

The UBC Farm and Agora Cafe:
Creating and Strengthening Connections

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Table of Contents

Introduction	Pg 4
Problem Definition and Rationale	Pg 5
Reflections on the Vision Statement	Pg 5
Methodology	Pg 7
Findings	Pg 9
<ul style="list-style-type: none">• Supply• Demand• Food Security• Logistics	
Conclusions and Recommendations	Pg 23
References	Pg 25
Appendices	Pg 26
<ul style="list-style-type: none">• Survey• Proposed Quiche Recipe• Farm Liaison Job Description• Marketing Materials	

Abstract

The University of British Columbia Food System Project (UBCFSP) is a collaborative research project that focuses on creating a sustainable food system on campus. This report contributes to this ongoing research by examining ways to connect UBC Farm and Agora Café. UBC Farm is a 24-hectare student initiated farm on south campus, and Agora Café is a student-run café that serves various food items to the staff, students, and Faculty in the Macmillan building which is also located on UBC campus. More specifically, this report examines whether free range eggs and wild blackberries from UBC Farm could be successfully integrated into the menu at Agora Café.

Our research was focused on the following four key areas: supply, demand, food security, and logistics. In consideration of supply issues, the principal impediments to connecting the farm and the café were identified based on a review of previous student reports as well as discussions with volunteers and staff from both UBC Farm and Agora Café. To assess any issues on the demand side, a one-page survey was circulated to students, staff, and Faculty in the Macmillan building. This survey was intended to assess the demand for free-range eggs and blackberries among Agora Café's customers. As well, the survey established a list of potential volunteers that would be needed for the annual blackberry harvest. Regarding food security, a literature review was also conducted to determine if our proposed farm items support the UBCFSP's goals as well as to create a useful training manual for future volunteers. The logistical aspects of implementing these products were also considered in detail, and new recipes and instructions on how to preserve blackberries are two examples of how the logistical aspect was considered. Lastly, key recommendations based on our findings are given.

Introduction

The University of British Columbia Food System Project (UBCFSP) is a unique project on campus that began in 2002. This project challenges students from the Faculty of Land and Food Systems (FLFS) and The Sauder School of Business to design their research in a way that builds on the findings and recommendations of previous reports to improve the sustainability of UBC's food system. The project involves what is perhaps an unprecedented collaboration between university departments, including the Alma Mater Society Food and Beverage Department, the UBC Sustainability Office, and Campus and Community Planning.

This paper represents our contribution to this ongoing research – a focus on creating and strengthening linkages between the UBC Farm and the MacMillan community. The UBC Farm is a 24-hectare teaching and learning centre (located on South campus) where a range of produce is grown for its busy Saturday Market. The MacMillan community refers to the MacMillan building on campus where the FLFS is located. While there are several opportunities to integrate UBC Farm produce in this community, this report focuses on potential opportunities with Agora Café – a student-run café that serves baked goods and lunch items to the MacMillan community. We chose to focus on the Agora Café after consulting with other research groups about their areas of focus (in an effort to each provide specific recommendations to different parts of the MacMillan community), and because of the wealth of experience that members of our group have with the Agora Cafe.

This report begins by outlining the main goals of our research, discussing how this work is relevant, and reflecting on the UBCFSP Vision Statement. Next we explain the methods used to address questions related to supply, demand, food security, and logistical details. Finally, we discuss these findings and offer recommendations to stakeholders and future research groups who will bring this project forward in coming years.

Problem Definition and Rationale

In many ways, our discussion on how to link a local farm to a local food outlet reflects discussions taking place in other parts of the world. Indeed, interest in the local food movement is increasing as people become aware of how supporting local farmers is integral to protecting farmland from urban development, which in turn is essential to a country's food security. The "buy local" initiative has also gained momentum as people become aware of the distance traveled by their food. This initiative may become even more relevant given recent interest in climate change – while industry and government debate complex issues such as carbon credits, the local food movement may well emerge as a rather simple way in which people can reduce their use of fossil fuels.

The results of the UBCFSP are thus relevant not only to the campus community, but to the global community. The eventual establishment of a strong connection between UBC Farm and Agora Café could be a *model* of how to link local farmers with local consumers.

The main objective of our work was to carefully consider the current impediments to linking the farm and Agora Café, and based on these, to determine foods currently produced at UBC Farm that could successfully be integrated into the Agora Café menu in either a processed or a fresh, whole form. To make our findings practical and useful, our goal was to address both supply and demand issues, and to work out as many of the logistical details as possible so that this project could be immediately implemented.

Vision Statement

As a group, we discussed our personal opinions on the UBCFSP Vision Statement. While all eight members of our research group are fourth-year FLFS students, we each have unique perspectives and personal paradigms that are informed by culture, past experiences, and previous coursework. Several people in our group identified most strongly with Lang and

Heasman's (2004) *Ecological Integrated Paradigm*, which emphasizes the symbiotic relationships in nature and regards diversified communities as highly productive. Not surprisingly, these members generally supported the vision as it takes the "holistic" and "integrative" approach that is characteristic of this paradigm (Lang & Heasman, 2004, p. 21). However, other members of our group related more closely to anthropocentric paradigms that emphasize the needs and wants of humans (Lang & Heasman, 2004, p. 21). The degree to which we identified with any one paradigm varied among the researchers, which also impacted on our attitudes toward the vision. For example, members of the group who very strongly identified with the *Ecological Integrated Paradigm* felt that the statements pertaining to the environment were not strong enough. Indeed, while the document emphasizes recycling and composting, there is no mention of the need to reduce or minimize the waste that is generated in the first place – a problematic choice of emphasis given that recycling is often energy-intensive. We discussed whether our concern for the environment is altruistic (and borne out of concern for nature itself) or merely related to unease over the effects a degraded environment may have on humans.

A few members of our group who recently completed coursework in animal welfare noted that while the vision includes support for "socially and ecologically conscious producers," the ethical treatment of farm animals is not specifically mentioned – a problematic missing part because, to these students, animal welfare is a key issue that merits our attention.

Others group members with agroecology backgrounds strongly support the organic food movement, and observed that the word "organic" is conspicuously absent. In response to this, we discussed how the word "organic" does not necessarily imply sustainable. Often consumers must make the difficult decision of either buying food that is local – but not certified organic – or buying organic food from a distant place (Pollan, 2006, p. 77-80).

Lastly, a few members of our group have focused their studies on the international issues in agriculture. These students argued that the desire to consume “locally grown, produced, and processed” foods may conflict with the intention of providing “ethnically diverse” foods as many of these foods cannot be produced locally (e.g., due to the climate). One individual suggested that a balance must be struck between supporting local food systems and ensuring that people have access to culturally-appropriate foods.

The potential impact that the “buy local” movement in developed countries may have on farmers in developing countries was also discussed. One member highlighted Singer and Mason’s (2006) assertion that in developed countries the “buy local” initiative is very often put forth as an ethical initiative, yet it is also couched in phrases such as “keeping our money in our community” (p. 141). These authors consider the rather extreme poverty of farmers in developing countries (and how this poverty is connected to farm subsidies in developed countries), and argue that “buying local” seems less an ethical movement than “community-based selfishness” (p. 143).

Despite these potentially contentious areas, as a group we also recognize that, on a more pragmatic level, the document needs to be concise, and the objectives not so onerous that collaborators won't support the vision. While it may be easy to point out what is missing from the document, what is there certainly represents remarkable (even revolutionary) progress.

Methodology

A number of methods were employed to determine how to most successfully integrate farm products into the Agora menu. Our first task was to identify why there is currently no purchasing relationship between the Agora and UBC Farm. To identify the principal impediments, we reviewed and assessed the findings of previous AGSC 450 research groups,

discussed the issue with Gavin Wright (Outreach and Education Coordinator, UBC Farm), and drew on our group members' experiences as volunteers at both the UBC Farm and the Agora.

This process allowed us to determine that the primary impediment relates to timing and seasonality. In the fall when the Agora Café re-opens for the school year, there is little farm produce available after the UBC Farm fulfills its other orders (e.g. to local restaurants or to the weekly market). During the balance of the academic year (when Agora is busy) there is relatively little farm produce available, and, in the summer months, when there is much produce available, Agora is closed. Given this quandary, we decided to focus our research on the extent to which free-range eggs and frozen wild blackberries from the farm could successfully be incorporated into Agora's menu. The egg supply is year-round and relatively predictable. The wild blackberries are abundantly available at the farm, but are not currently sold consistently to restaurants or at the weekly market.

The second major impediment to linking the farm and Agora Café is a lack of labour in the fall which makes it difficult for the farm to supply new customers. In response to this problem, we dedicated some of our research to developing a group of volunteers willing to harvest and process the blackberries.

Having determined our focus, we then established that our research would emphasize four key areas: supply issues, demand issues, food security, and logistics. To ascertain whether an adequate supply could be provided for our proposed project, we again consulted past projects and interviewed UBC Farm staff. We also conducted a survey (see Appendix A) to measure the interest and availability of students to volunteer with the harvesting of blackberries. To ascertain whether there would indeed be adequate demand for these products at Agora, the one-page survey described above also assessed the interest of Agora patrons in the two foods we have proposed to integrate into the Agora menu. Three researchers circulated the survey questionnaires over ten days in the MacMillan Building, approaching potential

respondents in person. To survey a range of Agora patrons (including staff, faculty, and students) the survey was circulated in the Agora Café, the MacMillan library, faculty offices, and the computer labs. The surveys were distributed in a randomized manner – we surveyed at different times of the day and no attempt was made to systematically survey people in the MacMillan building. All data were analyzed using chi squared data analysis at the 95 percent confidence interval.

Next, we conducted a literature review about food security issues related to organic berries and free-range eggs. This review was done, first, to be confident as a group that this change would support the goals of the UBCFSP; and second, to provide future training materials for volunteers at the Agora who will be selling these products, so that they can give informed answers to customers about the menu items. Of note, Agora volunteers do not currently receive formal training on food security issues or sustainability, and our education proposal has been welcomed by Agora management.

Finally, given that our entire group was very keen on making this project as practical as possible, we spent a considerable amount of time preparing for the logistical details that would need to be addressed for this project to ensue. This involved proposing new recipes for menu items with farm products, researching food preparation methods for freezing and creating jam from the berries, costing out the new products, developing marketing materials and a marketing strategy, and researching various logistical details for Agora – including creating a volunteer posting for the Agora to use to recruit someone to take over the project.

Findings: Supply Issues

From past research groups and discussions with Gavin Wright, we determined that the UBC Farm currently has the capacity to provide Agora with both free-range eggs and blackberries. The farm has recently expanded their free-range egg production, and is expecting

480 eggs per week at peak production (mid-August) and 200 eggs per week at lowest production (December) (M. Bomford, personal communication, April 3, 2007). These eggs have a break-even price of \$2.50 per half-dozen, and are currently sold at \$2.75 per half-dozen at the farm market (G. Wright, personal communication, March 8, 2007).

The UBC Farm also currently produces strawberries and currants, and has a large supply of blackberries growing wild. Currently, berries account for 6.5 percent of the food varieties they sell, for total annual sales of annual \$4,582 (A. Frye, personal communication, March 28, 2007). Blackberries are popular as a U-pick crop in August and early September, and are priced at \$2 per pint for U-pick donation, or \$3 per pint at the local markets (but are only harvested when the farm has excess volunteers to harvest the fruit) (A. Frye, personal communication, March 28, 2007).

According to Gavin Wright, providing Agora with both free-range eggs and wild blackberries would help the farm achieve its financial and sustainability goals, and Agora would be the farm's first priority over providing for local restaurants and the weekly market (personal communication, February 28, 2007).

Of the 84 people surveyed, 20 people (24%) offered their e-mail addresses to become volunteers to pick blackberries from July through September for sales at Agora throughout the year (Table 1). Half of these respondents were FLFS students, which is likely due to the large percentage of FLFS students surveyed. This survey and potential sources of error are discussed in depth in the 'Demand' section below. This email list is indicative of a wider interest in volunteering with this initiative, and will be of use to the UBC Farm Liaison (see 'Logistics' section).

Table 1. Respondents interested in volunteering for blackberry harvest at UBC Farm

E-mail address	
bjskura@interchange.ubc.ca	drtgirl@telus.net
build4eternity@hotmail.com	robyn.abbie@gmail.com
daniv7@hotmail.com	emilyclg@gmail.com
sbarkwill@hotmail.com	srapopor@interchange.ubc.ca
cramsay@interchange.ubc.ca	mindy.li@ubc.ca
davidbradbeer@hotmail.com	krystinradatzke@hotmail.com
lyywio@shaw.ca	b_hσίας@hotmail.com
Eillean_li@hotmail.com	margaretgorebloomquist@gmail.com
amelia.bale@gmail.com	roxana.quinde@ubc.ca
lindafiechter@hotmail.com	sgpeplow@yahoo.co.uk (and son)

Findings: Demand Issues

As mentioned, we also used the survey to ascertain whether there would be adequate demand for UBC Farm products at Agora. Of the 84 people surveyed, 68% of respondents purchase food from Agora Café at least bi-weekly, and 50% of respondents were from the FLFS. The high percentage of student respondents suggests that data from our survey are particularly useful in predicting the actions of the current FLFS students and Agora customers, and that appropriated recommendations can be made based on these data.

In exploring the demand for fresh free-range farm eggs sold by the half-dozen at Agora, we found that a majority (63%) of respondents were willing to pay \$2.50 or more and 34% were willing to pay \$2.75 or more for a half-dozen eggs (see Table 2 and Figure 1). A price of \$2.75 corresponds to the price at which the UBC Farm currently sells half-dozen eggs at their market. Selling the eggs at \$2.50 is a break-even price for the farm, and we recommend that Agora buy the eggs from the Farm at \$5.25 per dozen, and sell them for \$2.75 per half-dozen; therefore, sharing the profits (\$0.25 per half dozen) evenly with UBC Farm.

Forty percent of the FLFS students indicated that they would buy a container of half-dozen eggs at least monthly, yet only 27% of the FLFS students had a maximum willingness to pay of \$2.75 for a half-dozen eggs. Thus, if we set the price at \$2.75, we can speculate that

there will be approximately 13% of FLFS students who will not purchase the UBC Farm eggs as this price is beyond their willingness to pay. Although the Agora Café strives to accommodate to students' low budgets, with the case of UBC Farm eggs this is not possible due to high production costs of the eggs (A. Frye, personal communication, April 3, 2007). Also, if there is a fixed supply of eggs due to production constraints at the farm, a high demand for the eggs at Agora may allow for a price increase without decreasing sales.

Of those who indicated that they would never buy eggs from Agora, 40% cited the inconvenience of transporting the eggs as their reason; 30% explained that they never buy eggs; and 18% indicated that Agora was too far out of their way. Interestingly, only 6% indicated that they would not buy farm eggs from Agora due to the relatively high price of these eggs.

There was not a significantly high demand for the new egg menu items (hard-boiled eggs; egg salad sandwiches), though 65% of respondents did indicate that they would buy quiche – a menu item we recommend. We also recommend that Agora try selling hard-boiled eggs since only a few could be made to sell per day, minimizing the risk of low sales. Also, Agora could take orders a day or more in advance to have hard-boiled eggs ready. Egg salad can be incorporated as a lunch special menu item, not an everyday item, reducing any waste in case of low sales.

The demand for the UBC Farm blackberry smoothie is promising: 95% of Agora's weekly customers responded with interest to this proposed smoothie. It should be noted that it was not stated on the survey that the use of blackberries in smoothies would increase the smoothie price from \$2.00 to \$2.60. However, the influence of price on food purchasing was not a factor that was statistically correlated to demand. We thus speculate that the increased price for the blackberry smoothie may not significantly decrease demand.

The following data pertain to Agora customers who purchase food from Agora on a biweekly basis. The new blackberry menu items in highest demand were muffins (85%) and

smoothies (79%) (see Table 3). There was a statistically significant relationship (at the 95% confidence interval) between willingness to pay (WTP) and the influence of fair trade in respondents' purchasing choices. No other rankings of influences such as BC-grown, convenience or quality were correlated to WTP at this confidence interval, yet the influence of price and organic were statistically related at the 90% interval.

Figure 1.
Willingness to pay for a half-dozen UBC Farm eggs.

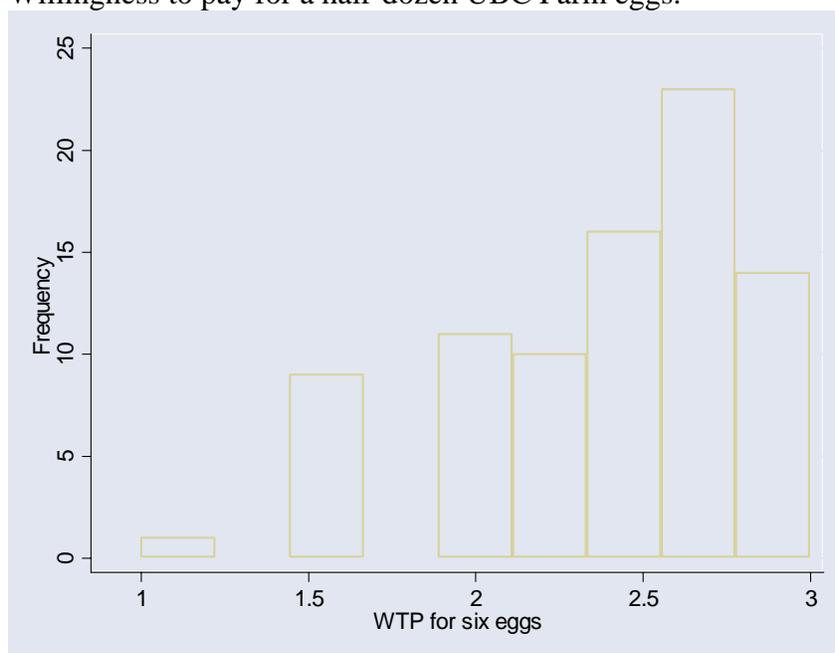


Table 2. Tabulation of willingness to pay.

Price of six UBC Farm eggs (\$)	Frequency	Percent (%)	Cumulative percent (%)
1	1	1.19	1.19
1.5	9	10.71	11.90
2.00	11	13.10	25.00
2.25	10	11.90	36.90
2.5	16	19.05	55.95
2.75	23	27.38	83.33
3	14	16.67	100.00
Total	84	100	

Table 3. Demand for new menu item from customers who purchase food at Agora at least once per week.

New Menu Items	Of the respondents that purchase food from Agora at least biweekly, % who would purchase each item
Quiche	65
Egg salad sandwich	53
Hard-boiled eggs	32
Blackberry muffins	85
Blackberry smoothies	79
Blackberry pie	70
Honey	77
Jam	60
Winter squash	53
Herbs	63
Frozen blackberries	65

Discussion of Errors

One potential source of error may stem from the decision to circulate the survey in the MacMillan building exclusively. This aspect of our survey design likely introduced a sampling bias in favor of FLFS members who are in the MacMillan building, and while this population was well represented in our study, our data may not accurately represent the entire community of professors and students in the FLFS, as some members of this group may not be in the MacMillan building. For instance, in any given semester, some FLFS students may not attend courses in the MacMillan building. However, since people who are most frequently in the MacMillan building are perhaps more likely to go to the Agora Café, we feel that our data does reflect the opinions of Agora patrons.

A second source of error may stem from the fact that we approached fellow students and faculty (some of whom we know personally) and asked them to fill out the survey. In some cases, this lack of anonymity may have caused some respondents to alter their answers as they may have been reluctant to indicate that they did not frequently support Agora Café or would not purchase UBC Farm products from the café.

In our preliminary discussions on survey design, these sources of error were discussed, and the use of an electronic survey (that would be anonymous and circulated to all members of

the FLFS) was considered. However, we were concerned that participation rates would be low in an electronic survey as students and faculty are very busy at the time in the semester during which we wanted to survey. It was decided that participation rates would be higher if we approached persons directly. Subsequent to these surveys, we have learned that response rates for electronic surveys used in another group this year were generally high, and this information may be useful to future researchers.

Lastly, questions that assess a respondent's willingness to pay at separate price levels must always be interpreted with caution, since willingness to pay as indicated in a survey does not necessarily imply that the same person will make the transaction in the market (Weiss & Hassett, 1982, p. 120). Thus while our data from question six indicate that 34% of respondents would pay a maximum of \$2.75 for a half-dozen eggs, the actual number of people who regularly make that purchase may be lower.

Findings: Food Security Issues

The literature review on food security issues related to organic berries and free-range eggs (including environmental, nutrition/taste, and animal welfare factors) provided clear evidence in favour of their implementation. The findings in the section will be valuable both for marketing purposes and to train Agora volunteers about their products, both of which will provide consumers with the information they need to decide whether to purchase these products over conventional alternatives.

Free-Range Organic Eggs

For the sake of productivity, egg production has moved from the pasture into concentrated animal feeding operations (CAFOs). While it is true that these operations have increased yields and are able to sell eggs for as cheap as \$2.49 per dozen (half the price of UBC Farm eggs), it is the true cost to the environment and animal welfare that should concern

consumers (SPFG, 2007). In contrast, egg production at UBC Farm focuses on sustainability and education (M. Bomford, personal communication, March 14, 2007). By following or exceeding standards of the Certified Organic Association of British Columbia (COABC), UBC Farm minimizes the environmental impact of raising chickens and promotes animal welfare. Contrary to those of its conventional competitors, UBC Farm’s egg farming methods sacrifice productivity for the sake of sustainable practice – while producing a far superior product nutritionally (see Table 4).

Table 4. Comparison of Conventional Egg Production Standards (as per the Canada Agri-Food Research Council’s Codes of Practice) and UBC Farm Practices

	Conventional System*	UBC Farm Practices**
Environment	<ul style="list-style-type: none"> • Heavy dependence on fossil fuels due to centralized production • Excess application of manure associated with water and soil degradation (Helbert, 2004) • Poultry is kept indoors requiring high energy use 	<ul style="list-style-type: none"> • Supplies only to local buyers requiring less fossil fuel use • Fenced area is rotated between 3 pastures to prevent overgrazing and excess soil fertilization • No synthetic light is used • Certified organic feed is used and must be imported from out of province (AB or SK)
Animal Welfare	<ul style="list-style-type: none"> • Use of battery houses which confine animals in a small, stacked cage • High density of hens: 20,000 hens/barn with 23-75 in²/hen • Air can be of poor quality due to fecal dust and elevated ammonia levels (Helbert, 2004) • No outdoor access required; therefore, hens are unable to perform natural behaviours (e.g. dust bathing) • No enrichment of housing (e.g. straw, perches) • De-beaking has been a commonly acceptable practice to reduce aggression problems • Antibiotics can be given in feed 	<ul style="list-style-type: none"> • Hens have access to outdoor forage and indoor protection, and hens are free to natural behaviours including pecking and preening • No de-beaking is performed • Spacing and density is humane (2 flocks of 50 hens, each housed in an area 8’x 16’)

Nutrition/ Taste	<ul style="list-style-type: none"> • Feed is 70% corn and soybeans are the major source of protein • Yolks are pale in colour (evidence of fewer xanthophylls in feed which are converted to vitamin A) (Mera Pharmaceuticals Inc., 2002) 	<ul style="list-style-type: none"> • Certified organic grain (barley and flax) • Minerals are the only addition to feed • 20% of their nutrients come from pecking the fruit and vegetable wastes from the UBC garden crops (which aids in the recycling and use of farm wastes) • Yolk colour varies with forage, crop wastes, and the season (a deep orange yolk is typical in the summer months and indicates greater xanthophylls content) • Chef Andrew Payle (Capilano Golf and Country Club) reports that the flavour of free-run eggs far exceeds that of conventional (personal communication, March 15, 2007)
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* CARC, 2003

** M. Bomford, personal communication, March 14, 2007

Organic blackberries

Like the egg production at UBC Farm, the berries produced at the farm are produced in an environmentally sustainable manner, and little transportation is required to deliver the berries from the farm to Agora Café. According to the definition provided by the National Organic Standards Board (NOSB), organic farming is sustainable because it results in less fossil fuel consumption, less leaching of nitrates, less soil erosion, greater carbon sequestration, and no uses of pesticides (Kuepper & Gegner, 2004). In contrast to the organic farming, conventional farming negatively affects the crops and the environment: the large inputs of fertilizers cause crop diseases, insect infestations, and reduced crop quality by disrupting the nutritional balances in soil (Kuepper & Gegner, 2004). Since soil fertility is reduced, plants lose essential nutrients that they can produce, causing nutrient imbalances of the plants. In addition, leaching of nitrates from the fertilizers often causes numerous environmental and health problems (Pritts, 2003).

A comprehensive Soil Association review of scientific research has shown that organic food is better than non-organic food in terms of its health benefits. It is safer due to having little or no chemical residues, as organic farming prohibits the use of pesticides and herbicides (Heaton, 2002). A literature review of 41 studies found statistically significant differences in the nutrient content of organic and conventional crops: organic crops contain significantly more vitamin C and mineral contents such as magnesium, iron and phosphorus (Heaton, 2002). They also contain lower amounts of some heavy metals and nitrates compared to conventional crops – attributed primarily to differences in soil fertility management and the effect on soil ecology and plant metabolism (Worthington, 2001).

Findings: Logistics

Pricing

Our ideal is to have Agora pay the farm \$5.25 per dozen for eggs and \$3.00 per pint (2 cups) of wild blackberries, so that this project can contribute to the financial sustainability of the farm and match the top prices these items receive in the market. When used in existing Agora menu items, this represents a \$0.14 increase in price per egg (given the average current expenditure of \$3.75 per dozen by Agora), and a \$0.60 increase per cup of berries used (currently, berries are purchased at Costco for \$0.90 per cup) (G. Yeung, personal communication, 2007). Thus, the *Eggora* sandwich (which uses one egg) would increase in price by \$0.14, and the Agora Smoothie (which uses one cup of berries) would increase by \$0.60. Given the survey results, we do not expect these price increases to have significant impact on demand for the products – especially if Agora staff is able to further educate its customers on the fundamental reasons for the increased prices.

In addition to selling fresh eggs to customers for \$2.75 per half-dozen, we also suggest that Agora Café incorporate UBC Farm eggs in a new menu item. We recommend quiche, as it had

the highest demand among the proposed egg items in our survey. Quiche is a versatile dish that can easily be altered to incorporate other seasonal offerings from the farm. Agora also does catering and may create mini quiches as a menu alternative. The cost of ingredients for the basic quiche we propose (see recipe in Appendix B) would be \$0.76 per piece.

To increase Agora's capacity to use the farm's berries, we also recommend that blackberry jam be produced. A 250-ml jar of jam will cost approximately \$2.50 in ingredients and materials: \$1.00 for the jar (available from www.ampak.ca), \$0.67 for the sugar, \$0.22 for the sugar, and \$0.56 for the pectin). Any sale price above \$2.50 would thus generate a profit for Agora (or the farm if they form an agreement to that end). Currently, store-bought jams are being used in preparation of various Agora items such as sandwiches (one jar of jam per month is currently purchased for a total of seven jars of jam in one year).

Food Preservation (Berries)

Blackberries should be frozen very soon after they have been picked. To do so, rinse lightly, leave to dry on absorbent tea towel (or paper towel), spread out on cookie sheets, freeze for 24 hours, and then place in a Ziploc bag and store in the Agora chest freezer. It is estimated that there is room for 20 cups of frozen berries in the Agora freezer.

Ideally, more than 20 cups of blackberries will be harvested, and we recommend that berries that cannot be stored in the freezer be processed into blackberry jam. To produce 4.5 cups of jam, three cups of crushed blackberries should be added to 5.5 cups of sugar, mixed thoroughly, and let stand for 10-15 minutes. In a small saucepan, 2.0 ounces of pectin crystals should be combined with $\frac{3}{4}$ cup of water and brought to a boil, stirring for one minute. The fruit mixture would be combined with the pectin/water mixture and cooked for at least three minutes. The jam should then be ladled into mason jars and covered tightly with lids. After standing for 24 hours, the jam can be stored in a cool dark place. To reduce the danger of

botulism, the mason jars, lids, and ladles will all need to be sterilized. For more information on making jam, contact Diane Collis from the Vancouver Community Kitchen Project (604-876-0659 ext 118). We recommend that the jam label clearly indicate that the homemade jam has been “Brought to You From the UBC Farm, the Last Working Farm in the City of Vancouver”; contains no additives or preservatives; and has been made entirely by volunteers.

Marketing

To increase patronage at Agora and consumption of these items, we must promote the changes both to current Agora customers and to those who are not yet frequent customers. To this end, our group has developed a set of promotional materials for use at Agora and elsewhere in the MacMillan building. Some of these items could also be posted at UBC Farm, for exposure to market attendees and farm volunteers. An agreement with UBC Food Services prohibits Agora from advertising anywhere outside of the MacMillan building (G. Yeung, personal communication, 2007), but we suggest that if Agora were to begin selling products for home consumption, including eggs and jam, that managers attempt to renegotiate this clause, and begin promoting these items in other areas of campus. Agora has a low total capacity and does not intend to under-cut or compete against UBC Food Services’ facilities, and therefore need not be seen as a substantial threat by the campus operators.

Included in the promotional materials found in Appendix C are: flyers advertising the arrival of new egg- and berry-containing menu and product options; an educational placard discussing the benefits of supporting the UBC Farm, for display in the refrigerated case at Agora’s front counter; and a tag for use as an adornment on the Agora menu board, to notify customers of items containing ingredients from the UBC Farm. Our group also suggests the creation of an additional sandwich-board style sign, similar to the existing board that is used in the front atrium at the MacMillan building. This second board would be for use outside of the building,

just inside the courtyard, to alert people using other entrances or passing by that Agora is open for business.

It is important that new items be prominently and appealingly displayed at Agora Café, so that customers are enticed to try them. The promotional materials will do a great deal to encourage this, but items themselves need to be visible and spotlighted as well. Jam jars may be stacked on the left-hand side of the glass display case, accompanied by a paper flyer (as detailed earlier in this section). On the main overhead menu board, we recommend writing the names of new or changed items including farm ingredients in bold letters for increased attraction. This would be an especially simple measure to take, as the menu board is currently hand-written in chalk, and therefore easy to amend (G. Yeung, personal communication, 2007).

In the past, members of our team have witnessed UBC Farm eggs selling out very quickly when brought to and sold in the MacMillan courtyard, and the past popularity of the eggs strongly suggests that eggs will sell quite quickly if people are made aware that they may purchase them at Agora Café. For this product, promotional materials such as flyers are especially important to spread the word that egg sales will now be conducted in Agora. Additionally, a simple sign reading “Eggs are here!” could be hung above the glass cooler every Monday, to be removed when the packages have sold out.

Combined, the promotional materials and the ways in which they are displayed will inform the MacMillan building community of the new connections between Agora and the UBC Farm, as well as pique interest in the delicious new items available for sale.

Additional Agora Logistics

Before the school year commences, executive members of Agora Café are expected to have completed a variety of tasks including the establishment of executive members and other volunteer members, determination of new menu items, and reassessment of successes and

inefficiencies of the previous year(s). With a redefined partnership with the UBC Farm, several new procedures are suggested to make this partnership operate effectively. To start, a new executive position (the “Farm Liaison” – job posting in Appendix D) would be created this summer to liaise between the UBC Farm and the Agora Café, and to manage the responsibilities that come with this new partnership. This person can organize a group of volunteers to harvest the berries during the summer months in preparation for its use in the fall. Volunteers do not need to be Agora staff, although it is preferable so that they can be more knowledgeable about the origin of their new products. This position will also involve coordinating a volunteer team to process the berries into jam.

Any supplies and equipment that are needed would be discussed with the Inventory Manager and taken into account when determining the prices that will be set for the customers. Pricing of items would be discussed with the Finance Officer. It would also be noted that all profits generated from the sales of value-added goods (like jam) will circulate back into Agora Café unless an alternative agreement is established.

Inventory runs are normally done weekly, which helps maintain regular cash flow. The UBC Farm Liaison would coordinate a regular egg delivery run from the Farm to the Agora. To minimize travel time, deliveries would be made together with other members of the MacMillan community who are also ordering eggs or other farm produce. Ideally, the Farm Liaison will also ensure that Agora’s order is done in conjunction with Sprouts (UBC Natural Food Coop) located in the Student Union Building, where items such as coffee grounds and flour are already being purchased by Agora Café. Sunday deliveries are preferred so that not only will it coincide with Sprouts’ delivery date, which will maximize delivery efficiency, but this way, it will also ensure that foods are ready for the week at the Agora when it opens the following day.

Conclusions and Recommendations

Our research has given us much hope about potential purchasing connections between the UBC Farm and the Agora Café. This opportunity is simply too good to pass up.

Incorporating free-range eggs and wild blackberries addresses the impediment that has previously plagued this relationship – availability of year-round farm products. We have also addressed the lack of farm staff by providing a list of volunteers and by creating the Farm Liaison position. Our research and survey results have clearly shown that the supply is available, and that the demand exists for this change. It is clear that it would increase food security and sustainability as well. Finally, the logistical considerations involved will not be too onerous, given that we have already created a number of the materials required.

For these reasons our core recommendation is for Agora's Executive Committee to review the report and to post the position for Farm Liaison immediately. Once that position has been filled, the project can begin. The first task will be to assemble a volunteer team to harvest and process the berries. Then menu items and prices at Agora will need to be amended, marketing materials will need to be posted and distributed, and, finally, sales can begin. Incorporating Farm eggs and berries into existing menu items and as whole-food sales (eggs by the half dozen) will be the easiest change to make. Once that is successful, the project should move on to experimenting with new products such as the quiche.

While we do believe that this project is ready to be implemented, there is also potential for future groups to build on our research. We recommend four research areas: evaluating the new menu items and price changes; devising an ongoing strategy to address labour shortages at the farm; expanding the project into other food outlets on campus (i.e. substituting UBC Farm eggs and berries into existing menu items at other restaurants); and expanding the range of year-round products available (via investment into a larger freezer and/or a root cellar).

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Appendix A – Survey

A survey to connect the MacMillan Agora Café to the UBC Farm

Do you like blackberries?? Enjoy farm fresh eggs??? As a team of 4th yr. Agricultural Science student, we are developing a project to integrate more of the UBC Farm's produce into the Agora Café in the MacMillan building. With a focus on the use of organic free range eggs and blackberries in the menu and sales items at Agora we have developed this short survey in order to better serve you! The Agora Café is a non-profit food outlet managed and operated by volunteers from the Food, Health and Nutrition program. Agora is run not-for-profit, offering the best deals on campus, and is open weekdays from 8am – 2pm. Thanks for your time and consideration!

1. **Are you a:**
 - a) Land and Food Systems student
 - b) UBC student of another faculty
 - c) faculty member
 - d) other (please specify):

2. **What is your gender?**
 - a) male
 - b) female

3. **What is your age?**
 - a) 18 and under
 - b) 19 – 25
 - c) 26 – 30
 - d) 31 – 55
 - e) 56+

4. **How often do you purchase food from the Agora Café?**
 - a) daily
 - b) once/week
 - c) 2-4 times/wk
 - d) once/2 weeks
 - e) monthly
 - f) never

5. **Would you be more highly inclined to buy food from the Agora Café if you knew they cooked with and sold UBC Farm products?**
 - a) yes
 - b) no

6. **What is the maximum price you would be willing to pay for a half-dozen UBC Farm free-range eggs?**
 - a) less than \$2.00
 - b) \$2.00
 - c) \$2.25
 - d) \$2.50
 - e) \$2.75
 - f) \$3.00

7. **At what frequency would you buy a half-dozen UBC Farm eggs from Agora:**
 - a) twice/week
 - b) once/week
 - c) once/ 2 weeks
 - d) once/4 weeks
 - e) never

8. **If never, for what reasons are you not interested?**
 - a) I don't buy eggs
 - b) price at grocery stores is cheaper
 - c) inconvenience of transporting eggs
 - d) Agora is too far out of my way
 - e) other (please specify):

9. **If available, would you purchase new egg and blackberry items from the Agora Cafe such as (circle all that apply):**
 - a) quiche
 - b) egg salad sandwiches
 - c) hard-boiled eggs
 - d) blackberry muffins
 - e) blackberry smoothies
 - f) blackberry pie
 - g) other (please specify):

10. **If available, would you buy UBC Farm seasonal produce or processed products from Agora such as (circle all that apply):**
 - a) honey
 - b) jam
 - c) winter squash
 - d) herbs
 - e) frozen blackberries
 - f) other (please specify):

11. **Agora now sells \$2.00 pint size smoothies made with frozen fruit bought from chain grocery stores. Would you be inclined to buy an Agora smoothie which included organically grown, UBC Farm blackberries?**
 - a) yes
 - b) no

12. **Are you interested in volunteering at the UBC Farm from July through September to pick blackberries for sales at Agora?**
 - a) no
 - b) yes (write your e-mail if you wish to be contacted):

13. **Please rank each factor that influences your food purchasing choices below, using a scale of 1 to 4, with 1= least influential and 4= most influential**

	1	2	3	4
Appearance	1	2	3	4
BC Grown	1	2	3	4
Convenience	1	2	3	4
Fair Trade	1	2	3	4
Free-range	1	2	3	4
In Season	1	2	3	4
Organic	1	2	3	4
Price	1	2	3	4
Fat/calorie content	1	2	3	4
Nutrition	1	2	3	4
Quality	1	2	3	4
Taste	1	2	3	4

Thank you and we hope to serve you at Agora soon!

Appendix B – Proposed Quiche Recipe

Basic Quiche (Canadian Egg Marketing Board, 2006) - serves 6.

9-inch pie shell-pre-baked (see next recipe)

Filling

4 eggs

1 ½ cups heavy cream or evaporated milk

½ tsp dried herbs or seasoning

Salt and pepper to taste

Put filling ingredients on pie shell. Beat eggs and combine with cream and desired seasoning. Pour the custard mixture over the filling. Bake in 350°F oven for 35-40 minutes or until knife inserted in center comes out clean. Let stand 5 to 10 minutes and serve.

Some Variations-adapt to suit tastes

Corn Quiche: Combine 1 cup (250 mL) fresh, canned (drained) or frozen (thawed) corn and 1/4 cup (50 mL) finely chopped onion. Garnish with 1/2 tsp (2 mL) finely chopped parsley.

Broccoli Quiche: Combine 1 pkg (350 g) frozen chopped broccoli, thawed and well drained, 1-1/2 cups (375 mL) shredded Swiss cheese and 2 tbsp (30 mL) Dijon mustard.

Mushroom Quiche: Combine 1 cup (250 mL) sliced mushrooms, sautéed, 1/2 cup (125 mL) shredded Cheddar cheese and 1/2 tsp (2 mL) dried basil.

Never Fail Egg Pastry 9 ½ Inch Double Crust Pie (cooks.com)-will make 2 quiches

2/3 c. shortening

2 c. flour

1 tsp. Salt

1 well-beaten egg

1/4 c. plus 1 tsp. cold water

3/4 tsp. vinegar

Cut shortening into flour and salt mixture until it resembles corn meal. Combine beaten egg, water, and vinegar; add all at once to flour mixture. Stir with flour until blended; do not over stir. The mixture should be crumbly. Press together with hands to form a ball. Let stand 5 minutes. Split into 2 pieces. Roll on board to 1/8 inch thick. Fill pie. Bake at 425 degrees for 30 minutes.

Cost Analysis for basic quiche (using UBC eggs)

5 eggs: $\$0.42/\text{egg} \times 5 = \$2.10 \times 2 \text{ quiches} = \4.20

1 ½ cups evaporated milk: $\$1.69/385\text{ml (Pacific Brand)} = \1.69

(Whipping (table) cream is $\$2.69/500\text{ml} = \$2.02) \times 2 \text{ quiches} = \4.04

½ tsp dried herbs or seasoning: $0.29484\text{g} \times \$3.99/70\text{g} = \$0.02 \times 2 \text{ quiches} = \0.04

Salt and pepper to taste: ($<\$0.01 = \text{negligible}$) $\times 2 = \$0.01$

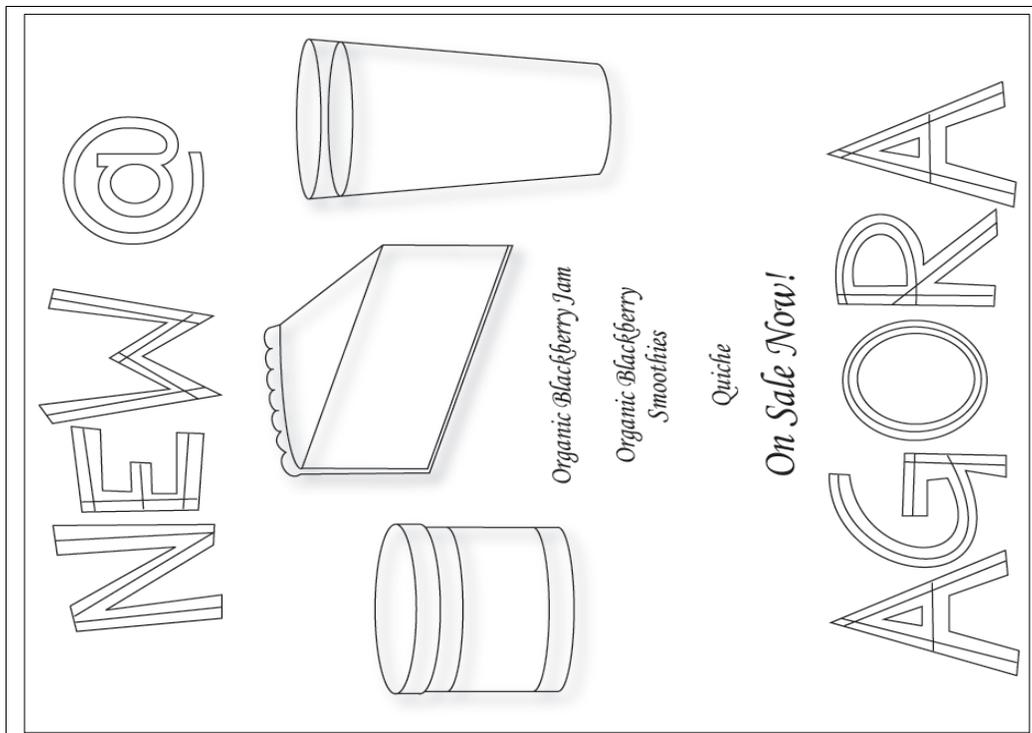
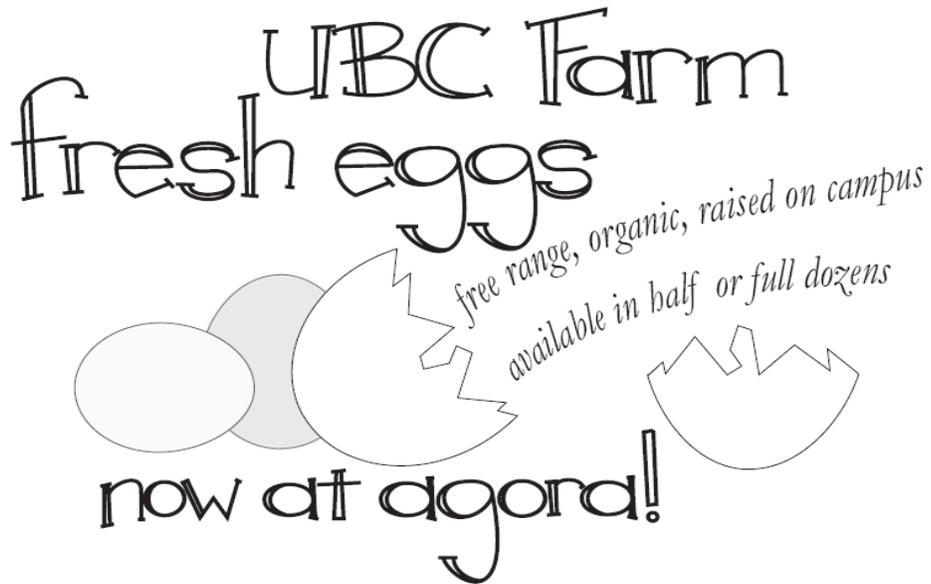
2/3 c. shortening: $170.1\text{g} \times \$2.48/454\text{g} = \0.93

2 c. flour: $453.6\text{g} \times \$7.49/10\text{kg} = \0.34

Total ingredient costs of 12 pieces of basic quiche = $\$9.15/12 = \$0.76/\text{piece}$

Appendix C – Marketing Materials

Below is a profile of the marketing materials we created.



Eat at agora =

The UBC Farm is an important part of the LFS Faculty, and the Agora management wants to give it as much support as we can.

Now, when you buy any menu item containing eggs or blackberries, those ingredients are guaranteed to be purchased from the UBC Farm. Watch for other seasonal items at our Monday Lunches and on the menu.

support the
UBC Farm!

Appendix D – Farm Liaison Job Description

The Agora Eats! Cafe, your student-run cafe in MacMillan at UBC, is looking add a new member to its volunteer executive team – the UBC Farm Liaison. Please read on for details about the responsibilities and application process for this exciting new position!

Responsibilities

- To liaise between Agora Eats! Café and UBC Farm
 - Determine seasonal produce (feature produce) to be used at the Agora
 - Work with Inventory Managers to determine, then, place orders for UBC Farm products (for example: eggs, berries, seasonal fruits and vegetables); arrange deliveries as necessary
 - Work with Inventory Managers to purchase supplies and equipment necessary for producing value-added products
 - Work with Finance Officer to determine the costs and prices of new products
 - Organize volunteer teams to harvest berries and to produce value-added products (for example: jams)
- Responsible for marketing UBC Farm and Agora Eats! Café products in the MacMillan Building and the Food and Nutritional Sciences Building
 - Inform Agora Eats! Café volunteers and customers about UBC Farm products
- Update Agora Eats! Café members (and Land and Food Systems Faculty members) on UBC Farm events as how they can be involved in them
- Volunteer a minimum of 2 hours/week at the Agora Eats! Café
- Attend weekly Agora Executive Committee meetings to discuss Agora-related issues and to take an active role in helping run Agora Eats! Café

If you are interested in becoming a part of the Agora Eats! Café, contact us at:

agora.eats@gmail.com

Please include in the email:

- Your name
- Year of Study, and Program
- Email address
- Phone number
- Why you are applying for this position
- Relevant work/volunteer experiences
- Personal attributes that you can contribute to the Agora