



Consumer perceptions of quality for horticultural products and wines: Impact of production practices and region of origin

Interim Report #3

For the period of July 2010-March 2011



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I. EXECUTIVE SUMMARY

During this reporting period, the team has completed two wine studies:

- Consumer mindsets and willingness to choose and purchase local wines
- Consumer mindsets and willingness to choose and purchase red wines

Findings showed that the wine style and origin drove the panel likelihood to purchase a bottle of red wine and revealed 3 distinct consumer segments: *Cool climate enthusiasts* (37%) favor cabernet franc and pinot noir wines from cool climate regions with rich flavours; *Epicurians* (23%) are driven by meritage style and value wines matching their lifestyle; *Big red drinkers* (40%) who enjoy full bodied wine from Australia. Demographics and attitude data enabled partial characterization of these 3 groups. However, typing consumers using key statements extracted from the elements tested with IdeaMap™ appears to be a more useful tool for the wine industry to quickly and effectively identify consumer demand at point of purchase.

Factors influencing local wine purchase by Millenials and Baby Boomers were revealed. Both generations are motivated by choosing red wine and the presence of the VQA logo to purchase a bottle of local wine. Sustainable practices also increase their likelihood of purchase. They differ however on the quality attributes they associated to local wine and somehow with the consumption occasion.

In addition to these wine studies, methodological developments were carried out to apply the theory of Means End Chains and theory of Planned Behaviour to the understanding of psychological factors affecting consumer purchase intent and consumption behaviours. A pilot test has been completed over the summer and fall 2010 to establish the hierarchical value maps of purchasers and non purchasers of organic apples. The procedure to design and administer the online question and the data categorisation and analysis are now in place. The same approach will be undertaken in spring-summer 2011 with frequent and infrequent purchasers of local Ontario wines to identify the positive and negative drivers of purchasing a bottle of local wine.



II. DETAILED DESCRIPTION OF THE PROJECT

Considering the increasing interest of the public for greener environments and safer foods, this project aims to understand the factors affecting consumer purchase of organic food and whether production practices or region of origin have significant impact on actual purchase behaviour.

OBJECTIVES

The following objectives were targeted for the research portion of the project dedicated to Ontario wines:

- Develop the first predictive model of consumer purchase behaviour for wines, produced locally using organic or sustainable practices.
- Produce a hierarchical value map for buyers and non buyers of such products. This will provide a deeper understanding of the consumer decision-making process and the relationship between the attributes of a purchasing situation and the consumer's expectations.
- Measure the relative importance of region of origin, production practices, sensory properties and socio-environmental factors on consumer preference for organic and sustainable wines.
- Determine prices consumers are willing to pay for local, or organic or sustainable wines under economical constraints.

ACTIVITIES

The following activities were scheduled during the second year of this project. They are slightly different from what was submitted to the OGWRI however comply with what was requested by OMAFRA for funding this project.

1. Pursue study 1: Characterization of Ontario consumer profiles of local and organic horticultural products and wines
2. Undertake study 2: Determination of the relative importance of region of origin, production practices and sensory properties on consumer purchase intent and actual choice behaviour without economical constraints
3. Conduct sensory assessments of selected products by the sensory trained panel of the Vineland Research and Innovation Centre



RESULTS TO DATE

OVERVIEW

During this reporting period, the team has completed two wine studies:

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RESULTS

A summary of each study completed during the reference period is proposed below.

- **Consumer mindsets and willingness to choose and purchase red wines**

The diversity of red wines styles available on the global market makes it increasingly difficult to understand consumer preference and purchase drivers. Consumers no longer ask for a bottle or glass of red wine, instead they classify what they want by grape cultivar, sensory characteristics and/or region of origin. With the increased knowledge of wine consumers, segmentation studies used to classify consumption habits, lifestyle, and wine attitudes provide limited information for the Ontario wine industry. In order for Ontario red wines to successfully compete in the provincial liquor stores with international products, it is essential to understand the mind of the consumers when they proceed to choose a bottle of red wine.



The objective of this study was to understand Ontario consumers' drivers for purchasing red wines. A conjoint analysis, using the IdeaMap™ technology¹ was conducted to understand the impact of varying attributes consumers consider when choosing wine. Three hundred and one participants qualified and completed the study from the initial pool of 730 participants contacted through an on-line database. All were occasional to frequent red wine consumers and 2/3 resided in the Great Toronto Area. Qualified respondents evaluated 48 vignettes combining 2 to 4 elements according to a factorial design for their purchase intent and willingness to pay, and responded to 27 demographic and attitude questions.

Findings showed that the wine style and origin drove the panel likelihood to purchase a bottle of red wine and revealed 3 distinct consumer segments: *Cool climate enthusiasts* (37%) favor cabernet franc and pinot noir wines from cool climate regions with rich flavours; *Epicurians* (23%) are driven by meritage style and value wines matching their lifestyle; *Big red drinkers* (40%) who enjoy full bodied wine from Australia. Demographics and attitude data enabled partial characterization of these 3 groups. However, typing consumers using key statements extracted from the elements tested with IdeaMap™ appears to be a more useful tool for the wine industry to quickly and effectively identify consumer demand at point of purchase.

A presentation of this research has been submitted at the 9th Pangborn Sensory Science Symposium and the authors plan to submit a manuscript to a peer-reviewed journal. A summary of the results will be posted on Vineland website once the manuscript is accepted for publication.

- **Consumer mindsets and willingness to choose and purchase local wines**

In light of the recent economic down turn in combination with the ever so popular and growing green movement, the demand for local and sustainable products have been the new focus of many economic and marketing based research. The idea of purchasing local products has been increasingly associated with economic, social and environmental responsibility as well as with the belief that they are healthier than imported products. In Ontario, wine has also recently taken a position in the lime light, not only on a global stage, but on a local level. With campaigns such as *Go Local*, led by the LCBO, there have been strong initiatives promoting the sales of VQA and Ontario wines throughout the province.

¹ Moskowitz, H. R.; Silcher, M., The applications of conjoint analysis and their possible uses in Sensometrics. *Food Quality and Preference* 2006, 17, 145-165



The initial objective of the study was to compare Ontario respondent mindsets with respondents from British Columbia and Nova Scotia. However due to logistics constraints, the study was fielded only in Ontario and was refocused so to compare motivations from two consumer groups: the Millennials (19-34 y.o.) and their parents, the Boomers (45-60 y.o.). Two hundred eighty-three respondents (50% of each age group) from an initial pool of 537 qualified and completed the study via an online panel provider; 2/3 of the respondents were from the Great Toronto Area. A conjoint analysis, using the IdeaMap™ technology¹ was conducted to understand the impact of varying attributes consumers consider when choosing to purchase local wine.

Results showed that factors influencing local wine purchase of Millennials were:

- VQA Ontario logo
- Red wine and icewine; they were neutral on whites
- They felt confident about the products “Gain peace of mind both drinking and serving these products”
- They are sensitive to sustainable and Eco-friendly practices: “Proud to support sustainable wine production and farming practices”; “Make eco friendly choices...ensure a better world tomorrow”
- For a special occasion: “Make a special evening out with a loved one an even more enjoyable occasion”; “Sure to impress clients and colleagues alike”

Factors influencing local wine purchase of Boomers were:

- VQA logos: both from Ontario and British Columbia
- Red wine but not sparkling wine
- Availability: “A large selection conveniently available at your local liquor store”
- Statements related to quality and recognition: “Handcrafted and homegrown” “Because you’re proud of its national and international accolades”
- They are sensitive to sustainable practices: “Proud to support sustainable wine production and farming practices”
- For special occasions and matching local foods” “The perfect gift to give a taste of where you live” “A great accompaniment to local foods”

Both generations are motivated by red wine and the VQA logo to purchase a bottle of local wine. Sustainable practices also increase their likelihood of purchase. They differ however on the quality attributes they associated to local wine and somehow with the consumption occasion.



The authors plan to submit a manuscript to a peer-reviewed journal by end of June. A summary of the results will be posted on Vineland website once the manuscript is accepted for publication.

- **Determination of both positive and negative drivers of purchase and consumption of organic apples using the means-end chain theory**

As mentioned above, the same approach will be undertaken in spring-summer 2011 with frequent and infrequent purchasers of local Ontario wines.

This study investigated the cognitive structures driving consumers' purchase and consumption of organic/non-organic apples using the Means-End Chain (MEC) theory. A questionnaire using the hard laddering approach was designed² and administered online to 68 organic/non-organic fruits and vegetables consumers. Consumers who purchase organic fruits and vegetables at least once a month (N=31) were asked what they like and don't like about organic apples and the ones who purchase organic fruits and vegetables less than once a month (N=37) were asked what they like about conventional apples and what they dislike about organic apples. This original design focusing on both likes and dislikes enabled the derivation of both approach (=positive) and avoidance (=negative) ladders' Hierarchical Value Maps pertaining to the two segments. For the approach ladders, self-direction ("My option to choose"), hedonism ("Pleasure in eating"), benevolence ("Can provide for my family longer") and security ("Better for health") are values that are very important to both segments. However, one particular value, universalism ("Use of pesticides/herbicides impacts environment negatively", "Healthier planet") is only associated with the organic fruits and vegetables consumers. The avoidance Hierarchical Value Maps of both segments revealed that lack of variety and mistrust in organic standards are the main detractors of organic apples purchase and consumption. One key finding is that the detractors of organic apples purchase and consumption are not systematically the opposite of what is being liked. Past MEC studies have focused mainly on approach ladders to guide marketing strategies. The research shows that knowledge of both approach and avoidance ladders ensures that consumers' key perceptual concerns are not omitted and hence provides more insights for understanding consumers' purchase and consumption motivations

²Questionnaire designed based on Kaciak, E. & Cullen, C.W. (2006) Analysis of means-end chain data in marketing research. *Journal of Targeting, Measurement and Analysis for Marketing*, 15(1), 12-20.



A presentation of this research has been submitted at the 9th Pangborn Sensory Science Symposium and the authors plan to submit a manuscript to a peer-reviewed journal. A summary of the results will be posted on Vineland website once the manuscript is accepted for publication.

- **Consumer liking of commercial white wines driven by sensory preferences not extrinsic cues**

This research was funded by the Orchard Vineyard Transition Program, OMAFRA and the Vineland Research and Innovation Centre. However, the objectives and findings are relevant to this project and are therefore included in this report.

In an era of global market competition, wine companies realize the need to better understand consumer preferences. The Ontario wine industry is in a unique position having to compete with international wine offerings through its provincial liquor stores. Segmentation studies have been used to classify consumers by consumption habits, wine attitudes and lifestyle. However this approach does not consider the interaction between the consumer and the product itself to unveil consumer sensory likes and dislikes. The purpose of this study was to determine how extrinsic cues (e.g. label, award) influence sensory preferences for commercially available white wines among consumers using three different tasting conditions; blind tasting (n=120), expected liking (n=83) and informed tasting (n=83). This study was unique as consumers in the expected liking and informed liking tests were presented with real commercial wine labels and bottles. Twelve commercial wines were selected from 91 candidates through sensory screening to represent the sensory variability of three wine varieties, Riesling, Chardonnay, and Sauvignon blanc, priced between \$15 to \$20 CDN existing on the Ontario market. The wines were also profiled by ten trained sensory panelists using 29 attributes in duplicate. No differences were found between tasting conditions by the consumers based on their sensory liking for white wine with the exception that familiarity was correlated with expected liking. The first preference dimension, regardless of treatment, was positively correlated with fruity and tropical flavours and negatively with oaky aromas and burning mouthfeel. In general, regardless of tasting condition Riesling wines were preferred by the consumers. The original findings of this study demonstrate that extrinsic cues are important to consumers when they cannot sample a product. However, if given the chance to taste the product the sensory characteristics driving liking are the most important factor which determine consumer preference.

A presentation of this research has been submitted at the 9th Pangborn Sensory Science Symposium and the authors plan to submit a manuscript to a peer-reviewed journal. A summary of the results will be posted on Vineland website once the manuscript is accepted for publication.



III. REACH AND COMMUNICATIONS

ASEV-ES, July 12-13, 2010, Ithaca NY

- Poster presentation: Insights on Sensory Attributes and External Cues Driving Consumer Preferences for White Wines

Ontario Fruit and Vegetable Convention, February 23-24, 2011 - Brock University

Three oral presentations:

- Ontario Consumer Mindset for Purchasing Local and Red Wines
- Ontario Consumers Preferences for Peaches
- Ontario Consumers' Motivations for Buying Local and Organic Produce: Insights on Local Strawberries

IV. CONCLUSION AND NEXT STEPS

This third report provides the first insights on Ontario consumer perceptions of local and red wines and on the influence of packaging cues on the sensory experience of tasting wine. These studies mainly investigated sensory and non sensory cues impacting consumer behaviour, and have just touched on consumer beliefs and values associated to the behaviour. The coming study will investigate in more depth the psychological factors moderating consumer purchase intent and consumption of local wines.

