mostly only leading importers** • Statistical consistency • Food safety testing		
Common quality issues associated with Ontario apples	• Lack of consistency • Lack of good/suitable varieties • Grading • Spoilage	• Lack of consistency • Grading • Spoilage • Lack of good/suitable varieties	• Lack of consistency • Lack of good/suitable varieties • Spoilage	• Lack of consistency • Spoilage • Pack size • Shrinkage • Lack of good/suitable varieties	• Quality is less than possible due to common occurrence of sub-standard orchard management practices
Possible solutions to address quality issues, and where they can be implemented along the value chain	• Improve orchard husbandry (see Figures 4.19 & 4.20) • Objective picking processes • Strategically plant varieties in regions with suitable climate • Improved management of pickers	• Improve packing and grading technology • Improve cold chain • Objective standards and certification	• Improved cold chain • Improved processes • Improved varieties • Improved processing • Improved orchard management practices • Objective standards and certification	• Better target higher value markets and customers	• Relatively high percentage of ON apples not suited to 'premium' processing markets • Processing considered option for disposal of off-grade fruit, not strategic choice
Comparisons made between Ontario fruit producers and leading competitors	**Ontario** • Older growers with hunkered down subjective mentality • See processing market as a catch-all operated by predators **Leading competitors** • In the US (e.g. NY), younger enthusiastic growers improved orchard production and apple quality to point that some processors are investing in orchards to guarantee	**Ontario** • Changing and consolidating • Investing in technology so that can better sort between fresh and processing apples • Has very capable leaders **Leading competitors** • Highly capable, efficient • Quick to act on information • Use world-leading	**Ontario** • Increasing focus on quality • Investing in new technology • Increasing market awareness • Has very capable leaders • May source specific varieties **Leading competitors** • Focused on creating value • Extensive market research • China supplies very	**Ontario** • Few ON markets at the moment for local juice, mostly goes to US • Lack of volume said to be leading to missed market opportunities (e.g. foodservice) • Excellent suppliers to specific markets **Leading competitors** • Highly professional and capable • Quick to act on information	**Ontario** • Some appearance and general quality issues • Have higher expectations from ON fruit • Often unable to distinguish between ON and imported • Bagged apples not expected to all be top quality **Leading competitors** • Consistent quality • China able to supply

	Fruit Producers (Growers)	Packers (often growers)	Processors	Customers	Overall Impact
	supply	technology, reduces costs	cheap apple juice concentrate • Use world-leading technology, reduces costs		juice at equivalent of 6 cents per pound

Figure 4.21 details factors that the research identified as influencing the effectiveness of processes used to manage the quality of Ontario grown apples that flow through to the processing sector and ultimately customers of processed apples; along with the unnecessary costs that this creates and resulting missed market opportunities. It also details the economic impacts that current practices have on each level of the value chain and the industry overall. It then describes how these factors together translate into the business relationships that were found to typify Ontario's processed apple industry. It illustrates how the combined effects of many growers not managing their orchards as well as leading competitors, strained business relationships, and strategic and operational disconnects are impacting the competitiveness of Ontario's processing apple industry.

As mentioned above, a finding from the research was the extent to which many growers view the processing sector as a dumping ground. Figure 4.22 illustrates shows a shipment of grounders that were delivered to a processor while researchers were walking the processing apple chain. The load would be costly to process and is therefore of little value. That is would have been picked separately to the rest of the orchard, means that it represents additional costs to the grower. The high level of greenery and spoiled apples in the shipment suggests that it did not come from a well managed high density orchard.

Figure 4.22: Photograph of 'Ground' Apples sent for Processing, 2009

Figure 4.23 builds upon the above photograph to show the extent to which the processing sector is being hindered by many producers not producing the quality or variety of apple required for the sector to target markets that represent a high value then juicing, such as apple slices. During the research it was stated that many Ontario-based customers of apple slices currently source from the US due to the inconsistent quality and availability of the Ontario supply. For these and other reasons cited below, Ontario's processed apple industry is not considered to be as innovative as its competitors (including those situated in New York State), which is impacting the industry's overall performance and market opportunities.

Figure 4.23: Chain Related Factors Impacting the Effectiveness of Quality Management, Specific to Ontario Processed Apple Industry

	Fruit Producers (Growers)	**Packers (often growers)**	**Processors**	**Customers**	**Overall Result/Impact**
Reasons given for how the present commercial environment leads to differences in the quality of Ontario vs. imported apples	• Many producers only sell to processor at last resort • Many producers do not consider processing market to be a strategic choice • Many orchards use outdated management practices, producing smaller lower value fruit per Ha than competitors • Varieties often not planted where produce best quality	• Inconsistency of supply and quality due to fragmented base of small producers (often 15-20 acres) • Small producers often grow too many varieties • Lack of technically-capable packing & storage facilities • Common lack of empathy between processors, packers & growers • Inappropriate crops put into storage, leading to losses	• A lot of fruit downgraded b/c of outdated management practices • Viewed by some growers as dumping ground for all manner of quality • Can rely on deliveries of US apples to keep operating	• Say opportunities exists for ON apples, though current volume and consistency of quality not to level required to switch from current suppliers	• Missed market opportunities • Fruit not grown according to practices that will increase their overall value, whether going for processing or fresh
Resulting (estimated) losses and economic impacts	• Most growers miss what can be a steady and valuable cash flow • Lowest quality has significant influence on price and determines markets you can target	• Miss out on 'premium' prices due to inconsistency of apples flowing through the system	• Costs associated with having to invest in new equipment and inability to source consistently suitable apples	• Often source from elsewhere, such as US	• Unnecessary costs occur throughout the value chain • Production of old varieties using old techniques, leading to decline in ON business
Resulting views toward ON industry	• ON has too many entrenched growers who do not take a business approach to managing their orchards	• Many growers try to exploit opportunities you provide them with, can't be trusted • Improving their	• Larger growers and suppliers often very good. Smaller guys often the main problem	• Industry lacks strategic focus • ON can produce larger more consistent and valuable apples than	• While industry has progressive growers and suppliers, its overall progress is handicapped by the

	Fruit Producers (Growers)	Packers (often growers)	Processors	Customers	Overall Result/Impact
	• Production methods behind those of most competitors • Many growers biding their time to retirement	capabilities • Paying growers specifically on quality would encourage them to consider processing a strategic opportunity • Entrance of new juicing player will increase market opportunities	• Have innovative processors, though account for small share of overall apple industry • Entrance of new juicing player should encourage further innovation	currently does • Missing market opportunities, especially in further processing	many more that stick to traditional approaches and lack business acumen
Impact of above issues on chain relationships	• Many growers disconnected from customers & consumers • Reduces growers' motivation for growers to collaborate with each other, and overall chain	• Lack of trust between many producers, packers, processors • Proven examples of where trust and excellent relationships exist between packers and processors	• Processors respect for progressive stakeholders, resulting in stronger relationships	• Customers view ON as having good potential • Also see missed opportunities	• Inconsistent supply/quality leading to limited investments in processing infrastructure • General focus is on fighting around margins and bickering, not improving capabilities

4.4.5 Processed Apples SWOT Analysis

Section 4.4.5 synthesizes the factors above into the overall context within which Ontario's processed apple industry competes for market share.

Strengths and weaknesses are factors internal to Ontario's apple industry, and over which it may therefore be able to exert direct control and influence. Strengths are internal factors that could help Ontario's apple industry achieve its objective. Conversely, weaknesses are internal factors that could hinder Ontario's apple industry from achieving its objective.

Opportunities and threats are attributes of the environment that are external to Ontario's apple industry and that may either help or hinder the provincial apple industry in achieving its objective. Many of the opportunities identified below have come out of the industry's strengths and weaknesses. Points highlighted in bold are specific to the processed apple industry. Other points were identified as being common to all of the fruits studied.

Figure 4.24: SWOT, Processed Apples

Strengths	**Weaknesses**
• **Apples largest sector of ON fruit industry, so has a good resource basis from which to build** • **Excellent post harvest researchers and research capabilities** • **Combination of consolidation and supplying apples to sophisticated international markets resulting in Ontario possessing a number of innovative and capable packers & distributors** • Has excellent growers (albeit minority of overall population): *from whom other producers can learn* • Innovative packers and distributors: *from whom other packers and distributors can learn* • Short 'local' season creates consumer excitement • Agronomic research and extension capabilities • Successful capable leaders exist at all levels of the chain: *though many are tired of fighting a general culture that resists change and is not innovative* • Retailers see benefit of actively supporting Ontario fruit industry: *partly due to consumers' increasing interest in local*	• **Historical inefficiency of processing sector** • **Historical focus on lowest value market for processed apples** • **Disconnect between many producers, processors, and customers** • **Age of many trees and/or production methods lead to higher volume of overall crop and lower quality than necessary being supplied to processors** • **Many growers view processing market as dumping ground for poor quality apples (inc. grounders), not as a strategic choice (see Figure 4.24 below)** • **Importers own most of the Ontario market for both apple slices and juice** • **Many low density orchards = *hard work, higher operating costs, low margins, less quality, when compared to high density production*** • Lack of a market-oriented industry strategy • High overheads and low revenues associated with producers focusing on tonnage, not quality • Commonly find inconsistent quality in same shipments • Retailers flawed produce practices – both merchandizing and distribution/operations • Affect of policies and legislation on quality standards and management capabilities • ON industry does not combine resources, so lacks infrastructure and capabilities compared to leading importers • Culture of entitlement negates many growers' motivation to innovate and adapt to the market • Majority of ON growers' age and education level • Lack of information sharing and feedback along the value chain • Lack of proactive visionary industry leaders • Many growers' belief that close proximity means problems can be fixed quickly and cheaply • Few markets for off-grade fruit
Opportunities	**Threats**

• **Improve management processes, especially for apples placed into storage** • **Lower percentage of crop sent for processing through improving husbandry practices** • **Expand range and value of processed apple products, and markets for those products** • Motivate and enable capable leaders to take a great role in initiating change • Conduct ongoing consumer research, and use insights to develop and implement innovative strategies and processes along value chain • Create a greater number closely-aligned, functional value chains than currently exist • Improve orchard management practices across wider industry • Cool chain improvements • Develop more objective quality management processes and encourage their use amongst wider industry population • Quality management & process improvement training • Streamline breeding programs to enables greater develop of varieties that appeal to consumers • Develop new package and presentation formats • Develop export markets • Improve producers' business skills • Proximity to a large market • Access to major transportation routes	• **Competitors' increasing capabilities** • **Price at which international suppliers can produce and supply commodity products** • **Competing jurisdictions' support for strategic investments in infrastructure & new capabilities** • **Introduction of varieties which have greater appeal to consumers though are unsuited to Ontario climate** • Competitors' "can-do" attitude • Competitors' age, education level & experience • Competitors' increasing management capabilities • The efficiency and effectiveness of competitors' systems and processes • Importers' ability to influence retailers' decisions • Impact of other jurisdictions' policies & legislation on motivating / enabling competitors' market-focused research & innovation • Consumers' changing purchasing habits

4.5 Pears

Section 4.5 commences with a schematic diagram developed from an analysis of value chains supplying fresh early and late pears grown in Ontario to retailers located in Ontario and, less often, the Atlantic regions of Canada. It has been compiled from physically walking the value chain to observe activities performed as the fruit moves from the orchard to the end market and interviewing value chain participants.

The entire value chain map is portrayed over three pages. Page one generally represents the orchard related segment of the chain. It ends at Node 'A', which follows onto the second page and a series of segments along the value chain. Page two ends at Node 'B', from where on page three follow the remaining series of links that, together with the first and second maps, comprise the overall value chain.

Figure 4.25: Pears Value Chain Map #1 (Inputs at left →A)

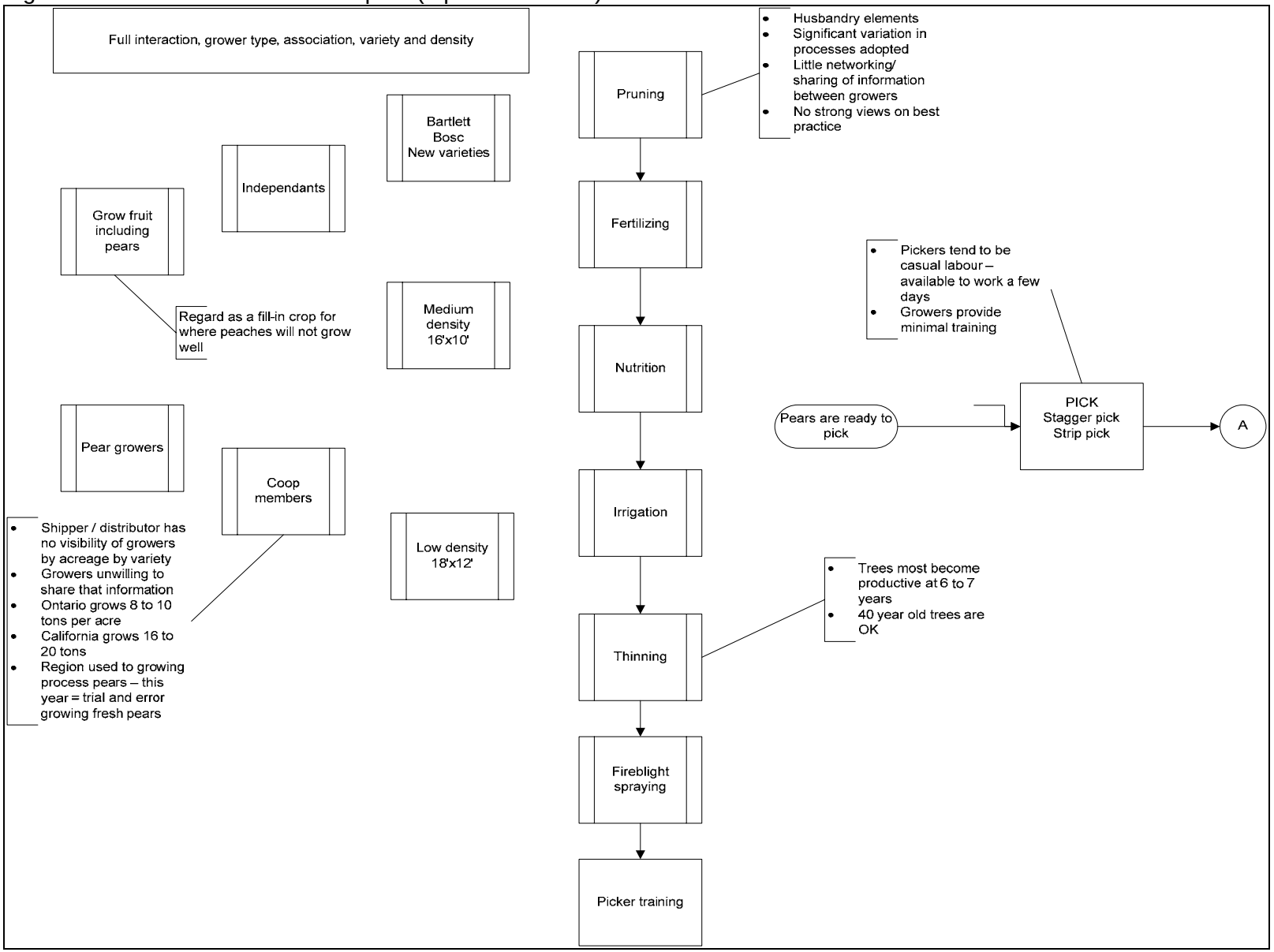


Figure 4.26: Pears Value Chain Map #2 (A→B)

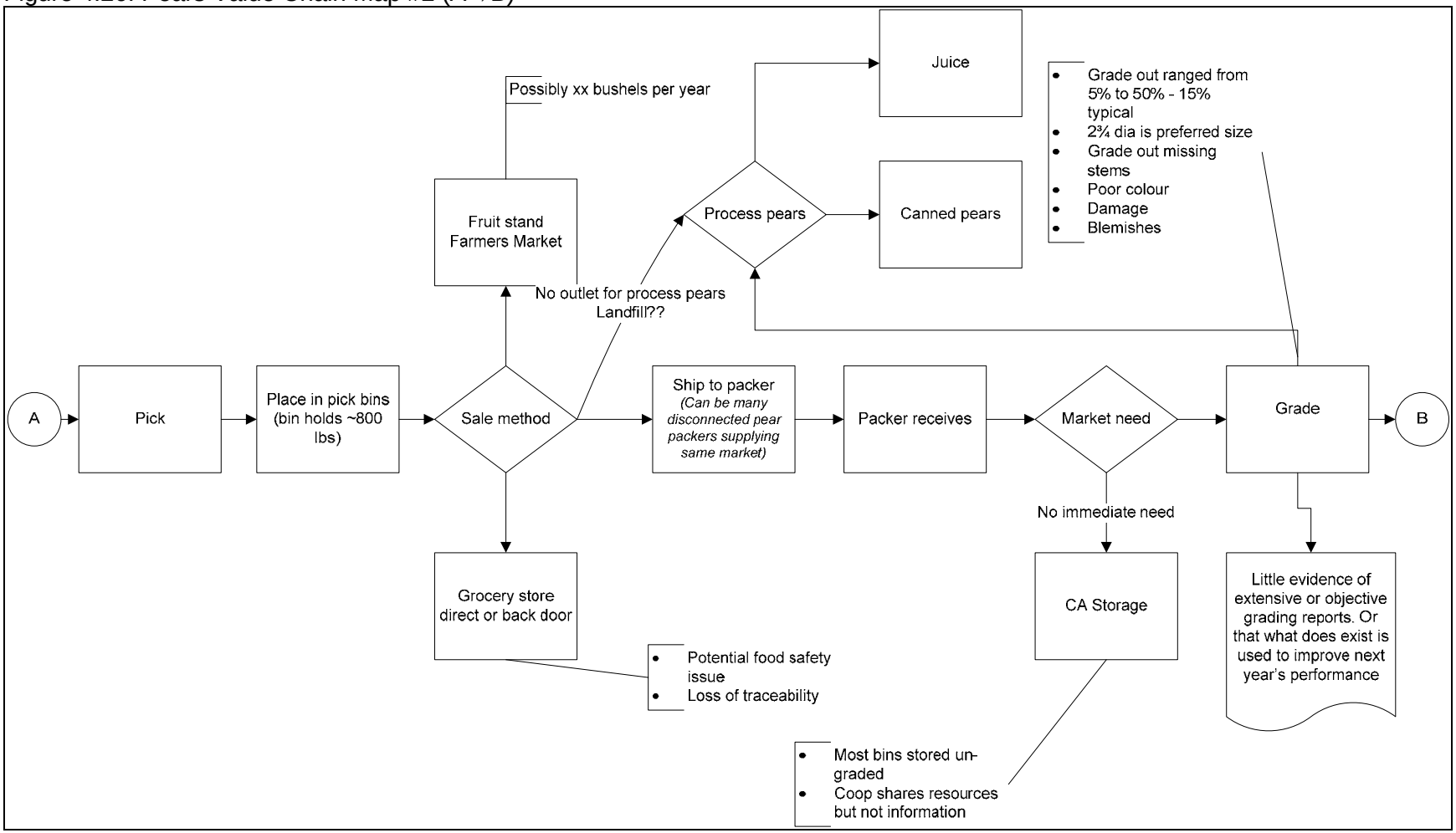
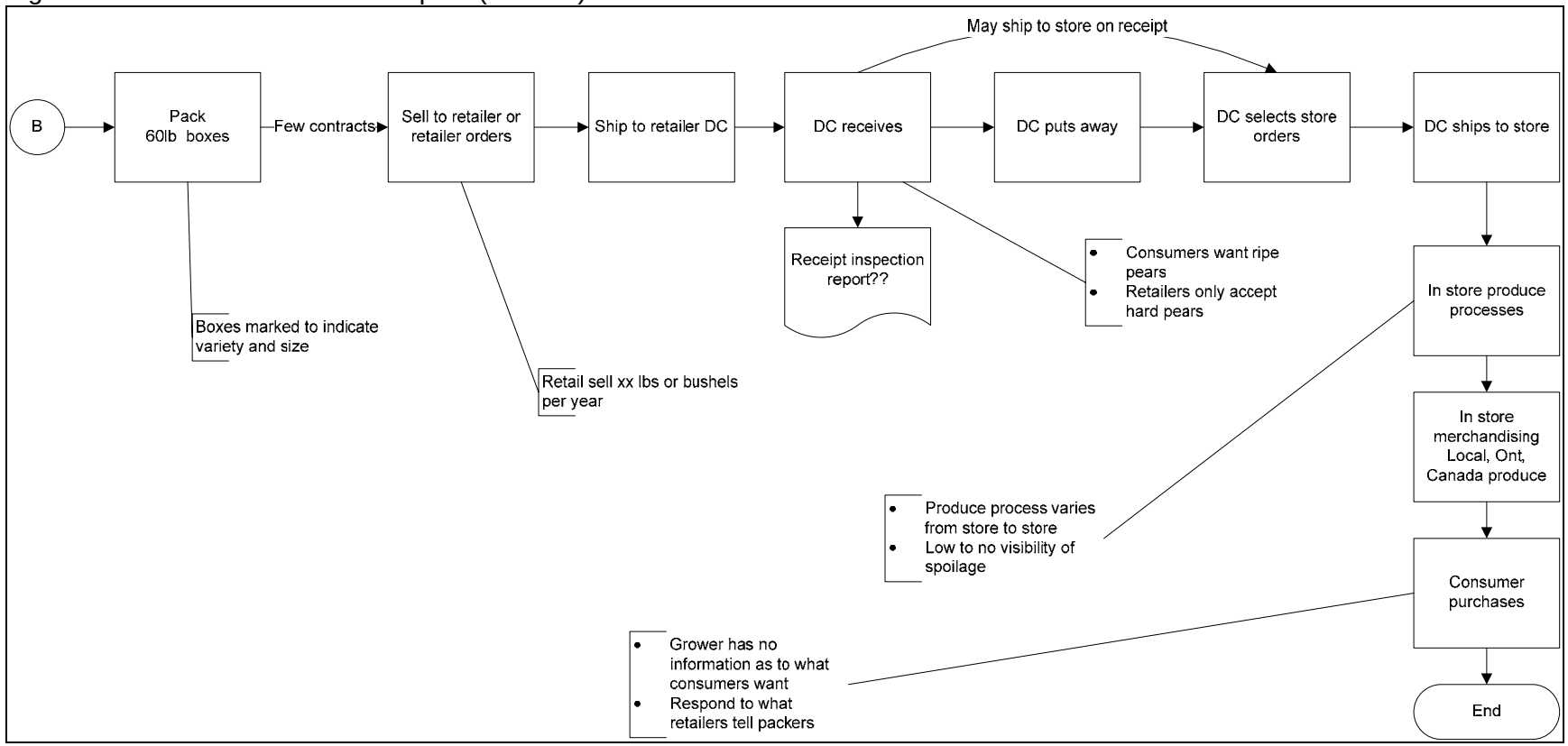


Figure 4.27: Pears Value Chain Map #3 (B→End)



4.5.1 Summary of Quality Management and Chain Related Issues Specific to Pears

Figure 4.28 describes the techniques that stakeholders along the value chain use to manage quality. As can be seen, Ontario's pear industry almost invariably uses only subjective measures to manage quality. While some objective quality tests do exist, such as a pressure test (the effectiveness if which is questionable), the research found that most growers do not use it when deciding to harvest. The use of only subjective testing invariably translates into differences in quality across suppliers and individual deliveries to retail, regardless of other factors which further impact quality – such as cool chain management, grading and packing. The table also details quality issues that were found to commonly occur at each level of the value chain, along with how those issues might be addressed. It also contains descriptions that respondents used compare Ontario's pear industry to leading importers. To illustrate the extent to which the quality of Ontario pears influences consumers' attitudes and behaviour, the far right column brings a consumer perspective to the analysis. As can be seen from the results, Ontario pears appear not to be meeting the expectations of a large number of Ontario consumers.

Figure 4.28: Quality Management Systems and Metrics Used At Each Stage of the Value Chain

	Fruit Producers (Growers)	**Packers (may grow too)**	**Shippers / Distributors**	**Retailers**	**Consumer Factors**
Types of processes used by majority of ON industry to manage quality compared to best in class	**Ontario** • Some use of objective science-based processes, though most growers still use subjective tests (sight & taste) **Leading importers** • Manage quality using objective science-based processes	**Ontario** • Some use of objective science-based processes, though most use subjective tests only (sight & taste) **Leading importers** • Use sophisticated scientific-based processes and data	**Ontario** • Increasing use of objective science-based processes • Though often not as sophisticated as importers **Leading importers** • Use sophisticated scientific-based processes and data	**Corporate** • Deal directly with supplier • Increasing use of objective science-based processes **Independent** • Have preferred flexible sources • Largely use subjective metrics	**When buying** • Retail display o Loose/no packaging preferred o Having just 1 or 2 fruit of lesser quality leads to consumers expecting entire offer to be of questionable quality and value • Memory of past eating experience • Given wide selection of varieties, stronger potential for price / sales to impact final selection
Metrics used to manage quality	**Ontario and leading importers** • Size • Colour • Taste • Variety • Pressure • Physical appearance	**Ontario and leading importers** • Size • Colour • Variety • Physical appearance • Maturity • Pressure	**Ontario and leading importers** • Size • Colour • Variety • Physical appearance • Maturity • Pressure	**Retailers overall** • Size • Colour • Freshness • Taste • Variety • Ripeness • Consistency	**When consuming**Firm with some give • Consistent Colour • Relatively unblemished • Memory of past eating experience • Taste / eating

	Fruit Producers (Growers)	Packers (may grow too)	Shippers / Distributors	Retailers	Consumer Factors
	• Ease of picking • Stem length **Mostly only leading importers** • Ripeness • Brix • Statistical consistency • Maturity • Ethylene • Starch • Pressure	• Taste • Temperature • Grade • Stem length **Mostly only leading importers** • Food safety (swab testing) • Ethylene • Acid • Starch • Brix	• Taste • Temperature • Grade • Stem length **Mostly only leading importers** • Food safety (swab testing) • Statistical consistency • Ethylene • Acid • Starch • Brix	• Traceability • Food safety (swab testing) • Shelf-life • Brix • Taste • Grade • Stem / length **Moving toward** • Maturity • Ethylene • Starch	experience • Consistency
Common quality issues associated with Ontario pears	• Lack of consistency • Grading • Quality less than ideal due to wide range of orchard management approaches	• Lack of consistency • Grading • Temperature • Quality less than ideal due to wide range of orchard management approaches	• Lack of consistency • Pack size • Grading • Temperature	• Lack of consistency • Pack size • Grading • Temperature • Spoilage • Pack size • Shrinkage	• Perception that ON pear selection / variety is limited • Don't know if it's good until you try it (need dependable quality)
Possible solutions to address quality issues, and where they can be implemented along the value chain	• Improve cold chain • Extension support • Improve orchard husbandry • Objective picking decision processes • Objective standards and certification • Strategically plant in regions with suitable climate and soil • Introduce replant program • Introduce new varieties	• Improve packing and grading technology • Improve cold chain • Objective standards and certification • Objective grading reports to growers, standardized across industry • Base payments on a number of elements of quality, not baseline (minimum) quality	• Improve cold chain • Improved packing and grading • Objective standards and certification	• Improve produce department practices • Improve buying practices • Greater collaboration with suppliers • Objective standards and certification	• Some information regarding varieties, usage (cooking), ripeness and storage • Promote to ethnic consumers who are less influenced by seasonal variances
Comparisons made between Ontario fruit producers and leading competitors	**Ontario** • Older growers with hunkered down subjective mentality • No succession plan or	**Ontario** • Labour intensive • Little investment in technology • Inconsistent	**Ontario** • Some focus on quality & value • Some market awareness	**Ontario** • Gap between quality of imports and ON pears is widening • Behind importers in	**Ontario** • Have higher expectations from ON fruit • Often unable to

	Fruit Producers (Growers)	Packers (may grow too)	Shippers / Distributors	Retailers	Consumer Factors
	strategy • Many growers have mentality of "I grow, you sell" • Grow traditional varieties as easier to handle, not because consumers want them **Leading competitors** • Succession plans and long-term perspective/strategy • Use modern technology to produce good fruit efficiently	performance • Inefficient & ineffective packing **Leading competitors** • Highly capable, efficient • Quick to act on information	• Some leadership **Leading competitors** • Focused on creating value • Extensive market research • Bring innovations to retailer	using technology to reduce costs & improve quality management • Performance rated at 2-5 out of 10 **Leading competitors** • Highly professional and capable • Good category managers • Conduct market research and quick to act on information • Performance rated at 8 or 9 out of 10	distinguish between ON and imported

Figure 4.29 details factors that the research identified as influencing the effectiveness of processes used to manage the quality of Ontario grown pears. It also details the economic impacts that current practices have on each level of the value chain and the industry overall. It then describes how these factors together translate into the business relationships that were found to typify Ontario's pear industry. It illustrates how the combined effects of strained business relationships, an unwillingness to share information, and a series of strategic and operational disconnects (between federal and provincial government departments and the commercial industry) are impacting the effectiveness with which the quality of Ontario peaches are currently managed along the value chain and do not match many consumers' perceptions of quality.

Figure 4.29: Chain Related Factors Impacting The Effectiveness of Quality Management, Specific to Ontario Pear Industry

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Result/Impact
Reasons given for how the present commercial environment leads to differences in the quality of Ontario vs. imported pears	• Being paid on industry basis rather than individual quality leads producers to focus first on tonnage, quality is second • Many growers wary of sharing information, inc. variety, # of trees, and expected volumes • Most ON orchards are low density and not pruned aggressively, whereas leading competitors are high density • Many farms grow pears as a secondary crop on soil not suited to peaches. Results in sub optimum fruit quality • Lack of new improved varieties • Growers often base picking decisions on subjective views, not pressure tests as expected • Growers that do pressure test before picking use age old tests developed for Bartlett only, which suggests the tests are outdated. Particularly as same test used on all varieties	• Quality inconsistency due to fragmented base of small low tech packers • Common lack of empathy and information sharing between packers & growers • Key focus is moving volume not managing quality • Growers tend to pick when they like, even though it leads to higher cull rates • Combined effects of packers concern about losing supply and current payment systems result in them being unwilling or unable to convey market signals by sufficiently penalizing or rewarding growers on the basis of quality • Common for packers not to provide grading reports to growers	• Good growers losing out in legislated marketing system (efforts lost among mediocrity) • Progressive distributors have less ability to differentiate themselves in the market • Too many packers/ shippers /distributors given size of ON pear industry • A lot of fruit downgraded b/c of outdated growing method • Packers have insufficient economic mass to develop capabilities of importers • Often stated that a belief amongst ON growers that they own the market by right (entitlement) is a barrier to industry development, and OTFPMB may perpetuate that attitude amongst growers	• At times use political means to push ON retailers to take whatever quality is packed • Distrust of current marketing system influences attitudes held toward ON pear industry • Believe that not being exposed to market signals reduces growers' motivation to innovate and improve performance in relation to market demands • Current situation and industry mindsets does not assist suppliers develop capabilities necessary to help improve retailers' flawed produce department practices	• Current situation too often polarizes viewpoints of 'opposing' stakeholders • Current system creates environment not conducive to fostering second-order learning: *so focus is on improving or protecting current systems, not on creating systems and processes that are more appropriate to competing in a global fruit industry* • The capabilities of importers are said to be improving quicker than those of Ontario's pear industry
Resulting (estimated) losses and economic	• Difference of ~10+% in price of small vs. larger pear	• Average grade out is 15%. Ranges from 5% to 50+% of crop,	• Without new varieties and improved management of	• Too often, noticeable range in quality across same shipment	• Unnecessary costs occur throughout the value chain

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Result/Impact
impacts	• Many growers clearly missing financial opportunities • Little precise data on economic differences between low and high density orchards, though known that low density produces less value per ha • Low density orchards also incur higher costs, so smaller margins, compared with high density orchards • Low density orchards result in higher % of crop being culled, processed, or discounted • Lowest quality has significant influence on price and determines markets you can target	with packing cost of $50/60 per bin • With limited processing capacity, much of grade out sent to landfill • Limited opportunities to differentiate product or improve quality through improved varieties and better quality management • Miss out on premium prices due to undifferentiated fruit	quality, most ON pears will remain a lower value commodity compared to imports	• ~5%-10% common occurrence o Higher than imports, even though some imported varieties more susceptible to poor handling practices	• Better growers losing value generating opportunities • Limited opportunity for industry leaders to differentiate themselves from wider supply base • Production of old varieties diminishing margins, causing ON business to decline
Resulting views toward ON industry	• Many growers not sufficiently focused on improving their individual performance • Pears one of the most difficult crop to grow well, and many producers do not invest effort in producing quality fruit • Pears from good growers too often mixed with fruit from less capable/enthusiastic growers • Often blame packers for cull rates are high,	• Too many packers given size of ON pear industry • Central packing would increase consistency of quality, therefore value, and increase growers' returns • Lack of standard operating procedures across packers leads to growers having reduced faith in system • Packing reports vary widely in sophistication &	• Better orchard husbandry is a fundamental requirement for addressing gaps in quality of ON vs. imported pears • Too often, pears from good growers are mixed with fruit from less capable growers • Lack of "can-do" attitude amongst many pear growers • Not producing sufficient volumes of new varieties, partly	• Lack of "can-do" attitude amongst many pear growers • Industry lacks strategic focus and management capabilities • More resources invested in influencing retailers' through industry (political) pressure than business-level capabilities • History of fresh growers not distinguishing themselves from growers of processing pears	• While industry has progressive growers and suppliers, its overall progress is handicapped by the many more that stick to traditional approaches and lack business acumen • Quebec viewed as an example of how investing in infrastructure can motivate industry to collaborate better and develop new value-added capabilities

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Result/Impact
	most do not visit packers to gain first hand insights into packing operations and quality issues • ON has too many old entrenched growers who do not take a business approach to managing their orchards • Production methods behind those of most competitors • Many growers biding their time to retirement • Training of staff critical to managing the quality of pears. Probably more so than any other fruit	practical value for improving orchard management practices • Lack of "can-do" attitude amongst many pear growers • Growers often blame packers when cull rates are high, and do not see packing to gain first hand insights into quality issues • Many growers try to exploit system rather than invest additional effort in doing things well and correctly • Retailers seen as pushing for larger fruit for not based on consumer demands	due to unhelpful bureaucracy limited availability of rootstock • Industry voices often those of less progressive growers • Industry too political and not sufficiently business driven • Limited ability of younger /progressive growers to differentiate themselves and benefit from new practices compared to older or less progressive 'hunkered-down' growers seen as holding back industry's development • Retailers seen as pushing for larger fruit for reasons not based on consumer demands	• The ON pear industry needs to look at the bigger picture and invests in its future, otherwise it will continue to split hairs • ON can produce larger more consistent and valuable pears than currently does	
Impact of above issues on chain relationships	• Most growers disconnected from customers & consumers • Current pricing structure impacts motivation to manage quality beyond minimum requirements, which creates tensions between stakeholders situated along the chain • Growers not motivated to collaborate with each other, and overall chain	• Lack of objective measures and reporting sustaining a culture of blame • Lack of trust between many producers and packers • Wary of ON retailers	• Increasingly, progressive distributors seeking to deal directly with chosen growers • Limited ability of progressive growers to differentiate themselves & benefit from new practices compared to less progressive 'hunkered-down'	• Do not respect ON industry to the same extent as importers • Somewhat adversarial toward OTFPMB. Viewed as barrier to change and a key reason for why capabilities of ON pear industry falling behind that of competitors • Perceptions of industry fosters continuation of	• Results in strategic disconnects between virtually all value chain intermediaries • Primary focus is on fighting around margins and bickering, not improving long-term capabilities

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Result/Impact
			growers seen as holding back industry's development	transactional rather than collaborative relationships	

4.5.2 Pears SWOT Analysis

Section 4.5.2 takes the factors described in the above sections above and synthesizes them into the overall context within which Ontario's pear industry competes for market share.

Strengths and weaknesses are factors internal to Ontario's pear industry, and over which it may therefore be able to exert direct control and influence. Strengths are internal factors that could help Ontario's pear industry achieve its objective. Conversely, weaknesses are internal factors that could hinder Ontario's pear industry from achieving its objective.

Opportunities and threats are attributes of the environment that are external to Ontario's pear industry and that may either help or hinder the provincial pear industry in achieving its objective. Many of the opportunities identified below have come out of the industry's strengths and weaknesses.

Points highlighted in bold are specific to the pear industry. Other points were identified as being common to all of the fruits studied.

Figure 4.30: SWOT, Pears

Strengths	**Weaknesses**
• **Retailers helped industry cope with the 2008 closure of pear processing facilities and need to divert entire crop to fresh market** • **Pears store well, enabling them to have a longer market presence than most fruits** • **OTFPMB viewed by many producers as a trustworthy advocate and knows a lot about pear industry** • **OTFPMB has a historical relationship with retailers** • Excellent growers (albeit minority of overall population): *from whom other producers can learn* • Innovative packers and distributors: *from whom other packers and distributors can learn* • Short 'local' season creates consumer excitement • Agronomic research and extension capabilities • Successful capable leaders exist at all levels of the chain: *though many are tired of fighting a general culture that resists change and is not innovative* • Retailers see benefit of actively supporting Ontario fruit industry: *partly due to consumers' increasing interest in local*	• **Pears one of the hardest fruit crops to grow well** • **Climate limits varieties that can be grown in ON** • **Few objective quality standards and processes** • **Government bureaucracy slows release of new improved varieties** • **High quality of imports during ON pear season** • **Pears often planted where primary crop won't grow, not planted to ensure maximum quality** • **Many growers not used to growing pears for the fresh market** • **Many low density orchards = *hard work, higher operating costs, low margins, less quality, when compared to high density production*** • Lack of a market-oriented industry strategy • High overheads and low revenues associated with producers focusing on tonnage, not quality • Commonly find inconsistent quality in same shipments • Retailers flawed produce practices – both merchandizing and distribution/operations • Affect of policies and legislation on quality standards and management capabilities • ON industry does not combine resources, so lacks infrastructure and capabilities compared to leading importers • Culture of entitlement negates many growers' motivation to innovate and adapt to the market • Majority of ON growers' age and education level • Lack of information sharing and feedback along the value chain • Lack of proactive visionary industry leaders • Many growers' belief that close proximity means down-stream problems can be fixed quickly and cheaply • Few markets for off-grade fruit

Opportunities	Threats
• **Encourage planting of pears in areas best suited to their production** • **Amortize investments in new technology more effectively by expanding crops grown and/or handled by same infrastructure** • **Motivate producers to focus on quality, not tonnage** • **Streamline process of releasing new varieties** • **Reposition OTFPMB as responsible for overall industry development and innovation** • **Invest check-off funds into driving and enabling strategic long-term innovation** • Motivate and enable capable leaders to take a great role in initiating change • Conduct ongoing consumer research, and use insights to develop and implement innovative strategies and processes along value chain • Create a greater number closely-aligned, functional value chains than currently exist • Improve orchard management practices across wider industry • Cool chain improvements • Develop more objective quality management processes and encourage their use amongst wider industry population • Quality management & process improvement training • Streamline breeding programs to enables greater develop of varieties that appeal to consumers • Develop new package and presentation formats • Develop export markets • Improve producers' business skills • Proximity to a large market • Access to major transportation routes	• **Competitors' knowledge of the ON market** • **Competitors' relationships with ON retailers** • **Competitors' climate more conducive to growing high quality pears** • **Imported varieties have superior eating quality** • **Strategic connectivity between competing jurisdictions' research, business and government stakeholders** • Competitors' "can-do" attitude • Competitors' age, education level and experience • Competitors' increasing management capabilities • The efficiency and effectiveness of competitors' systems and processes • Importers' ability to influence retailers' decisions • Impact of other jurisdictions' policies & legislation on motivating / enabling competitors' market-focused research & innovation • Consumers' changing purchasing habits

4.6 Plums

Section 4.6 commences with a value chain map. Subsequent to the map we present a summary of research findings, followed by a SWOT. All information is presented anonymously.

4.6.1 Value Chain Map

This section begins with a schematic diagram developed from an analysis of value chains supplying plums grown in Ontario to retailers located in Ontario. It has been compiled from physically walking the value chain to observe activities performed as the fruit moves from the orchard to the end market and interviewing value chain participants. The entire value chain map is found on the following three pages and is presented using the same format as previous maps.

Figure 4.31: Plums Value Chain Map #1 (Inputs at left →A)

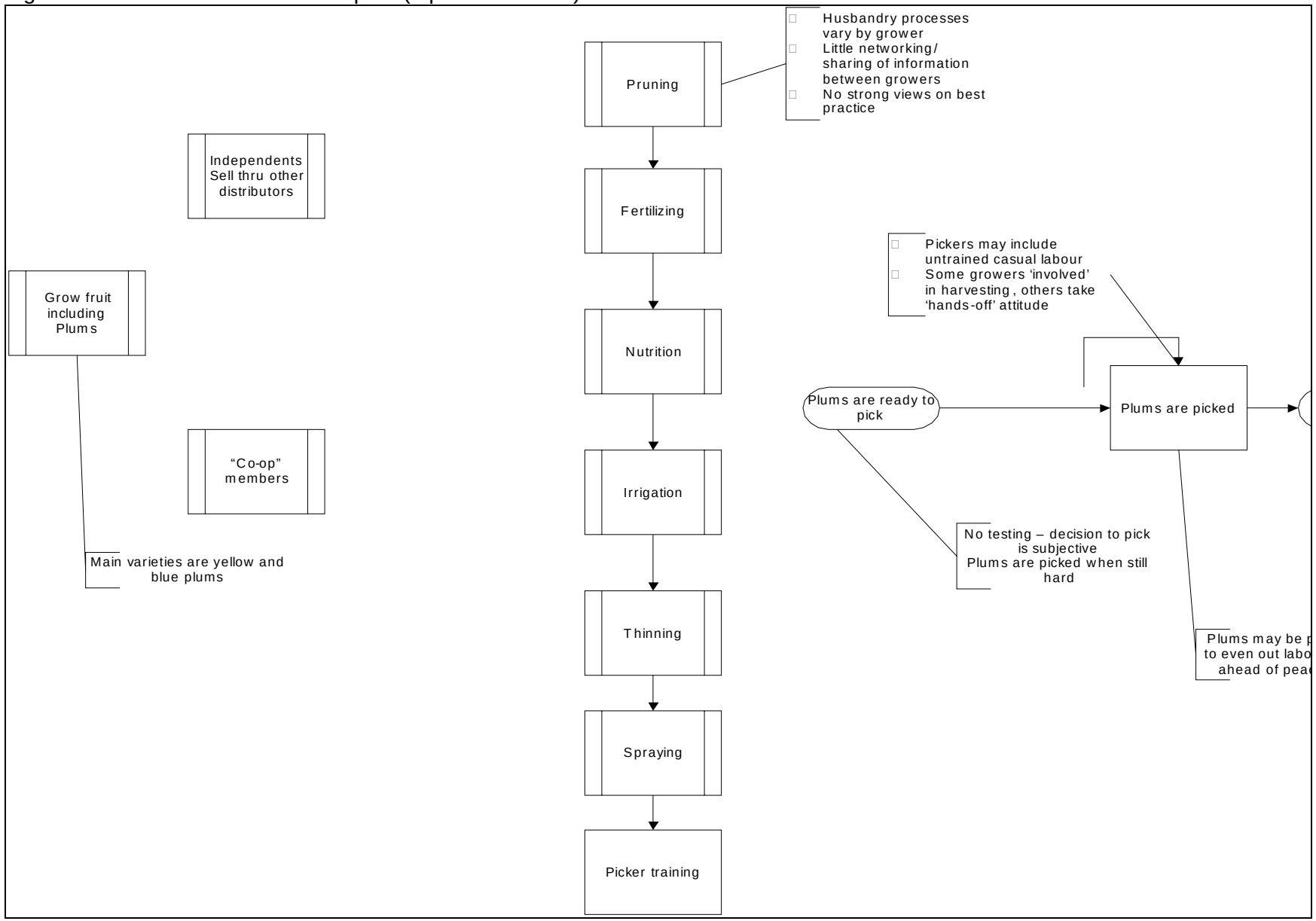


Figure 4.32: Plums Value Chain Map #2 (A→B)

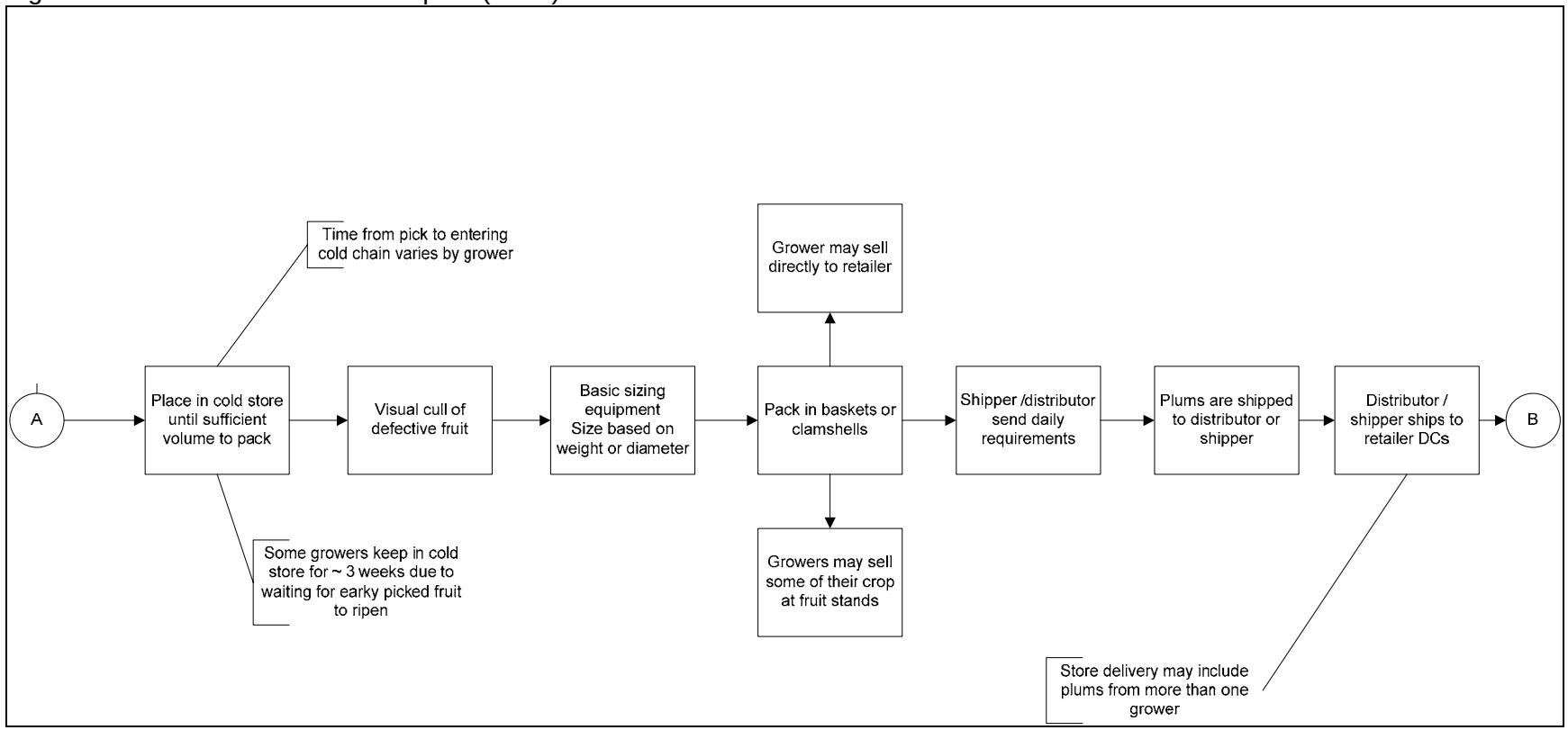
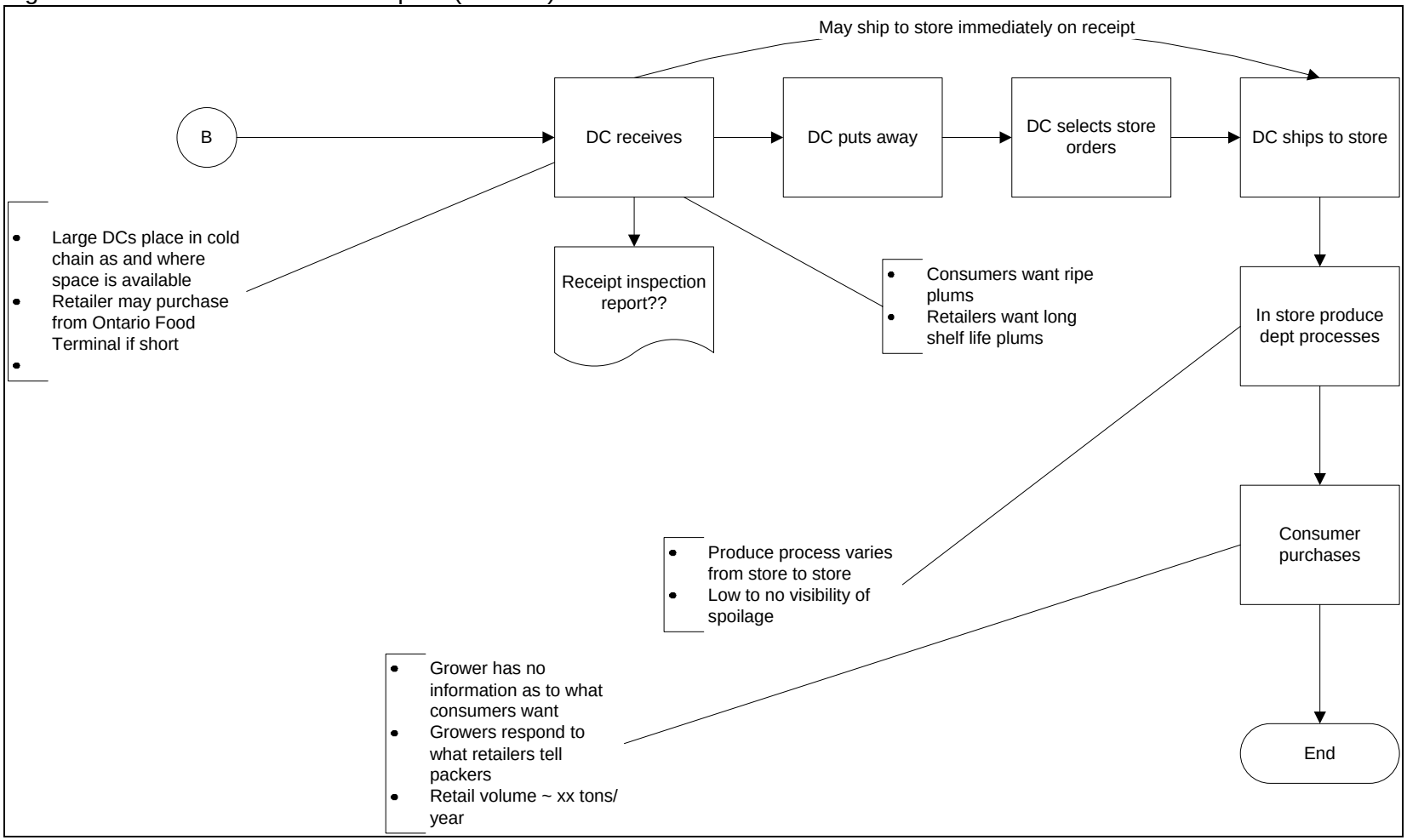


Figure 4.33: Plums Value Chain Map #3 (B→End)



4.6.2 Summary of Quality Management and Chain Related Issues Specific to Plums

Figure 4.34 describes the techniques that stakeholders along the value chain use to manage quality. As can be seen, Ontario's plum industry almost invariably uses only subjective measures to manage quality. This includes the picking decisions that invariably translate into differences in quality across suppliers and individual deliveries to retail, regardless of other factors which further impact quality – such as cool chain management. Also detailed are quality issues commonly found to occur at each level of the value chain, and how they might be addressed, and descriptions that interviewed respondents used to compare Ontario's industry to leading importers. To illustrate the

extent to which the quality of Ontario plums influences consumers' attitudes and behaviour, the far right column brings a consumer perspective to the analysis. As can be seen from the results, Ontario plums are not meeting many consumers' expectations.

Figure 4.34: Quality Management Systems and Metrics Used At Each Stage of The Value Chain

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Consumer Factors
Types of processes used by majority of ON industry to manage quality compared to best in class	**Ontario** • Largely manage quality subjectively (sight & feel) **Leading importers** • Manage quality using scientific (objective) processes and data	**Ontario** • Largely manage quality subjectively (sight & feel) **Leading importers** • Use scientific (objective) processes and data	**Ontario** • Largely manage quality subjectively (sight & feel) **Leading importers** • Use scientific (objective) processes and data	**Corporate** • Deal directly with supplier • Increasingly use scientific (objective) based processes **Independent** • Have preferred flexible sources • Largely use subjective metrics	**When buying** • Loose format most desired • Some price comparison across types when deciding between red & black (or how many of each to purchase • Memory of past eating experience • Preference for imported varieties (red or black) • Low awareness of ON varieties • "In season" less relevant than for most other fruits • Evaluate fruit quality based on in-store sensory criteria o 'Group' of fruit (e.g. display/basket) o Then individual pieces of fruit
Metrics used to manage quality	**Ontario and leading importers** • Colour • Size • Varieties **Leading importers only** • Maturity/ethylene	**Ontario and leading importers** • Colour • Size • Varieties • Traceability (limited in ON) • Consistency	**Ontario and leading importers** • Colour • Size • Varieties • Brix • Traceability (limited in ON)	**Retailers overall** • Colour • Size • Varieties • Maturity/ethylene • Pressure • Brix • Acid	**When consuming** • Don't know if it's good until you try it (need dependable quality) • Firm with 'bounce' • Unblemished • Solid colour

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Consumer Factors
	• Pressure • Brix • Acid	• Temperature **Leading importers only** • Maturity/ethylene • Pressure • Brix • Acid • Food safety (swab testing)	• Consistency • Temperature **Leading importers only** • Maturity/ethylene • Pressure • Acid • Food safety (swab testing)	• Temperature • Consistency • Traceability • Food safety (swab testing)	• Taste / eating experience
Common quality issues associated with Ontario plums	• Lack of consistency • Temperature (broken cold chain)	• Lack of consistency • Temperature (broken cold chain) • Lack of good varieties • Appearance (fruit) • Pack appearance • Package size	• Lack of consistency • Appearance (fruit) • Pack appearance • Package size • Temperature (broken cold chain) • Shrinkage	• Lack of consistency • Poor shelf-life • Lack of good varieties • Taste • Brix • Shrinkage • Pack size • Pack appearance • Appearance (fruit) • Colour • Grading • Temperature (broken cold chain)	• Consumers generally assume ON fruit is better quality than imported (except among New Cdians)
Possible solutions to address quality issues, and where they can be implemented along the value chain	• Improve cold chain • Extension support • Improve orchard husbandry • Objective picking decision processes • Objective standards and certification	• Improve packing and grading technology • Improve cold chain • Objective standards and certification • Base payments on a number of elements of quality, not just minimum quality	• Improve cold chain • Objective standards and certification	• Improve produce department practices • Greater collaboration with suppliers • Objective standards and certification	
Comparisons made between Ontario fruit producers and leading competitors	**Ontario** • Largely reactive sellers of what can be sub-quality fruit **Leading competitors**	**Ontario** • Largely transactional **Leading competitors** • Highly capable, efficient	**Ontario** • Most focus on moving fruit • Little market awareness	**Ontario** • Reactive 'movers of fruit' • Bickerers rather than managers • Performance rated at 2 -	**Ontario** • Low awareness of ON varieties and when "in season" **Leading competitors**

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Consumer Factors
	• Proactive capable growers and marketers		**Leading competitors** • Focused on creating value • Extensive market research	4 out of 10 **Leading competitors** • Highly professional and capable • Good category managers • Performance rated at 8 or 9 out of 10	• Preference for red/black imported varieties over ON plums

Figure 4.35 details factors that were identified as influencing the effectiveness of processes used to manage the quality of Ontario grown plums and the industry's competitiveness. It also details the economic impacts that current practices, including growing varieties that do not appeal to the majority of consumers and the lack of an agreed industry strategy have on each level of the value chain and the industry overall. The findings illustrates how the combined effects of a production practices, strained business relationships, the general unwillingness of stakeholders to share to share information, and a series of strategic and operational disconnects are impacting the effectiveness with which the quality of Ontario plums are currently managed along the value chain and that Ontario's plums do not match many consumers' expectations.

Figure 4.35: Chain Related Factors Impacting The Effectiveness of Quality Management, Specific to Ontario Plum Industry

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Outcome/Impact
Reasons given for how the present commercial environment leads to differences in the quality of Ontario vs. imported plums	• Belief that cordial relationships with retailers sufficient for industry to remain competitive • Being paid on industry basis rather than individual quality leads producers to focus first on tonnage, quality is second • Only small portion of check-off funds used to support consumer-focused innovation • ON varieties differ to imports in consumer	• Current marketing system impacts growers' motivation to continually innovate & adapt to market demands • Industry lacks strategic approaches to production and marketing • Primary focus is on moving volume not managing quality • Current system supports continuation of inefficient and	• Progressive distributors have less ability to differentiate themselves in the market • Industry generally lacks market focus and ability to develop the capabilities possessed by importers • Not all marketers view quality as critical to success of ON plum industry • Focus commonly placed on moving	• Market signals do not get through to ON growers • Believe legislation reduces growers drive to innovate • Short shelf and inconsistency leads to ON plums being priced low to flow quickly through retail distribution systems • More resources invested in influencing retailers' through industry (political) pressure than	• Current situation often polarizes viewpoints of 'opposing' stakeholders • Current system creates environment not conducive to fostering second-order learning: *so focus is on improving or protecting current systems, or increasing production. Little focus placed on creating systems and*

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Outcome/Impact
	familiarization and eating quality • Plums commonly considered sideline crop, with less effort and investments are made to maximize quality • Plums can be picked weeks ahead of when crop would be picked to maximize taste profile and eating quality, then left to ripen in cool chain prior to packing and distribution	ineffective packing operations • Few if any technically-capable packers who can motivate innovation amongst less capable packers/suppliers • Quality commonly perceived from production rather than consumer perspective	volume ahead of managing quality	business-level capabilities • Industry invests more resources in influencing retailers' through industry (political) pressure than business-level capabilities • Approaches do not provide capabilities necessary to help improve retailers' flawed produce department practices	*processes that are more appropriate to competing in a global fruit industry*
Resulting (estimated) losses and economic impacts	• Variation in yield and value • Estimate 5% when packing, would likely be higher if more aggressive grading and quality management practices • Quality inconsistencies limit ability to secure premium over imports • Few incentives to change varieties, differentiate product, or improve quality • Lowest quality has significant influence on price and determines markets you can target	• 5% to 50% of crop will be graded out – sent to landfill as limited processing capacity • Pricing system provides limited incentives to change varieties, differentiate product or proactively improve quality • Combined effects of packers concern about losing supply and current payment systems result in them being unwilling or unable to convey market signals by sufficiently penalizing or	• Incidents of part or entire pallets being frozen due to high core temperature when loaded in trailer/truck • Inability to secure premiums over imports	• View general industry as perpetually citing a victim mentality • Consider industry voices to reflect less progressive growers Pay most when fruit is in worst condition (e.g. start of season) • Quality inconsistency and differences in the demand of ON versus imported varieties increases shrink of ON plums o Ontario shrink = ~10% o Imported shrink = ~5% • Quality inconsistencies create unnecessary admin costs	• Lowest quality determines price & market opportunities • Current quality issues lead to missed market and revenue opportunities • Unnecessary costs occur throughout the value chain • Limited opportunity for leaders to differentiate themselves from wider industry

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Outcome/Impact
		rewarding growers on the basis of quality			
Resulting views toward ON industry	• Different stakeholders hold opposing views on whether ON weather is viewed as a reason, or an excuse, for differences in quality and eating experience of ON versus imported plums. Including varieties • Growers say retailers chose to sell Ontario plums at low prices. *Little acknowledgement that low prices necessary to move volume and motivate consumers to buy* • Retailers make good money at our expense	Common perceptions of packers include: • Retailers chose to sell ON peaches at low prices • Retailers make good money at our expense • Retailers do not handle ON plums well • Retailers do not understand the market • Many growers insufficiently focused on maximizing quality, and consistency of quality of ON plums	• Believe that industry voices are often those of less progressive growers • Industry lacks strategic focus • Most retailers use ON fruit as a 'football' to attract consumers into their stores • Good growers lose out in marketing board system • Baskets difficult to handle • Some view Ontario plums in less favourable light than imported plums • Information that many distributors provide to suppliers and receive from customers usually limited to only transactional in nature • Check-off funded rebates regarded as a significant cost which provides little if any reward to better growers	• View general industry as perpetually citing a victim mentality • Consider industry voices to reflect less progressive growers • Marketing legislation viewed as barrier to change and a key reason for why ON is falling behind competitors • OTFPMB communicates volume expectations well, though not proactive in delivering quality • Importers viewed as more professional and capable • See ON as reactive sellers, not proactive marketers • Believe good suppliers lose out in legislated marketing system • Consumers of ON plums considered a different segment of the market vs. consumers of imported plums	• Overall ON plum industry viewed as unsophisticated and missing market opportunities compared to imported plums and importers
Impact of above issues on chain relationships	• Growers disconnected from the market and customers	• Relationships with suppliers and customers are	• Relationships with suppliers are largely fragmented,	• Fragmented and distrusting, not willing to share information	• Results in strategic disconnects between virtually all value

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Outcome/Impact
	• Impacts motivation of growers to collaborate with each other, and overall chain • Commonly animosity and distrust exhibited between growers. Do not share information • Receive only transaction information re sales, performance, market characteristics	strained • Leading packers sometimes at odds with growers over what is acceptable • All packers at times have issues with those retailers that continually use ON peaches as a loss leader • Common for packers to supply little feedback to growers on quality	distrusting and not strategic • Progressive distributors working to improve relationships by dealing directly with chosen growers • Relationships with retailers often lack a strategic perspective, so focus on operations, not innovation and value creation	• Do not respect most ON suppliers to same extent as importers • While they empathize with producers to a degree, their current view of ON's industry leads to them feeling a sense of impatience, distrust, and a general unwillingness to share information • Relationships with many suppliers are therefore strained and fragmented	chain intermediaries • Focus is on fighting around margins and bickering, not improving capabilities

4.6.3 Plums SWOT Analysis

Section 4.6.3 takes the factors described in the above sections above and synthesizes them into the overall context within which Ontario's plum industry competes for market share.

Strengths and weaknesses are factors internal to Ontario's plum industry, and over which it may therefore be able to exert direct control and influence. Strengths are internal factors that could help Ontario's plum industry achieve its objective. Conversely, weaknesses are internal factors that could hinder Ontario's plum industry from achieving its objective.

Opportunities and threats are attributes of the environment that are external to Ontario's plum industry and that may either help or hinder the provincial plum industry in achieving its objective. Many of the opportunities identified below have come out of the industry's strengths and weaknesses.

Points highlighted in bold are specific to the plum industry. Other points were identified as being common to all of the fruits studied.

Figure 4.36: SWOT, Plums

Strengths	**Weaknesses**
• **OTFPMB viewed by many producers as a trustworthy advocate and knows a lot about ON plum industry** • **OTFPMB experienced in communicating with retailers** • Excellent growers (albeit minority of overall population): *from whom other producers can learn* • Innovative packers and distributors: *from whom other packers and distributors can learn* • Short 'local' season creates consumer excitement • Agronomic research and extension capabilities • Successful capable leaders exist at all levels of the chain: *though many are tired of fighting a general culture that resists change and is not innovative* • Retailers see benefit of actively supporting Ontario fruit industry: *partly due to consumers' increasing interest in local*	• **Often grown as sideline rather than main crop** • **Disconnects between most producers, OFTMB, marketers, retailers, and consumers** • **ON plums' reputation of inconsistent quality** • **ON plums do not replace most imports during season, so have limited market potential** • **ON varieties of plums different and can have lesser eating qualities than competing imports** • **Growers may pick too early, so doesn't interfere with peach harvest, impacting eating quality** • **Limited ability for ON industry to influence retailers' beyond applying political pressure** • **Lack of objective quality standards & processes** • Lack of a market-oriented industry strategy • High overheads and low revenues associated with producers focusing on tonnage, not quality • Commonly find inconsistent quality in same shipments • Retailers flawed produce practices – both merchandizing and distribution/operations • Affect of policies and legislation on quality standards and management capabilities • ON industry does not combine resources, so lacks infrastructure and capabilities compared to leading importers • Culture of entitlement negates many growers' motivation to innovate and adapt to the market • Majority of ON growers' age and education level • Lack of information sharing and feedback along the value chain • Lack of proactive visionary industry leaders • Many growers' belief that close proximity means down-stream problems can be fixed quickly and cheaply • Few markets for off-grade fruit
Opportunities	**Threats**
• **Develop varieties that appeal to consumers** • **Reposition OTFPMB as responsible for overall industry development and innovation**	• **Eating quality of imports during ON plum season** • **Domestic political pressure may cease to have current level of influence ON retailers**

• **Invest check-off funds into driving and enabling strategic long-term innovation** • **Amortize investments in new technology more effectively by expanding crops grown and/or handled by same infrastructure** • **Motivate producers to focus on quality, not tonnage** • Motivate and enable capable leaders to take a great role in initiating change • Conduct ongoing consumer research, and use insights to develop and implement innovative strategies and processes along value chain • Create a greater number closely-aligned, functional value chains than currently exist • Improve orchard management practices across wider industry • Cool chain improvements • Develop more objective quality management processes and encourage their use amongst wider industry population • Quality management & process improvement training • Streamline breeding programs to enables greater develop of varieties that appeal to consumers • Develop new package and presentation formats • Develop export markets • Improve producers' business skills • Proximity to a large market • Access to major transportation routes	• **Strategic connectivity between competing jurisdictions' research, business and government stakeholders** • **Competitors' knowledge of the ON market** • **Competitors' relationships with ON retailers** • **Length of time ON plums are not on the market** • Competitors' "can-do" attitude • Competitors' age, education level & experience • Competitors' increasing management capabilities • The efficiency and effectiveness of competitors' systems and processes • Importers' ability to influence retailers' decisions • Impact of other jurisdictions' policies & legislation on motivating / enabling competitors' market-focused research & innovation • Consumers' changing purchasing habits

4.7 Table Grapes

Section 4.7 commences with a value chain map. Subsequent to the map we present a summary of research findings, followed by a SWOT. All information is presented anonymously.

4.7.1 Value Chain Map

This section begins with a schematic diagram developed from an analysis of value chains supplying grapes grown in Ontario to retailers located in Ontario, Quebec, and the Atlantic regions of Canada. It has been compiled from physically walking the value chain to observe activities performed as the fruit moves from the farm to the end market in Ontario and interviewing value chain participants. The entire value chain map is found on the following three pages and follows the same format as previous maps.

Figure 4.37: Grapes Value Chain Map #1 (Inputs at left →A)

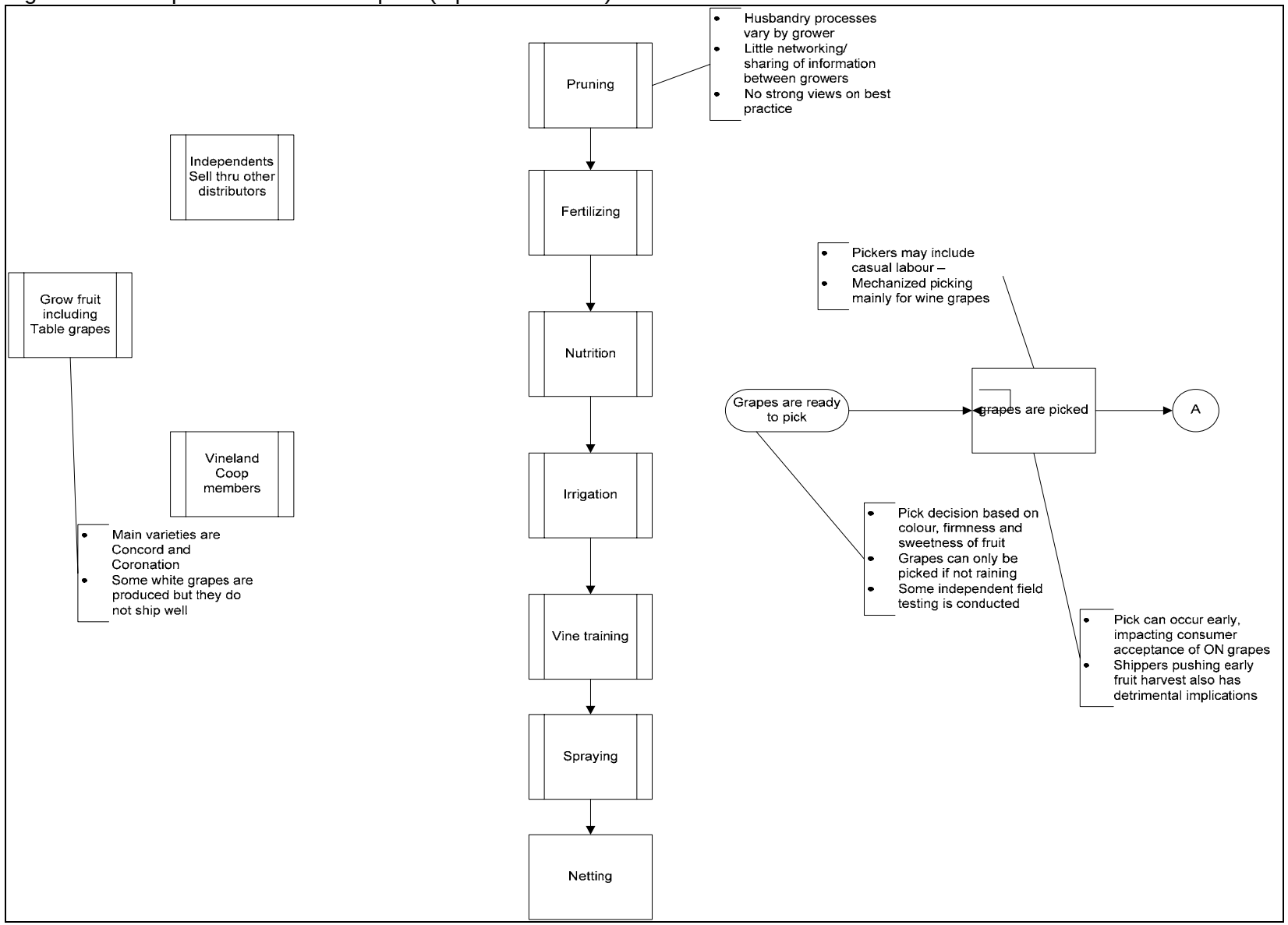


Figure 4.38: Grapes Value Chain Map #2 (A→B)

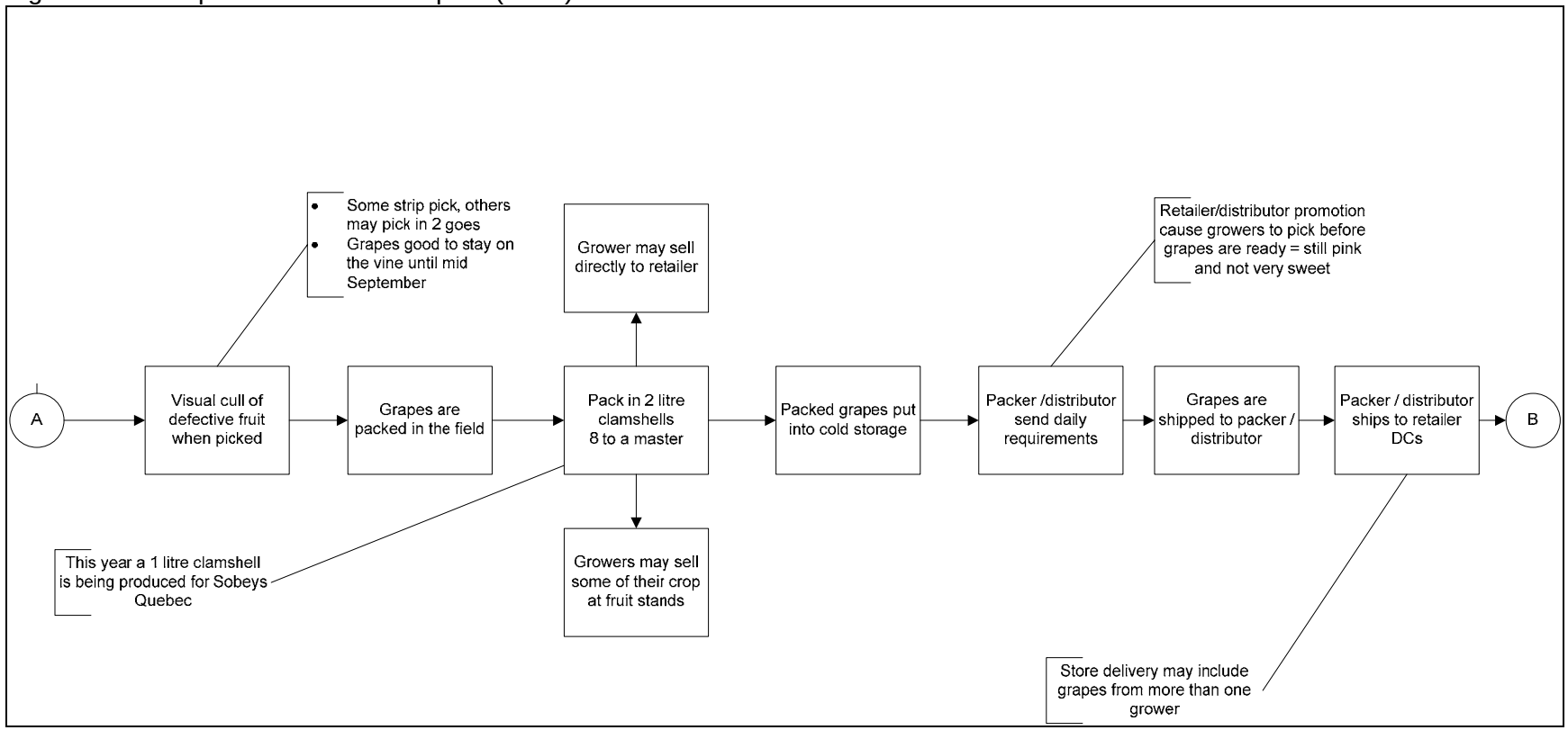
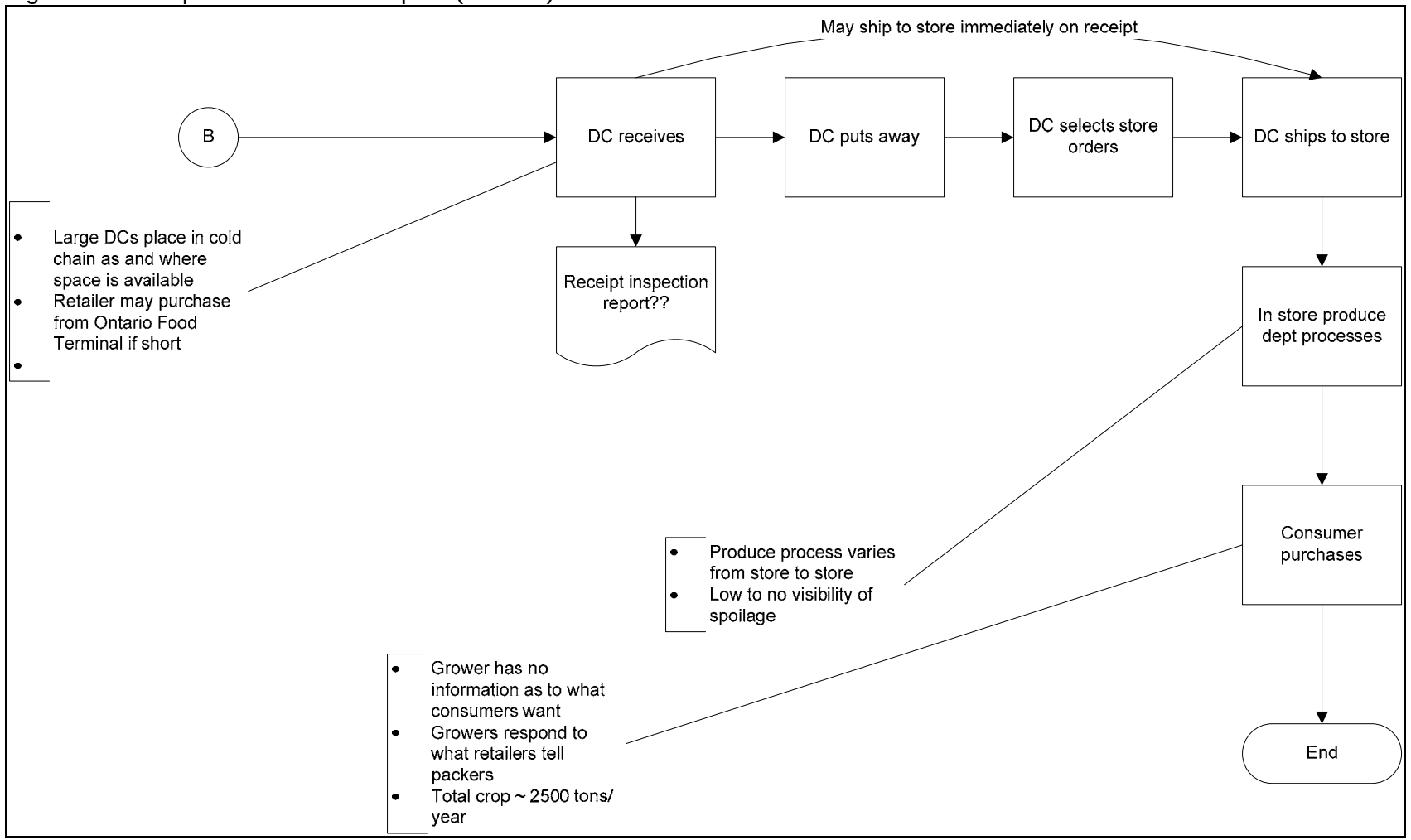


Figure 4.39: Grapes Value Chain Map #3 (B→End)



4.7.2 Summary of Quality Management and Chain Related Issues Specific to Table Grapes

Figure 4.40 describes the techniques that stakeholders along the value chain use to manage quality. As can be seen, Ontario's grape industry almost invariably uses only subjective measures to manage quality. This includes the picking decisions that invariably translate into differences in quality across suppliers and individual deliveries to retail, regardless of other factors which further impact quality – such as cool chain management. Also detailed are quality issues commonly found to occur at each level of the value chain, and how they might be addressed, and descriptions that interviewed respondents used to compare Ontario's industry to leading importers. To illustrate the extent to which the quality of Ontario grapes influences consumers' attitudes and behaviour, the far right column brings a consumer perspective to the analysis. The findings suggest that `out of the sectors researched, Ontario's grape industry represents the largest gap between the quality of its fruit and consumers' expectations.

Figure 4.40: Quality Management Systems and Metrics Used At Each Stage of The Value Chain for Table Grapes

	Fruit Producers (Growers)	**Packers (often Growers)**	**Shippers / Distributors**	**Retailers**	**Consumer Factors**
Types of processes used by majority of ON industry to manage quality compared to best in class	**Ontario** • Some objective processes, though largely manage quality subjectively (sight & feel). Do not statistically track objective tests to improve quality **Leading importers** • Manage quality using scientific (objective) processes and data	**Ontario** • Often packed in the field • Some objective processes, though largely manage quality subjectively (sight & feel). Do not statistically track objective tests to improve quality **Leading importers** • Use scientific (objective) processes and data	**Ontario** • Some objective processes, though largely manage quality subjectively (sight & feel). Do not statistically track objective tests to improve quality **Leading importers** • Use scientific (objective) processes and data	**Corporate** • Can deal directly with supplier • Increasingly use scientific (objective) based processes **Independent** • Have preferred flexible sources • Largely use subjective metrics	**When Buying** • Clear, open plastic bag packaging preferred • "In season" less relevant than for most other fruits • Memory of past eating experience • Some wait for sales to buy
Metrics used to manage quality	**Ontario and leading importers** • Brix • Colour • Grape stem • Appearance • No shrivelling • No sign of mildew • Taste **Leading importers only** • Pressure	**Ontario and leading importers** • Brix • Colour • Grape stem • Appearance • No shrivelling • No sign of mildew • Taste **Leading importers only**	**Ontario and leading importers** • Varieties • Brix • Colour • Grape stem • Appearance • No shrivelling • No sign of mildew • Taste • Traceability (limited in ON)	**Retailers overall** • Colour • Size • Varieties • Pressure • Brix • Bunch size • # of bunches in pack • Temperature • Consistency • Traceability • Food safety (swab	**When consuming** • Plump • Round • Unblemished • Consistent bushel (few small or rotting) • Taste tested in store • Strong on the vine

	Fruit Producers (Growers)	Packers (often Growers)	Shippers / Distributors	Retailers	Consumer Factors
	• Acid	• Pressure • Brix • Food safety (swab testing)	• Consistency • Temperature **Leading importers only** • Pressure • Acid • Food safety (swab testing)	testing) **Moving toward** • Acid	
Common quality issues associated with Ontario grapes	• Ripeness • Temperature (broken cold chain)	• Lack of consistency, mainly due to variation in packing • Temperature (broken cold chain) • Appearance (fruit) • Pack appearance • Package size	• Lack of consistency • Appearance (fruit) • Pack size • Temperature (broken cold chain)	• Pack size • Lack of consistency • Lack of good varieties • Package appearance • Shelf-life • Shrinkage • Spoilage • Temperature (broken cold chain)	• ON grapes perceived to be lower quality than imported varieties - Re: taste, skin thickness
Possible solutions to address quality issues, and where they can be implemented along the value chain	• Picking decision • Improved varieties • Improved husbandry • Improved packing	• Improve packing techniques • Improve pack size • Improve cold chain • Objective standards and certification	• Improve cold chain • Improved packing and grading • Objective standards and certification	• Improve produce department practices • Greater collaboration with suppliers • Objective standards & certification • Improve cold chain	With ON and imported grapes being so different, each season ON grapes have to re-establish their own market. This, and that it appears that many people that buy imported grapes do not buy ON grapes, means that the market size is limited
Comparisons made between Ontario fruit producers and leading competitors	**Ontario** • Largely reactive sellers of fruit • Small, with few resources • Grow varieties that do not appeal to many consumers **Leading competitors** • Proactive capable	**Ontario** • Largely transactional • Ineffective cool chain • Has conscientious suppliers who want to improve **Leading competitors** • Highly capable, efficient	**Ontario** • Majority mainly focused on moving fruit • Most exhibit little market awareness **Leading competitors** • Focused on creating value • Extensive market	**Ontario** • Reactive 'movers of fruit' • Bickerers rather than managers • Quickly falling behind • Performance rated at 2 - 5 out of 10 **Leading competitors** • Highly professional and capable	**Ontario** • Overall lack of awareness of ON grown grapes **Leading competitors** • Perceived lower quality to imported

	Fruit Producers (Growers)	Packers (often Growers)	Shippers / Distributors	Retailers	Consumer Factors
	marketers		research	• Good category managers • Chile getting very good quickly • Performance rated at 8 or 9 out of 10	

Figure 4.41 shows that a combination of quality issues that result from current management practices, combined with effects of the industry not producing grape varieties that appeal to the majority of consumers and business relationships strained by political pressures and lack of management expertise, is severely impacting the value accorded to Ontario-grown grapes.

Figure 4.41: Chain Related Factors Impacting the Effectiveness of Quality Management, Specific to Ontario Table Grape Industry

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Outcome/Impact
Reasons given for how the present commercial environment leads to differences in the quality of Ontario vs. imported grapes	• Prevents market signals from motivating industry to improve management capabilities • Only small portion of check-off funds used to support consumer-focused innovation • More resources invested in influencing retailers' through industry (political) pressure than business-level capabilities • Small scale farms don't allow investment in mechanization	• Motivation to improve down to individual desire, and is not industry wide • Impacts drive to continually innovate & adapt to market • Lack of strategic marketing • Key focus is moving volume not managing quality • Combined effects of packers concern about losing supply and current payment systems result in them being unwilling or unable to convey market signals by sufficiently penalizing or rewarding growers on the basis of quality • Supports continuation of inefficient & ineffective packing	• Good growers losing out in legislated marketing system (efforts lost among mediocrity) • Lack market focus and ability to develop the capabilities possessed by importers • Not all marketers view quality as critical to success of ON peach industry • Focus commonly placed on moving volume ahead of managing quality • Too many being planted, will hurt price and market opportunities • Often stated that a belief amongst ON growers that they own the market by right (entitlement) is a	• ON lacks strategic focus • Market signals do not get through to ON growers • Believe legislation reduces growers drive to innovate • Poor cool chain management means have to flow through distribution systems quickly • Does not provide capabilities necessary to motivate improvements in retailers' flawed produce dept practices	• Current situation often polarizes viewpoints of 'opposing' stakeholders • Political pressure ensures that a sizeable volume of Ontario grapes find their way onto the market, though management practices exacerbate the limited value and appeal which the market affords Ontario grapes • Current system creates environment not conducive to fostering second-order learning: *so focus is on improving or protecting current systems, not on creating systems and processes that are*

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Outcome/Impact
		operations • Too many grapes with limited appeal being planted	barrier to industry development, and OFGGMB may perpetuate that attitude amongst growers		*more appropriate to competing in a global fruit industry*
Resulting (estimated) losses and economic impacts	• Variation in yield and value • Unable to secure premium over imports • Few incentives to change varieties, differentiate product or improve quality • Lowest quality has significant influence on price and determines markets you can target	• Few incentives to change varieties, differentiate product or improve quality • Little incentive to automate – reduced ROI	• Incidents of inconsistent packing and quality • Unable to secure premiums over imports • Discounted due to taste profile not matching imports	• Limited market and oversupply	• Unnecessary costs occur throughout the value chain • Limited opportunity for industry leaders to differentiate themselves from wider supply base • Lost market opportunities
Resulting views toward ON industry	• Retailers can force early picking, which reduces eating quality. Then complain to us about taste • Retailers chose to sell ON grapes at low prices • Retailers do not handle ON grapes well	• Retailers can force early picking, which reduces eating quality. Then complain to us about taste • Retailers do not handle ON grapes well • Retailers do not understand the market	• If central packing, many growers would fear losing control over what is packed • Industry lacks strategic focus • Growers' lack of strategy leading to own downfall • Good growers lose out in marketing board system • Check-off funded rebates regarded as a significant cost which provides little if any reward to better growers	• View general industry as perpetually citing a victim mentality • Consider industry voices to reflect less progressive growers • No comparison between ON and importers' industry • Industry does not develop strategic marketing programs • See ON as reactive sellers, not proactive marketers	• Overall ON industry generally viewed as unsophisticated and missing market opportunities • Do not produce varieties and quality that many consumers value
Impact of above issues on chain relationships	• Growers disconnected from the market and customers • Reduces growers' motivation for growers	• All at times have issues with retailers' using ON grapes as loss leader • With a small crop,	• Increasingly, progressive distributors only dealing directly with chosen growers	• Do not respect ON suppliers to same extent as importers • OFGGMB viewed as barrier to change & key	• Results in strategic disconnects between virtually all value chain intermediaries • Focus is on fighting

	Fruit Producers (Growers)	Packers (often growers)	Shippers / Distributors	Retailers	Overall Outcome/Impact
	to collaborate with each other, and overall chain • Many growers are distrusting and do not share information	short season and little strategic planning, relationships between suppliers and customers are strained.	• ON grapes not viewed as important crop to overall picture, so limited effort placed on developing relationships	reason for ON falling behind competitors • See industry as perpetually citing a victim mentality	around margins and bickering, not improving capabilities

4.7.3 Table Grapes SWOT Analysis

Section 4.7.3 takes the factors described in the above sections above and synthesizes them into the overall context within which Ontario's table grape industry competes for market share.

Strengths and weaknesses are factors internal to Ontario's grape industry, and over which it may therefore be able to exert direct control and influence. Strengths are internal factors that could help Ontario's grape industry achieve its objective. Conversely, weaknesses are internal factors that could hinder Ontario's grape industry from achieving its objective.

Opportunities and threats are attributes of the environment that are external to Ontario's grape industry and that may either help or hinder the provincial grape industry in achieving its objective. Many of the opportunities identified below have come out of the industry's strengths and weaknesses.

Points highlighted in bold are specific to the grape industry. Other points were identified as being common to all of the fruits studied.

Figure 4.42: SWOT, Grapes

Strengths	**Weaknesses**
• **OFGGMB / OTFPMB viewed by many producers as a trustworthy advocate and has intimate knowledge of ON's grape industry** • **OFGGMB / OTFPMB has a historical relationship with retailers** • Excellent growers (albeit minority of overall population): *from whom other producers can learn* • Innovative packers and distributors: *from whom other packers and distributors can learn* • Short 'local' season creates consumer excitement • Agronomic research and extension capabilities • Successful capable leaders exist at all levels of the chain: *though many are tired of fighting a general culture that resists change and is not innovative* • Retailers see benefit of actively supporting Ontario fruit industry: *partly due to consumers' increasing interest in local*	• **Just two varieties of grapes, neither of which the majority of consumers find as appealing as imported varieties** • **Climate limits number of current varieties that can be grown in ON** • **Disconnects between most producers, OFGGMB / OFTMB, marketers, retailers, and consumers** • **ON grapes do not replace most imports during season, so have limited market potential** • **ON grapes' reputation for inconsistent quality** • **Lack of research & development in new varieties** • Lack of a market-oriented industry strategy • High overheads and low revenues associated with producers focusing on tonnage, not quality • Commonly find inconsistent quality in same shipments • Retailers flawed produce practices – both merchandizing and distribution/operations • Affect of policies and legislation on quality standards and management capabilities • ON industry does not combine resources, so lacks infrastructure and capabilities compared to leading importers • Culture of entitlement negates many growers' motivation to innovate and adapt to the market • Majority of ON growers' age and education level • Lack of information sharing and feedback along the value chain • Lack of proactive visionary industry leaders • Many growers' belief that close proximity means down-stream problems can be fixed quickly and cheaply • Few markets for off-grade fruit
Opportunities	**Threats**
• **Reposition OFGGMB / OTFPMB as responsible for overall industry development and innovation** • **Invest check-off funds into driving and enabling strategic long-term innovation**	• **Competitors' knowledge of the ON market** • **Competitors' relationships with ON retailers** • **Domestic political pressure may cease to have current level of influence ON retailers** • **Strategic connectivity between competing**

• **Amortize investments in new technology more effectively by expanding crops grown and/or handled by same infrastructure** • **Motivate producers to focus on quality, not tonnage** • Motivate and enable capable leaders to take a great role in initiating change • Conduct ongoing consumer research, and use insights to develop and implement innovative strategies and processes along value chain • Create a greater number closely-aligned, functional value chains than currently exist • Improve orchard management practices across wider industry • Cool chain improvements • Develop more objective quality management processes and encourage their use amongst wider industry population • Quality management & process improvement training • Streamline breeding programs to enables greater develop of varieties that appeal to consumers • Develop new package and presentation formats • Develop export markets • Improve producers' business skills • Proximity to a large market • Access to major transportation routes	**jurisdictions' research, business and government stakeholders** • **Imported varieties have superior eating quality** • **Length of time ON grapes are not on the market** • Competitors' "can-do" attitude • Competitors' age, education level & experience • Competitors' increasing management capabilities • The efficiency and effectiveness of competitors' systems and processes • Importers' ability to influence retailers' decisions • Impact of other jurisdictions' policies & legislation on motivating / enabling competitors' market-focused research & innovation • Consumers' changing purchasing habits

5. Recommendations

The objectives of this project were as follows:

1. Define Ontario consumers' attitudes, expectations and satisfaction toward Ontario-grown apples, pears, peaches, plums, and table grapes;
2. Enable comparisons to be made between consumers' perceptions of Ontario versus internationally sourced apples (fresh and processed), pears, peaches, plums, and table grapes;
3. Identify opportunities to increase the perceived value of Ontario-grown apples (fresh and processed), pears, peaches, plums, and table grapes at the point of purchase in retail and foodservice outlets;
4. Enable consumer perceptions to be used for quantifying the effectiveness and efficiency of current arrangements used in supplying Ontario-grown apples (fresh and processed), pears, peaches, plums, and table grapes;
5. Develop best practice quality management benchmarks for use along the entire value chain, from farm or input supplier through to retailer or foodservice operator;
6. Identify factors related to physical processes or business practices that, if addressed, could lead to improvements in the quality of Ontario-grown fruit, particularly apples (fresh and processed), pears, peaches, plums, and table grapes.

Section 5.1 provides a high level summary of the extent to which current quality management processes and causal factors are impacting the competitiveness of Ontario's fruit industry. This includes reasons why much of the industry is not meeting consumers' expectations of quality. Section 5.2 then summarizes conclusions on how the different sectors of Ontario's fruit industry could improve quality and, in doing so, better satisfy consumer demands. The report concludes with Section 5.3, which presents a benchmarking framework that could be used to compare the performance and management of the Ontario fruit industry, down to the level of individual farms, against that of its peers operating in Canada and internationally.

5.1 Summary of Disconnects and Overall Issues

The secondary research concluded that food purchasing is a complex issue and consumers are driven by a number of key factors, including taste, nutrition (linked to health), value (price in relation to quality and experience) and convenience. The primary research concluded that corporate retailers believe suppliers should provide them with consumer research and assist them to develop innovative marketing strategies. Providing this level of support positively influences retailers' purchasing decisions, helps balance customers' and consumers' focus more evenly between price and other factors, and can ultimately increase sales. This is a service that is currently provided by only grocery suppliers and the more progressive (often international) produce suppliers. Most Ontario fruit producers and producer groups generally leave this type of research and analysis to retailers, believing it is their area of responsibility. This lack of consumer intelligence leaves the Ontario fruit industry vulnerable to competitors that are able to provide products and implement marketing programs that appeal to consumers' expectations. It also limits the extent to which the majority of Ontario's fruit industry is able to address the power imbalances that commonly exist between many Ontario suppliers and retailers.

As identified in the literature review, information, relationships and technology are the most critical elements of successfully managing fruit quality along the value chain in relation to consumers' expectations. The effectiveness of the fourth critical element, governance systems, relies upon the first three factors already being in place. The research found that Ontario's fruit industry looses out on all four fronts compared to leading competitors, particularly in terms of the business relationships that typify the majority of Ontario's fruit industry and how well the industry meets consumers' expectations.

The relationships that have the greatest negative impact on quality management are those that exist in sectors where business relationships, for the most part, are characterized as adversarial, segmented and opportunistic, with stakeholders viewing each other with suspicion and limited respect. A considerable number of respondents cited that this situation is particularly acute in the four sectors that operate under a legislated marketing system. Strained relationships translate into stakeholders being unwilling to share anything other than immediate transactional information, which makes it extremely difficult to successfully manage quality. It also results in a lower level of innovation than is required to remain competitive in an increasing global industry by ensuring that its processes are suited to delivering products that meet changing consumer demands. For instance it was found that while ethnic consumers are a rapidly expanding market, they are not overly satisfied with (and loyal to) Ontario's fruit industry. Similarly, many traditional Canadian consumers do not consider the quality of Ontario fruit to meet their expectations. This is particularly the case for plums and table grapes.

This current situation appears to result in large part from the majority of Ontario's fruit industry following a reactive approach to business; particularly at the producer, packer and shipper levels of the value chain. There is also a clear tendency to focus on tonnage, not quality. Furthermore, most in the industry do not manage the determinants of quality well – again especially at the grower level, though also at the packer level. Instead, too many stakeholders make excuses for why improvements in quality cannot be achieved while simultaneously masking poor performance by top-dressing shipments. On the flipside, the importing nations against which the Ontario industry competes follow a proactive strategy to grow market value through consumer-focused innovation, which is enabled by constructively managing chain relationships. They also possess a "can do" attitude and implement objective processes, then use the resulting data/feedback to make informed business decisions. This leads to continual improvements in their operations and the ability to both reduce costs and capture greater value from the market. Therefore, they are more competitive than the majority of the Ontario fruit industry.

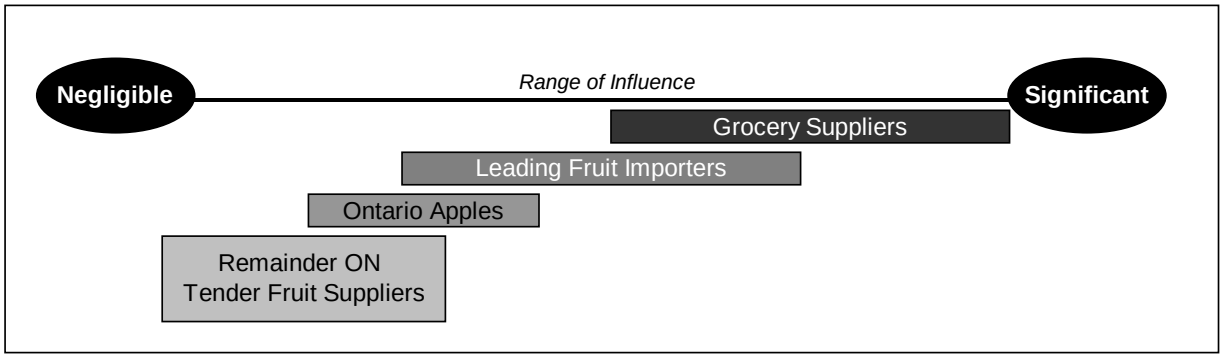
The difference between the approaches taken by Ontario's fruit industry and their competitors appears to be due at least in part to producers and shippers holding on to systems established when the nature of the fruit industry was very different. Many of the innovations that have occurred have sought to protect current systems, not develop new systems that are more suited to operating in an increasingly competitive global market. Many respondents, from along the entire chain, stated that not forcing the development of progressive systems has led to many producers becoming detached from the market and "lazy" in terms of the level of effort they put into marketing their products. They also stated that too many growers, packers, and shippers do not feel sufficiently accountable for their performance, and by not taking a progressive approach to business they were limited in the level of accountability to which they could hold retailers.

Until the industry (or at least the leaders within an industry) progress beyond this current situation, the effectiveness of current quality management practices will continue to be compromised, compared to Canada's competitors who are following a more alliance-oriented approach to quality management and overall competitiveness. In response and partly in an attempt to regain the profitability they lose in handling sub-quality Ontario fruit, it seems that there is little to discourage many Ontario retailers from using Ontario fruit as a loss leader to encourage a higher volume of consumer traffic to frequent their stores. Therefore, by not proactively managing quality or taking a strategic approach to their operations and business relationships, Ontario's fruit industry is failing to provide the constructive input necessary for encouraging retailers to develop unique strategies, which would lead to a lesser focus on price.

The likely conclusion is that until Ontario's produce suppliers are able to positively influence retailers' decision-making processes, retailers will largely continue to follow their natural behaviour of focusing on volume and price. While Ontario's apple industry is strengthening its ability to

constructively influence retailers' business decisions to a degree, in the other sectors researched this remains at a very embryonic stage. As illustrated below in Figure 5.1, grocery suppliers are generally found to be more market focused and have more influence on retailers' management decisions than produce suppliers. Ontario's produce suppliers were found to be further behind in their ability to constructively influence Ontario retailers, than importers of fruit from countries such the US, Chile and Mexico.

Figure 5.1: Continuum illustrating the range of Constructive Influences That Various Sectors/Suppliers Have on Retailers' Management Decisions



In terms of quality management and strategic capabilities Ontario's fruit industry is essentially divided into two groups. The more progressive group is comprised of Ontario's apple industry. While it faces significant changes in order to better manage overall quality and improve its competitive compared to importing jurisdictions, at an industry level it is significantly further ahead than the four other sectors of Ontario's fruit industry researched for this project.

The less progressive camp is largely comprised of those involved in the sectors subject to legislated marketing. The role legislated marketing plays in diminishing the Ontario industry's ability to manage quality comes via cushioning growers from the market forces that have motivated international competitors to adopt new management processes and quality management systems. Part of this is due to the way the current system enables many stakeholders to take a free-rider approach. They believe that focusing on quality will not improve their prices, or that their efforts will be lost amongst mediocrity – so why do it? Therefore, rather than proactively managing quality, many industry stakeholders seek only to meet minimal standards. This practice undermines many consumers' perceptions of the quality of Ontario fruit versus imports. The research also revealed that legislated marketing polarizes the views of many stakeholders through creating 'them' and 'us' scenarios. This commonly translates into more time and effort being invested in apportioning blame than constructively solving problems.

This situation is exacerbated when the approach taken by the majority of Ontario's fruit industry is the opposite of that being taken by increasingly capable and more innovative importers, many of whom have redesigned their entire business model to suit a changing market. The resulting differences between the quality of Ontario and imported fruits heighten the relative costs incurred by the Ontario industry (from growers through to retailers). They also lessen wholesalers', customers', and consumers' willingness to select Ontario fruit over imported fruit, or pay prices equal to those paid for imported fruit. The combined effects of a fragmented value chain and inefficient/ ineffective operations appear to be the incursion of many millions of dollars in unnecessarily high costs and missed market opportunities for Ontario's fruit industry.

The overall findings are that while Ontario fruit undoubtedly has enormous opportunities due to the emotional connection consumers have with Ontario fruit, large swaths of the industry are failing to fully translate this opportunity into economic and strategic strength. This is not the fault of one

person or organization. It is the result of a system that sees the two sides of the industry becoming increasingly distant and polarized in their attitudes toward each other. The present system also results in the majority of growers being isolated from the market and looking for ways they can survive the next season, not ten seasons from now. In the meantime, consumers' loyalty to Ontario fruit appears to stem from an emotional connectivity due more to a climatic situation than consistently high quality. The question the industry needs to ask itself is whether this situation is likely to continue, given changing consumer demographics and the fact that all consumers are becoming more discerning in their purchasing behaviours.

The remainder of the report synthesizes findings on how the different sectors of Ontario's fruit industry could improve quality management systems.

5.2 Recommendations by Fruit

Section 5.2 recommends methods that the research suggests as opportunities to improve the quality management of Ontario fruit from the perspective of customers and, most importantly, consumers. For each fruit and management process, the colours denote the expected level of effort required to make the suggested change, the likely cost of their implementation, and the expected returns on investment. For each of the fruit types, the suggested improvements are separated into those that should occur at the grower level and those that should occur further along the value chain.

5.2.1 Peaches

VC element	Recommended actions	Implementation Difficulty	Cost of Implementation	Likely ROI
Grower level				
Crop Production	Set orchard husbandry standards	Medium	Low	Medium
	Manage orchards by variety and age	Medium	Medium	Medium
	Keep records for analysis	Low	Low	High
	Encourage producers to transfer to intensive production	High	High	High
Management	Implement methods to increase growers' business skills	Low	Low	High
	Provide growers with management support and coaching	Low	Low	High
	Familiarize and connect growers with downstream processes	Low	Low	High
Picking decision	Know what consumers/retailers want, ready now, ripen, size, colour, brix, acid, value	Low	Low	High
	Know which varieties and conditions deliver best retailer/consumer satisfaction	Low	Low	High
	Conduct pre-pick testing and decision making, schedule pick	Medium	Medium	High
	Keep records for analysis	Low	Low	Medium
Picking	Introduce standards and provide consistent training	Low	Medium	Medium
	Pick to customer needs/schedule	Low	Low	Medium
	Oversee picking	Low	Low	Low
	Set a standard time to cool chain	Low	Low	Medium
Collaboration	Encourage producers to share results and records	High	Low	High

	Conduct overall analysis of records and adjust standards as required	Low	Low	High
	Benchmark best practices	Low	Low	Medium
Downstream VC processes				
Cool chain	Improve cool chain infrastructure	High	High	High
	Establish standard operating procedures for cool chain and provide training	High	Medium	Medium
	Maintain and review records of cool chain compliance	Low	Low	Medium
	Conduct periodic random testing of compliance to cool chain procedures	High	Medium	Low
Packing Opportunity (pack size, ripe now, ripe later)	Determine the optimum process for delivering customer quality	Medium	Medium	Medium
	Determine the optimum pack rate that delivers the correct customer quality	Medium	Medium	Medium
	Track pack quality (colour, size)	Low	Low	Medium
	Track pack rate	Low	Low	Low
	Keep records for analysis	Low	Low	Low
Customer service	Establish process for providing customer and consumer feedback to grower	Medium	Low	High
Retail buyers	Set standards based on drivers of consumer behaviour	Medium	Low	Low
	Set and communicate standards for acceptance of fruit at DC receiving	Medium	Low	Low
	Maintain an effective cold chain at DC and produce department	High	High	High
Retailers' Produce Dept	Market local based on quality, not price deal	High	Medium	High
	Set produce department standards and improve staff training	High	Medium	Medium
	Keep records of quality issues	Medium	Low	Medium
	Provide feedback – back up the chain	Medium	Low	Medium

5.2.2 Apples

Fresh Apples

VC element	Recommended actions	Implementation Difficulty	Cost of Implementation	Likely ROI
Grower level				
Crop Production	Set orchard husbandry standards	Medium	Low	Medium
	Manage orchards by variety and age	Medium	Medium	Medium
	Keep records for analysis	Low	Low	High
	Encourage producers to transfer to	High	High	High

	high density production of new varieties			
	Encourage growers to install irrigation systems	Medium	Medium	High
Management	Implement methods to increase growers' business skills	Low	Low	High
	Provide growers with management support and coaching	Low	Low	High
	Familiarize and connect growers with downstream processes	Low	Low	High
Picking decision	Know what consumers/retailers want, variety, size, colour, brix, acid, value	Low	Low	High
	Know which varieties and conditions deliver best retailer/consumer satisfaction	Low	Low	High
	Conduct pre-pick testing and decision making, schedule pick	Medium	Medium	High
	Keep records for analysis	Low	Low	Medium
Picking	Introduce standards and provide consistent training	Low	Medium	Medium
	Pick to customer needs/schedule	Low	Low	Medium
	Oversee picking	Low	Low	Low
	Conduct maturity testing prior to storage	Medium	Medium	High
Collaboration	Encourage producers to share results and records	High	Low	High
	Conduct overall analysis of records and adjust standards as required	Low	Low	High
	Benchmark best practices	Low	Low	Medium
Downstream VC processes				
Storage				
Packing Opportunity (pack size)	Determine the optimum process for delivering customer quality	Medium	Medium	Medium
	Determine the optimum pack rate that delivers the correct customer quality	Medium	Medium	Medium
	Track pack yield and quality (colour, size, pressure, brix)	Low	Low	Medium
	Track pack rate	Low	Low	Low
	Keep records for analysis	Low	Low	Low
Customer service	Establish process for providing customer and consumer feedback to grower	Medium	Low	High
Retail buyers	Set standards based on drivers of consumer behaviour	Medium	Low	Low
	Set and communicate standards for acceptance of fruit at DC receiving	Medium	Low	Low
	Maintain an appropriate cold chain at DC and produce department	High	High	High
Retailers' Produce Dept	Market local based on quality, not price deal	High	Medium	High
	Set produce department standards and improve staff training	High	Medium	Medium
	Keep records of quality issues	Medium	Low	Medium

	Provide feedback – back up the chain	Medium	Low	Medium

Processed Apples

VC element	Recommended actions	Implementation Difficulty	Cost of Implementation	Likely ROI
Grower level				
Crop Production	Encourage producers grow apples for processing	High	High	High
	Set orchard husbandry standards to produce process apples	Medium	Low	Medium
	Manage process apple orchards differently to fresh apple orchards	Medium	Medium	Medium
	Keep records for analysis	Low	Low	High
	Encourage growers to install irrigation systems	Medium	Medium	High
Management	Implement methods to increase growers' business skills	Low	Low	High
	Provide growers with management support and coaching	Low	Low	High
	Familiarize and connect growers with downstream processes	Low	Low	High
Picking decision	Know what processors want, variety, size, colour, brix, acid, value	Low	Low	High
	Know which varieties and conditions deliver best processor satisfaction	Low	Low	High
	Keep records for analysis	Low	Low	Medium
Picking	Introduce standards and provide consistent training	Low	Medium	Medium
	Pick to processor needs/schedule	Low	Low	Medium
	Oversee picking	Low	Low	Low
	Conduct maturity testing prior to storage – if storage is required	Medium	Medium	High
Collaboration	Encourage producers to share results and records	High	Low	High
	Conduct overall analysis of records and adjust standards as required	Low	Low	High
	Benchmark best practices	Low	Low	Medium
Downstream VC processes				
Storage	Implement maturity testing for apples sent to storage	Medium	Medium	Medium
Delivery	Determine the optimum process for delivering process apples in best condition	Medium	Medium	Medium
	Establish process plant receiving inspection and grading system	Medium	Medium	Medium
	Provide process apple growers with feedback	Low	Low	Medium
	Keep records for analysis	Low	Low	Low

5.2.3 Pears

VC element	Recommended actions	Implementation Difficulty	Cost of Implementation	Likely ROI
Grower level				
Crop Production	Set orchard husbandry standards	Medium	Low	Medium
	Manage orchards by variety and age	Medium	Medium	Medium
	Keep records for analysis	Low	Low	High
	Encourage stakeholders to make fireblight resistant varieties available	High	High	Medium
Management	Implement methods to increase growers' business skills	Low	Low	High
	Provide growers with management support and coaching	Low	Low	High
	Familiarize and connect growers with downstream processes	Low	Low	High
Picking decision	Know what consumers/retailers want, variety, size, colour, ripeness, value	Low	Low	High
	Know which varieties and conditions deliver best retailer/consumer satisfaction	Low	Low	High
	Conduct pre-pick testing and decision making, schedule pick	Medium	Medium	High
	Keep records for analysis	Low	Low	Medium
Picking	Introduce standards and provide consistent training	Low	Medium	Medium
	Pick to customer needs/schedule	Low	Low	Medium
	Oversee picking	Low	Low	Low
Collaboration	Encourage producers to share results and records	High	Low	High
	Conduct overall analysis of records and adjust standards as required	Low	Low	High
	Benchmark best practices	Low	Low	Medium
Downstream VC processes				
Packing Opportunity (pack size)	Determine the optimum process for delivering customer quality	Medium	Medium	Medium
	Determine the optimum pack rate that delivers the correct customer quality	Medium	Medium	Medium
	Track pack yield and quality (colour, size, ripeness)	Low	Low	Medium
	Track pack rate	Low	Low	Low
	Keep records for analysis	Low	Low	Low
Customer service	Establish process for providing customer and consumer feedback to grower	Medium	Low	High
Retail buyers	Set standards based on drivers of consumer behaviour	Medium	Low	Low
	Set and communicate standards	Medium	Low	Low

	for acceptance of fruit at DC receiving			
	Maintain an appropriate cold chain at DC and produce department	High	High	High
Retailers' Produce Dept	Market local based on quality, not price deal	High	Medium	High
	Set produce department standards and improve staff training	High	Medium	Medium
	Keep records of quality issues	Medium	Low	Medium
	Provide feedback – back up the chain	Medium	Low	Medium

5.2.4 Plums

VC element	Recommended actions	Implementation Difficulty	Cost of Implementation	Likely ROI
Grower level				
Crop Production	Set orchard husbandry standards	Medium	Low	Medium
	Manage orchards by variety and age	Medium	Medium	Medium
	Keep records for analysis	Low	Low	High
Management	Implement methods to increase growers' business skills	Low	Low	High
	Provide growers with management support and coaching	Low	Low	High
	Familiarize and connect growers with downstream processes	Low	Low	High
Picking decision	Know what consumers/retailers want, ready now, ripen, size, colour, brix, acid, value	Low	Low	High
	Know which varieties and conditions deliver best retailer/consumer satisfaction	Low	Low	High
	Conduct pre-pick testing and decision making, schedule pick	Medium	Medium	High
	Keep records for analysis	Low	Low	Medium
Picking	Introduce standards and provide consistent training	Low	Medium	Medium
	Pick to customer needs/schedule	Low	Low	Medium
	Oversee picking	Low	Low	Low
	Set a standard time to cool chain	Low	Low	Medium
Collaboration	Encourage producers to share results and records	High	Low	High
	Conduct overall analysis of records and adjust standards as required	Low	Low	High
	Benchmark best practices	Low	Low	Medium
Downstream VC processes				
Cool chain	Improve cool chain infrastructure	High	High	High
	Establish standard operating procedures for cool chain and	High	Medium	Medium

	provide training			
	Maintain and review records of cool chain compliance	Low	Low	Medium
	Conduct periodic random testing of compliance to cool chain procedures	High	Medium	Low
Packing Opportunity (pack size, ripe now, ripe later)	Determine the optimum process for delivering customer quality	Medium	Medium	Medium
	Determine the optimum pack rate that delivers the correct customer quality	Medium	Medium	Medium
	Track pack quality (colour, size)	Low	Low	Medium
	Track pack rate	Low	Low	Low
	Keep records for analysis	Low	Low	Low
Customer service	Establish process for providing customer and consumer feedback to grower	Medium	Low	High
Retail buyers	Set standards based on drivers of consumer behaviour	Medium	Low	Low
	Set and communicate standards for acceptance of fruit at DC receiving	Medium	Low	Low
	Maintain an effective cold chain at DC and produce department	High	High	High
Retailers' Produce Dept	Market local based on quality, not price deal	High	Medium	High
	Set produce department standards and improve staff training	High	Medium	Medium
	Keep records of quality issues	Medium	Low	Medium
	Provide feedback – back up the chain	Medium	Low	Medium

5.2.5 Table Grapes

VC Element		Implementation Difficulty	Cost of Implementation	Likely ROI
Grower level				
Crop Production	Set husbandry standards for grape vines	Medium	Low	Low
	Manage vines by variety and age	Medium	Medium	Low
	Keep records for analysis	Low	Low	High
Management	Implement methods to increase growers' business skills	Low	Low	High
	Provide growers with management support and coaching	Low	Low	High
	Familiarize and connect growers with downstream processes	Low	Low	High
Picking decision	Know what consumers/retailers	Low	Low	High

	want, ready now, ripen, size, colour, brix, acid, value			
	Ensure retailers know when crop will be ready and set promotion dates accordingly	Low	Low	High
	Conduct pre-pick testing and decision making, schedule pick	Medium	Medium	High
	Keep records for analysis	Low	Low	Medium
Picking	Introduce standards and provide consistent training	Low	Medium	Low
	Pick to customer needs/schedule	Low	Low	Medium
	Oversee picking	Low	Low	Low
	Set a standard time to cool chain	Low	Low	Medium
Packing Opportunity (pack type and size)	Determine the optimum process for delivering customer quality	Medium	Medium	Medium
	Determine the optimum pack rate that delivers the correct customer quality	Medium	Medium	Medium
	Track pack quality (colour, brix, physical condition)	Low	Low	Medium
	Track pack rate	Low	Low	Low
	Keep records for analysis	Low	Low	Low
Collaboration	Encourage producers to share results and records	High	Low	High
	Conduct overall analysis of records and adjust standards as required	Low	Low	High
	Benchmark best practices	Low	Low	Medium
Downstream VC processes				
Cool chain	Improve cool chain infrastructure	High	High	High
	Establish standard operating procedures for cool chain and provide training	High	Medium	Medium
	Maintain and review records of cool chain compliance	Low	Low	Medium
	Conduct periodic random testing of compliance to cool chain procedures	High	Medium	Low
Customer service	Establish process for providing customer and consumer feedback to grower	Medium	Low	High
Retail buyers	Set standards based on drivers of consumer behaviour	Medium	Low	Low
	Set and communicate standards for acceptance of fruit at DC receiving	Medium	Low	Low
	Maintain an effective cold chain at DC and produce department	High	High	High
Retailers' Produce Dept	Market local based on quality, not price deal	High	Medium	High

	Set produce department standards and improve staff training	High	Medium	Medium
	Keep records of quality issues	Medium	Low	Medium
	Provide feedback – back up the chain	Medium	Low	Medium

5.3 Benchmarking Framework

Section 5.3 presents a benchmarking framework that was developed through the literature review and the primary research activities. As mentioned in the literature review, the most important benefits of benchmarking include how it motivates producers to look at their farm as a business and strive to continually improve their business performance. Based on the results of the industry interviews and focus groups the following key performance indicators (KPIs) may be appropriate performance and industry benchmark measures for this program and are regarded as ones that would have the most benefit and meaning for participants. In any case, participants must discuss and determine the most appropriate measurements. The specific measurements used and their averages will differ by fruit and by variety.

In the table below, red cells indicate lagging KPIs and blue cells indicate leading KPIs. Lagging KPIs are mostly information relating to past performance. Leading indicators are factors, such as training, which are likely to improve future performance.

Figure 5.2: Potential Key Performance Indicators to Measure Against

Financial (per acre) – for apples this should be done by variety as well
• Revenue/acre
• Cost of Goods Sold/acre
• Labour Cost/acre
• Gross Profit/acre
Orchard Management – for apples this should be measured by variety
• Age of trees
• Percentage replant
• Employee training (hours)
• # of field scouts per 1000 acres
• Trees/acre
• Labour efficiency (bins/person/day)
• Grade out per bin - % premium quality, % process quality, % culled (not grapes)
• Maturity (apples) and ripeness testing
• Hours worked/reportable injuries
• Tonnage/acre
Packing – for apples this should be measured by variety
• Employee training (hours)
• Throughput efficiency (cases/hr)
• Grading effectiveness / damage
• Retailer rejections per 100 tonnes
• Retailer complaints per 1000 cases
Post-Harvest – for apples this should be measured by variety
• Time between picking to storage (cool chain) (hrs)
• Average core temperature of fruit along the cool chain (degrees)**

- Storage loss (percentage)

**This measurement could be a leading indicator if the temperature was measured and was adjusted accordingly at the time.

References

Abeyrathnew A (2008). “Issues pertaining to the survival of micro and small fruit processing enterprises with special reference to their strategic alliances: A case sutdy in Kandy District, Sri Lanka.” *Acta Hort:* 17-24.Aggarwal, Deepak, Andrew J. Prussia, Stanley E Prussia, A. Nunez, D.S. NeSmith, Wojciech J. Florkowski and Donald E. Lynd. (2003). “Predicting fresh produce quality in supply chains.” *Acta Hort:* 179-188.

AC Neilson (2004). Homescan: In Canada, Refocus your Target Consumer. Viewed online: http://www.acnielsen.ca/trends/documents/InCanada-RefocusYourTargetConsumer.pdf

Agriculture and Agri-Food Canada (AAFC)
2002/03 Canadian Fruit Situation and Trends, including apples, tender fruits, grapes, and berries. Viewed online:http://www4.agr.gc.ca/resources/prod/doc/horticulture/fruit_e.pdf
Canadian Food Trends to 2020 (2005). Viewed online:
http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1170944121865&lang=eng
http://www4.agr.gc.ca/resources/prod/doc/agr/pdf/ft-ta_e.pdf

Assured Produce (2008). Viewed online: http://www.assuredproduce.co.uk/ap/

Balanced Scorecard (2008). Wikipedia. Viewed online: http://en.wikipedia.org/wiki/Balanced_Scorecard

Canadian Food Trends to 2020: A long term Consumer Outlook. July 2005. Viewed online: http://www4.agr.gc.ca/resources/prod/doc/agr/pdf/ft-ta_e.pdf

Canada’s Processed Fruit and Vegetable Industry, 2007. Viewed online: http://ats-sea.agr.gc.ca/supply/3316_e.pdf

Casey W and Beck W (2004). *A Balanced View of Balanced Scorecard: Whitepaper.* An Executive Leadership Group Inc. publication.

ChileG.A.P. (2007) Annual Report 2006-2007.

ChileG.A.P. (2008) Viewed online on December 15, 2008: http://www.chilegap.com/default.asp?idioma=1

Consumption Trends. Date Modified: 2008-03-06. Viewed online: http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1201554109150&lang=e

Alberta Agriculture and Food. *Organic Consumer Profile.* Viewed online:
http://www.biorganic.ca/articles/Organic_Consumer_Profile.pdf

(The) American Society for Quality (ASQ) website. Viewed online: http://www.asq.org/learn-about-quality/benchmarking/overview/overview.html

Anonymous A. Interview with Senior Retail Executive, Summer 2009.

Anthony, M (2002). “Trendy fruits, nuts and vegetables.” *USA General Accounting Office* (July). Viewed online: http://www.foodprocessing.com/articles/2008/066.html?page=1

Association of Food Processors. *Strategy for Ontario's Food and Beverage Processing Industry, 2008-2013*.
http://www.aofp.ca/Uploads/File/FoodBeverageStrategyFINAL.pdf

Assured Produce (2008). Website. Retrieved on December 15, 2008 from http://www.assuredproduce.co.uk/ap/

Bacon R, Toensmeyer U.C & Shippy R. “Consumer Preferences for Fresh Fruit and Vegetable Retail Package Sizes.” *Journal of Food Distribution Research*, February 88: 61-72. Viewed online:
http://ageconsearch.umn.edu/bitstream/27346/1/19010061.pdf

Baines R.N, W.P Davies & P.J Batt (2006). “Benchmarking international food safety and quality systems toward a framework for fresh produce in the transitional economies.” *Acta Hort:* 69-76.

Balanced Scorecard. 2008. Wikipedia. Retrieved December 15, 2008 from http://en.wikipedia.org/wiki/Balanced_Scorecard

Barratt, M 2004a, 'Understanding the meaning of collaboration in the supply chain', *Supply Chain Management*, vol. 9, no. 1, p. 30

Barratt, M 2004b, 'Unveiling enablers and inhibitors of collaborative planning', *International Journal of Logistics Management*, vol. 15, no. 1, p. 73

Barratt, M and Green, M 2001, 'The cultural shift: the need for collaborative culture', *Conference Proceedings of Supply Chain Knowledge 2001,* Cranfield School of Management, November

Batt P (2006). "Fulfilling customer needs in agribusiness supply chains." *Acta Hort:* 83-89.

Baum M & D Yug, et al. "The Case for a 'Green' Supply Chain: Turning Mandate into Opportunity." Diamond Management and Technology Consultants. Viewed online: http://www.retailwire.com/Downloads/Green_Supply_Chain_Diamond.pdf

Bélanger A & E Malenfant (2005). "Ethno cultural diversity in Canada: Prospects for 2017." *Canadian Social Trends:* Statistics Canada (Winter). Viewed online: http://www.statcan.ca/english/freepub/11-008-XIE/2005003/articles/8968.pdf

"The Benefits of Eating Locally." Get Local BC website. Viewed online: http://www.getlocalbc.org/en/

Bobelyn E, Schenk A, Verlinden B.E & B.M. Nicolar (2003). "Introduction of an accredited quality control system in a postharvest laboratory: The fairy garden beyond the paper mountain." *Acta Hort*: 361-369.

Bonney L, Clark R, Collins R & Fearne A (2007). "From serendipity to sustainable competitive advantage: insights from Houston's Farm and their journey of co-innovation." *Supply Chain Management: an International Journal,* Vol. 12 No. 6: 395-399.

Borsari B (2003). "Fruit and vegetable quality perspectives from producers and consumers at a local university in Western Pennsylvania." *Acta Hort:* 69-74.

Brug J. S (1995). "Psychosocial determinants of fruit and vegetable consumption among adults: Results of focus group interviews." *Food Quality and Preference, 6:* 99-107.

Canadian Dairy Commission. "Is there such a thing as an Average Canadian? …What are they eating?" *The Experts Forum*, May 2008. Viewed online: http://www.milkingredients.ca/DCP/app/filerepository/BCFB11949D9C4BAEA6B49D7398ADE0EA.PDF

Casey W & W Peck (2004). **"**A Balanced View of Balanced Scorecard: Whitepaper." An Executive Leadership Group Inc. Publication, November 2004.

CBC. *Plastic bags now cost five-cents in Ontario. Have you stopped using them?* June 30, 2009. Viewed online: http://www.cbc.ca/news/yourview/2009/06/plastic_bags_now_cost_fivecent.html

ChileG.A.P. 2007. Annual Report 2006-2007.

ChileG.A.P. 2008. Website. Retrieved on December 15, 2008 from http://www.chilegap.com/default.asp?idioma=1

Christopher, Martin & Denis Towill (2001). "An integrated model for the design of agile supply chains." *International Journal of Physical Distribution and Logistics, 31* (4): 235-246.

Clements Michael D, Ricardo M. Lazo & Sandra Martin (2008). "Relationship connectors in NZ fresh produce supply chains." *British Food Journal, 110* (4/5): 346-360.

Cloud, J. "Eating Better Than Organic." Time.com, March 02, 2007. Viewed online: http://www.time.com/time/magazine/article/0,9171,1595245,00.html

Collins R (2003b). "Quality in handling in fruit and vegetable chains - a challenge for retailers." *Acta Hort*: 201-207.

Collins R (2003). “Supply chains in new and emerging fruit industries: The management of quality as a strategic tool.” *Acta Hort:* 75-84.

Collins R (2006). “The function and consequences of alternative fresh produce supply chain models.” *Acta Hort*: 67-71.

Collins R.J & A.J Dunne (2008). “A rapid supply chain appraisal approach for agribusiness development projects.” *Acta Hort:* 73-79.

“Consumer Culture and the Future of Organic Usage.” *Hartbeat Newsletter*, Hartman Group, November 2006. Viewed online:
http://www.hartman-group.com/hartbeat/2006-11-01

“Consumer Understanding of Buying Local.” *Hartbeat Newsletter*, Hartman Group, Feb 27, 2008 Viewed online: http://www.hartman-group.com/hartbeat/2008-02-27

Crisosto C.H, G Crisosto and F Neri (2006). “Understanding tree fruit quality based on consumer acceptance.” *Acta Hort, 712:* 183-190.

Cunningham, R (June 2007). “Farm to Fork, Organics in Alberta.” Alberta Agriculture and Food. Viewed online: www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/sis11562/$FILE/Farm_to_fork.pdf

“Demand for Local Produce Increases.” *Capers Community Markets,* June 26, 2007. Viewed online: http://www.capersmarkets.com/article/demand-local-produce-increases

Department of Trade and Industry (2008). “Benchmarking.” Retrieved on December 12, 2008 from www.dti.gov.uk/quality/benchmarking

Dahni R, Saul & Gitlan (2008). “Produce is not an Option: The Growing Influence of Chinese and Vietnamese Cuisine in American Food Industry”. *Produce Marketing Association*.

Duffy R (2005). “Meeting consumer demands through effective supply chain linkages.” *Stewart Postharvest Review, 1* (3): 1-15.

Duffy R & A Fearne (2004). “The impact of supply chain performance partnerships on supplier performance.” *The International Journal of Logistics Management, 15* (1): 57-71.

EEFP (2007). *The missing link: Building bridges between farmers and their food processing and manufacturing customers.* EEFP.

Ekelund L, F Fernqvist & S Furemar (2008). “Experiences of quality in the horticultural value chain: The case of Sweden.” *Acta Hort:* 107-114.

EW Brandt & Sons (2008). Website. Retrieved on December 15, 2008 from http://www.ewbrandt.com/index.htm

“Examine the US Produce Packaging Market.” Reuters, September 2008. Viewed online: http://www.reuters.com/article/pressRelease/idUS199135+02-Sep-2008+MW20080902

Fearne, A et al 2008, *Agri-food Value Chain Diagnostic Analysis*, [online], Australian Vegetable Industry Development Group. Available from: http://www.avidgroup.net.au [20 January 2009]

Fearne, A & Hughes, D 2000, ‘Success factors in the fresh produce supply chain Insights from the UK’, *British Food Journal***,** vol. 102, no. 10; p. 760

Fearne A (1998). “The evolution of partnerships in the meat supply chain: insights from the British beef industry.” *Supply Chain Management, 3* (4): 214-231.
Fearne A & D Hughes (1999). “Success factors in the fresh produce supply chain: insights from the UK.” *Supply Chain Management, 4* (3): 120-128.
Florkowski W (2006). “Fruit and Vegetable Quality, the Value of Time and Marketing.” *Acta. Hort:* 427-434.

Food Chain Centre (2007). *Farm Benchmarking: Lessons from the Past 5 Years. Benchmarking through Business Clubs: Summary Report.* Watford Herts: Food Chain Centre.

Food Chain Centre (2007). *Applying lean thinking to the fresh produce industry.* Watford Herts: Food Chain Centre.

Food Chain Centre (2006). *Improving the Profitability of Vegetable Production: A Case Study of Fresh Leeks.* June 2006.

Food Chain Centre (2006). *Fresher, Simpler, Closer.* Watford Herts: Food Chain Centre.

Food Chain Centre (2005). *Adapting to changing markets: Fourayes Farms and Bennett Opie.* Waterford Herts: Food Chain Centre.

Food Chain Centre (2005). *Benchmarking through Business Clubs. Case Study: Best Practice in the Top Fruit Sector*. Watford Herts: Food Chain Centre.

Food Chain Centre (2005b). *Strengthening links in the top fruit industry.* Watford Herts: Food Chain Centre.

French S and Rogers G (2005). "LOHAS Market 2005 Research Review: Marketplace Opportunities Abound": *The Natural Marketing Institute (NMI).* Viewed online at: *http://www.lohas.com/journal/trends.html*

Frewer L (2003). "Quality in chains: Consumers and risk." *Acta Hort:* 233-237.

"Fruits and vegetables—why more matters: eating more fruits and vegetables can help you ward off heart disease and cancer as well as bone and memory loss." *Food & Fitness Advisor*, March 2007. Viewed online: http://findarticles.com/p/articles/mi_m0ZRR/is_3_10/ai_n27167417

"Fruit and Vegetable Consumption Among Adults: United States, 2005." *MMWR Weekly:* March 16, 2007. Viewed online: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5610a2.htm#tab

"Food Miles: Another Inconvenient Truth." *Freshfel Europe Newsletter* March 2007. Viewed online: http://www.freshfel.org/

"Food Industry Looks to Greener Future." *Just-Food.com*, June 5, 2007. Viewed online: www.just-food.com/article.aspx?id=98710

"Food Miles, More Progress To Be Made." *News Release: Market Research World*, June 2007. Viewed online: http://www.marketresearchworld.net/index.php?option=content&task=view&id=1540&Itemid=

Gattorna, J 2006, *Living Supply Chains – How to mobilizes the enterprise around delivering what your customers want*, Pearson Education Limited, Harlow, UK

GlobalG.A.P. 2007a. GlobalGAP (EUREPGAP): Control Points and Compliance Criteria: Integrated Farm Assurance: Introduction. September 2007.

GlobalG.A.P. 2007b. GlobalGAP (EUREPGAP): Control Points and Compliance Criteria: Integrated Farm Assurance: Crops Base September 2007.

GlobalG.A.P. 2007c. GlobalGAP (EUREPGAP): Control Points and Compliance Criteria: Integrated Farm Assurance: Fruit and Vegetables. September 2007.

GlobalG.A.P. 2008. Website. Retrieved on December 15, 2008 from http://www.globalgap.org/cms/front_content.php?idcat=19

Gooch M, A Felfel & N Marenick (2009). *Local Food Distribution Initiative in Niagara & Hamilton*. Value Chain Management Centre.

Gooch, M (2007). *Local Food: The Untold Story. A Think Piece.* Updated October 22, 2007. George Morris Centre. Viewed online: http://www.georgemorris.org/aspx/Public/Utils/DbFileViewerPopup.aspx?FileID=289

Gooch M & N Marenick (2006). *Canadian Domestic Branding*. George Morris Centre.

"(The) Green Issue." *Progressive Grocer*, April 1, 2007. Viewed online: www.progressivegrocer.com

Grier & Martin (2007). *Country of Origin Labelling, The Biggest Challenge.* (May). Viewed online: http://www.georgemorris.org/GMC/Publications/DomesticandInternationalMarketing.aspx#

Guthrie J, & B.H Lin, J Reed & H Stewart (2005). "Understanding Economic and Behavioural Influences on Fruit and Vegetable Choices." Viewed online: http://findarticles.com/p/articles/mi_qa5389/is_200504/ai_n21369650

Hertog Maarten, K.U Leuven, W de Croylaan (2003). "External quality aspects in relation to internal product physiology." *Acta hort:* 333-341.

Heslop, L (2007). "Literature Review of Canadian Consumer Attitudes and Perceptions." Prepared for AAFC. Viewed online: http://www4.agr.gc.ca/resources/prod/doc/agr/pdf/domestic_marketing_literature_review-complete_e.pdf

Hewett E (2006). "Progressive challenges in horticultural supply chain: Some future challenges." *Acta Hort:* 39-50.

Hewett E (2003). "Perceptions of supply chain management for perishable horticultural crops: An introduction." *Acta Hort:* 37-46.

Hingley, M 2005, 'Power Imbalance in UK Agri-Food Supply Channels: Learning to Live with the Supermarkets?', *Journal of Marketing Management*, vol. 21, no. 1-2, p. 63

Hobbs J.E, W.A Kerr & K.K Klein (1998). "Creating international competitiveness through supply chain management: Danish Pork." *Supply Chain Management, 3* (2): 68-78.

Hoehn E, D Baumgartner, F Gasser & S Gabioud (2008). "Ripening regulation and consumer expectations." *Acta Hort:* 83-92.

"How Far Do Your Fruits and Vegetables Travel?" Leopold Centre for Sustainable Agriculture, April 2002 Newsletter. Viewed online: www.leopold.iastate.edu

Huber F, A Herrman & R.E Morgan (2001). "Gaining competitive advantage through customer value oriented management." *Journal of Consumer Marketing, 18* (1): 41-53.

Hughes, D 1994, *Breaking with Tradition: Building Partnerships and Alliances in the European Food Industry*, Food Industry Management Group, Wye College, Kent, England

Hughes D & I Merton (1996). "Partnership in produce: The J. Sainsbury approach to managing the fresh produce supply chain." *Supply Chain Management, 1* (2): 4-6.

Humphrey J (2007). "The supermarket revolution in developing countries: Tidal wave or tough competitive struggle?" *Journal of Economic Geography, 7*: 433-450.

Institute of Grocery Distribution (IGD) (2008). *Home or Away, The Role of Provenance.* Viewed online: http://www.igd.com/index.asp?id=1&fid=1&sid=8&tid=16&cid=24

International Organization for Standardization (ISO). Viewed online: http://www.iso.org/iso/about/discover-iso_why-standards-matter.htm

Ipsos Reid. *New Canadians & Grocery Shopping Syndicated Study.* Report due November 2008. Viewed online: http://www.ipsos.ca/pdf/IpsosReid_NewCanadiansandGroceryShopping.pdf

Ipsos Reid. *Canadian Domestic Branding: Quantitative Report*. June 2007.

Ipsos Reid. *Consumer Perceptions of Food Safety and Quality Wave Two, Tracking 2006*. Viewed online: http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1172758668787&lang=e

Ipsos Reid. *Consumer Perceptions of Food Safety and Quality Wave One, 2004.* Viewed online: http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1177941566829&lang=e

Ireland, R and Bruce, R (2000), 'CFPR: only the beginning of collaboration', *Supply Chain Management Review,* September/October, pp.80-88

Jackson and Lund (2000). Viewed at University of Sydney website: http://www.usyd.edu.au/learning/quality/benchmarking.shtml

Jobling J (2002). "Harvest Maturity is Critical for Pink Lady Fruit Quality," *Sydney Postharvest Laboratory. Viewed online: http://www.postharvest.com.au/PL_Matuirty.PDF*

Jobling J (2006). "Is it the genetic quality of the management of the supply chain that has the biggest impact on consumer satisfaction of horticultural products." *Acta Hort:* 325-332.

Kleinhenz M.D, J.C Scheerens, D.M Francis, T.J.K Radovich, D.G French, A Gazula, A Wszelaki, A Sances-Vela, A.A.C McIntyre, J Delwiche, P Ling, K Amisi and D.J Doohan (2003). "From farm to consumer - Linking crop physiology and production with buyer oriented quality I. Vegetables." *Acta Hort:* 95-103.

LaCalamito, R (2008). *FMI's SQF Program: Compared to Leading Food Safety Programs*. NIAA Annual Meeting, Indianapolis, April 2008.

Lake, A (2007). "Food Choice: Why We Eat What We Eat." *Healthcare Caterer, Vol 2* (March): 4-7. Viewed online: http://www.hciglobal.org/Newsletter/PDFs/spring_07.pdf

Landles W (2007). Could Benchmarking Give Your Business a Competitive Edge? *British Farmer and Grower*. January 2007.

Lauve. (2006). Stemilt.com World Famous Fruit. Presented at the Safe Quality Food Institute Conference. October 2006.

Linke M, W Herppich & M Geyer (2003). "An integrated approach to indicate freshness of horticultural produce." *Acta Hort:* 539-543.
Luyten H (2003). "Quality in the market - Technology push versus market pull." *Acta Hort:* 85-93.

Loblaws Website: http://www.loblaws.ca/qcen/food_guide_14749.aspx. Viewed July 2009.

Macey A. "Retail Sales of Certified Organic Food Products in Canada 2006." Organic Agriculture Center of Canada, May 2007. Viewed online: http://www.organicagcentre.ca/Docs/RetailSalesOrganic_Canada2006.pdf

Mason-Jones, R and Towill, D 1997, 'Information enrichment: designing the supply chain for competitive advantage', *Supply Chain Management*, vol. 2, no. 4, pp. 137-48

McEvilly G (2006). "Innovations in chain management - An Australian perspective." *Acta Hort:* 75-82.

McGarry Wolf, Marianne, Adam J. Martin & Tina Cagianut (2003). "An analysis of the importance of ripeness to consumers in the United States when making a purchase decision for peaches, plums and nectarines." *Acta Hort:* 61-67.

McRoberts N and O Lepreux (2003). "The challenge of connecting preharvest and postharvest sector concepts of quality in food production." *Acta Hort:* 105-113.

Mellentin, J (December 2008). "10 Key Trends in Food, Nutrition & Health 2009." New Nutrition Business. As reported by: Alexandra Voigt, *Perfumer & Flavorist magazine,* December 2008. Viewed online: http://www.perfumerflavorist.com/flavor/trends/36598579.html?page=1

Mentzer, J, Foggin, J and Golicic, S 2000, 'Collaboration: the enablers, Impediments, and benefits', *Supply Chain Management Review*, vol. 4, no. 4, p. 52-58

Millar S. *Feeding the World in your Community: Capturing Ethnic Markets*. Viewed online: http://www.paintedhandfarm.com/Docs/2008PASA_presentation.pdf

Mowat, Alistair & Ray Collins (2000). "Consumer Behaviour and fruit quality: supply chain management in an emerging industry." *Supply Chain Management: An International Journal, 5* (1): 45-54.

Nicolai B.M, E Bobelyn, M Hertog, D Marquenie, P Verboven and B Verlinden (2003). "Quality manipulation and monitoring in processes: Product-climate interaction, quality control." *Acta Hort*: 265-275.

Nielsen. *Canada's Aging Boomers: A Golden Opportunity*. Viewed online: http://us.acnielsen.com/pubs/2005_q1_ci_canada.shtml

Nielsen. *More Than Half of US Consumers Would Give Up Convenience Packaging to Help Environment*. February 2008. Viewed online: http://www.nielsen.com/media/2008/pr_080229a.html

Nielson Report. *Organic Foods, A Canadian Perspective, 2007.* May 2007. Viewed online: http://www.ca.nielsen.com/site/documents/OrganicFoodsMay2007.pdf

Nielsen Consumer Report. *Packaging and the Environment*. March 2008. Viewed online at: http://www.nielsen.com/solutions/NielsenGlobalPackagingEnviroReportMar08.pdf

North D & Kuntz L. "Colors That Bear Fruit for Boomer Health." *Food Product Design*, March 2008. Viewed online: http://www.foodproductdesign.com/hotnews/colors-that-bear-fruit-for-boomer-health.html

O'Neill, T (2005). "The Price of Admission: Marketing to the EU." A presentation made at the OAC Public Policy Series Session One: The Price of Admission: Marketing in the Global Economy. December 2005.

Ontario Ministry of Agriculture, Food and Rural Affairs (2008). *Branding and Marketing Ontario Foods.* Viewed online: www.milk.org/corporate/pdf/2008-AGM/2008-Rankine.pdf

Ontario Ministry of Agriculture, Food and Rural Affairs (2006). *Ontario Food Branding: Research Findings.* Viewed online: www.farmersmarketsontario.com/Documents/OMAFRA%20Ontario%20Food%20Branding%20Research%20Findings%20summary.pdf

Ontario Ministry of Agriculture, Food and Rural Affairs (2009). *Per Capita Disappearance of Selected Fruits and Vegetables, Canada, 2004 to 2008 (kg/yr).* Viewed online: http://www.omafra.gov.on.ca/english/stats/food/pcc_frveg.htm

(The) Ontario Rural Council. *Capturing Local Food Opportunities, A discussion paper on challenges and opportunities related to supplying Ontario-grown produce and products to retail outlets.* December 2007. Viewed online: http://www.torc.on.ca/documents/TheTORCREPORTonLocalFood_000.pdf

Organic Agricultural Center. *Retail Sales of Certified Organic Food Products in Canada 2006.* Viewed online: www.organicagcentre.ca

Organic Consumers Association. "Organic Food Miles Offset Benefits." *Food Navagator.com*, June 6, 2007. Viewed online: http://www.organicconsumers.org/articles/article_5523.cfm

"Organic Undersupply Stunts Market." *Food USA website news release*, November 14, 2007. Viewed online: http://www.foodnavigator-usa.com/news/ng.asp?id=81369

Ottman, Saffor and Harman (June 2007). "How to Avoid Green Marketing Myopia." *Marketing Profs.com*. Viewed online: http://www.marketingprofs.com/8/green-power-in-marketers-hands-ottman.asp

Parmenter D (2007). Key Performance Indicators. John Wiley and Sons.

Pollack S. "Consumer Demand for Fruit and Vegetables." *Changing Structure of Global Food Consumption and Trade:* 49-54. Viewed online: http://www.ers.usda.gov/publications/wrs011/wrs011h.pdf

"Prevalence of Fruit and Vegetable Consumption and Physical Activity by Race/Ethnicity- United States, 2005." *MMWR Weekly:* April 6, 2007. Viewed online: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5613a2.htm#tab#tab

Proctor L. "The Growth of Organics." *LOHAS Online*: http://www.lohas.com/journal/growthoforganics.htm

Prussia S.E & M.R.P Mosdqueda (2006). "Systems thinking for food supply chains: Fresh produce applications." *Acta Hort:* 91-99.

Rainbird M (2004). "A framework for oeprations management: the value chain." *International Journal of Physical Distribution and Logistics Management, 34* (3/4): 337-345.

Rashid, T 2003, 'Relationship marketing: case studies of personal experiences of eating out', *British Food Journal*, vol. 105, no. 10, pp.742-750

Richards T & P Patterson. "A Bilateral Comparison of Fruit and Vegetable Consumption: United States and Canada." *Journal of Agricultural and Resource Economics* 30(2): 333-349. Viewed online: http://ageconsearch.umn.edu/bitstream/31217/1/30020333.pdf

Sabath, R and Fontanella J 2002, 'The unfulfilled promise of supply chain collaboration' *Supply Chain Management Review*, July/August, pp. 24-9

"Seeing Green." *Progressive Grocer*, January 2008. Viewed online: http://www.progressivegrocer.com/progressivegrocer/images/pdf/PG_010108_sustain_Layout1.pdf

Scheerens J.C, M.D Kleinhenz, D.C Ferree, R.C Funt, D.D Miller, T.E Steiner and A Sanchez-Vela (2003). "From farm to consumer - Linking crop physiology and production with buyer-oriented quality." *Acta Hort:* 417-423.

Schreiner M, S Huyskens-Keil, A Krumbein, H Prono-Widayat, P Peters and P Ludders (2003). "Interactions of pre- and postharvest influences on fruit and vegetable quality as basic decision for chain management." *Acta Hort:* 211-217.

Shewfelt R (2006). "Defining and meeting consumer requirements." *Acta Hort:* 31-38.

Shewfelt R, & J.D Henderson (2003). "The future of quality." *Acta Hort:* 49-59.

Simatupang, T & Sridharan, R 2007, 'The architecture of supply chain collaboration', *International Journal of Value Chain Management*, vol. 1, no. 3, pp. 304-23.

Smartfresh^{TM}. Viewed online at: www.smartfresh.com

So Nice. *Canadians going green in the grocery store, survey finds*. Viewed online: http://www.newswire.ca/en/releases/archive/April2007/24/c8310.html

Spekman, R, Forbes , T, Lacobucci, D, Isabella, L & MacAvoy, T 1998, 'Alliance management: a view from the past and a look to the future', *Journal of Management Studies*, vol. 35, no. 6, p. 747-72

Stage-Gate International (2009). Product Innovation Performance through Benchmarking. Retrieved on August 2, from http://www.stagegatebenchmarking.com/benchmarking_benefits.php

Stank, T, Crum, M and Arango, M (1999). 'Benefits of inter-firm co-ordination in food industry supply chains', *Journal of Business Logistics*, vol. 20, no. 2, pp.12-41

Statistics Canada. *Canadians Eating Habits: Health Reports*, Vol. 18, No. 2, May 2007 Statistics Canada, Catalogue 82-003. Viewed online: http://www.statcan.gc.ca/pub/82-003-x/2006004/article/habit/9609-eng.pdf

Statistics Canada. *Farms Reporting Certified, Transitional or Uncertified Organic Products Census Year 2006.* Viewed online: www.statcan.ca

Statistics Canada. *Foods Available by Major Food Group 2002-2006*. Viewed online: www.statcan.ca

Statistics Canada. Food Consumption in Canada - Part II, 2001. Published 2002. Viewed online: http://www.statcan.gc.ca/pub/32-230-x/32-230-x2001000-eng.pdf

Statistics Canada. *Food Statistics 2006*. Catalogue no 21-020XIE. Viewed online: http://www.statcan.ca

Statistics Canada. *Horticulture and Greenhouse Products.* Viewed online: http://www40.statcan.ca/l01/cst01/agrc31g.htm

Statistics Canada. *Population projections of visible minority groups, Canada, provinces and regions 2001-2017 (2005)*. Viewed online: http://www.statcan.ca/english/freepub/91-541-XIE/91-541-XIE2005001.pdf

"Sustainability, What's Green Now?" *Hartbeat Newsletter*, Hartman Group, May 22, 2007. Viewed online: http://www.hartman-group.com/hartbeat/2007-05-22

"(The) Symbolic Power of Organic." *Hartbeat Newsletter*, Hartman Group, June 27, 2004. Viewed online: http://www.hartman-group.com/hartbeat/2004-04-27

Tang, M and Gattorna, J 2003, 'Developing an aligned supply chain operating strategy', in Gattorna, J (Ed). *Supply Chain Management Handbook*, 5th edition, Gower, London

Tesco (2008). Tesco Nature's Choice website. Retrieved on December 15, 2008 from http://www.tescofarming.com/tnc.asp

Thelwall D & S Thelwall (2006). Global Best Practice in Agricultural Benchmarking. A Prospect Management Services publication. Prepared for the Food Chain Centre.

Theuer R. "Do Organic Fruits and Vegetables Taste Better than Conventional Fruits and Vegetables?" *State of Science Review,* September 2006. Viewed online: http://www.organicagcentre.ca/Docs/OrganicCenter_Taste06.pdf

USA General Accounting Office. *Fruits and Vegetables: Enhanced Federal Efforts to Increase Consumption Could Yield Health Benefits for Americans,* July 2002. Viewed online: http://www.gao.gov/new.items/d02657.pdf

US Organic Trade Association. *2007 Manufacturers Survey*. Viewed online: http://www.ota.com/pics/documents/2007ExecutiveSummary.pdf

Vieira, Luciana Marques & W Bruce Traill (2008). "Trust and governance of global value chains." *British Food Journal, 110* (4/5): 460-473.

Walsh K (2006). "Setting and meeting objective standards for eating quality in fresh fruit." *Acta hort:* 191-200.

Whipple, J and Frankel, R 2000, 'Strategic alliance success factors', *The Journal of Supply Chain Management*, vol. 36, no. 3, pp. 21-8

White, H 2000, 'Buyer-supplier relationships in the UK fresh produce industry', *British Food Journal,* vol. 102, no. 1, p. 6

Wijs E & W.B.C de Heij (2003). "Quality on the edge: Quality from a manufacturing perspective." *Acta Hort*: 29-32.

Wilson, R.H., A.A. Charry, and D.R. Kemp (2004). Whole Farm Financial Performance Indicators and Benchmarks in Australian Agriculture: A Review. AFBMNetwork Discussion Paper 05.

Wilson N (1996). "The supply chains of perisable products in nothern Europe." *British Food Journal, 98* (6): 9-15.

"Who's buying organic? Demographics 2006. " *Hartbeat Newsletter*, Hartman Group. Viewed online: http://www.hartman-group.com/hartbeat/2006-05-17

Zokaei K & D Simons (2006). "Value chain analysis in improvement of consumer focus: A case study of the UK red meat industry." *International Journal of Logistics Management, 17* (2): 141-162.

Zuurbier, PJP 1999, ‘Supply Chain Management in the Fresh Produce Industry: A Mile to Go?’, *Journal of Food Distribution Research*, vol. 3, no.1, p.20

Appendices

The following appendices are presented in companion documents:

A Ipsos Camelford Graham (September 2009). "Project Vineland –Phase I/II/III Report". PowerPoint presentation

B Ipsos Forward Research (May 2009). "2009 Vineland Consumer Segmentation". PowerPoint presentation

C Ipsos Forward Research (June 2009). "2009 Vineland New Canadian Qualitative Research". PowerPoint presentation

D Ipsos Forward Research (September 2009). "2009 Vineland New Canadian Quantitative Segmentation Study: Final Report". PowerPoint presentation

E Peach Suppliers, Inputs, Process, Outputs, and Customers (SIPOC) Diagram

F Process Failure Mode and Effects Analysis (FMEA) Overview

G Quality Management and Strategic Alignment in Ontario Fruit Value Chains Interview Guide

H Benchmarking and Quality Assurance Schemes from around the Globe

I Physical Processes Impacting Fruit Quality

J Alternative Approaches: Lean Thinking and Efficient Consumer Response

K The Characteristics of Strategic Alignment

L Information to be shared within an Effective Value Chain