

UBC Social Ecological Economic Development Studies (SEEDS) Student Report

Incorporating UBC Farm Items into Campus Food Provider Menus

Adrianna Kabool, Celia Duong, Cherice Lo, Denise Wei, Gen Chen, Kelly Spec, Stacey

Boks

University of British Columbia

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Scenario 3: Incorporating UBC Farm Items into Campus Food Provider Menus



Group 17:

Adrianna Kabool

Celia Duong

Cherice Lo

Denise Wei

Gen Chen

Kelly Spec

Stacey Boks

Abstract:

The UBC Food System Project seeks to increase sustainability of the UBC food system. Specifically, our task in helping reach that goal was to propose mechanisms aimed at incorporating UBC Farm produce into a campus Alma Mater Society (AMS) food outlet, Bernoulli's Bagels. In considering implementation of such mechanisms, AMS produce procurement and volume requirements were examined. UBC Farm produce availability and price as well as consumer support were also evaluated in assessing the feasibility of incorporating UBC Farm produce into the existing menu at Bernoulli's Bagels. Subsequently, we proposed a seasonal, Rosemary Butternut Squash Bagel special, which would run from September 17th, 2007 to October 12th, 2007 thereby encompassing a time of maximum sales volume for this food outlet. The ingredients for this special were chosen for their relative abundance and availability during this time from the UBC Farm. Our consumer support survey indicated that consumers would be more willing to purchase such a bagel special if ingredients were locally and sustainably produced by UBC Farm, highlighting the necessity for promotional and educational materials to be developed around this topic. Therefore, we developed a marketing strategy to educate staff and consumers about the existence and practices of UBC Farm, as well as the importance of sustainability and eating locally, organically produced food. Our strategy consisted of a promotional poster, an educational pamphlet for consumers and a frequently asked question sheet to aid staff in delivering this message. As many more seasonal specials and promotional opportunities exist that would enhance the overall sustainability of the UBC food system, we also developed an extensive list of recommendations for our future colleagues.

Introduction:

The University of British Columbia Food System Project (UBCFSP) is an ongoing, collaborative, community-based research project which was established as part of the Agricultural Sciences 450: Land, Food and Community III course in 2002 (Rojas & Richer, 2007). The intention of this project is to enhance sustainability of the UBC food system and to identify and tackle obstacles that hinder the UBC food system from making the transition towards food sustainability through the collaboration of various partners and stakeholders (Rojas et al., 2007). This is made possible by dividing the project into different sectors, each of which aims to improve a specific aspect of the UBC food system. Our group was assigned to Scenario 3: Incorporating UBC Farm Items into Campus Food Provider Menus. Our goal was to increase the integration of locally and organically grown UBC Farm produce into a campus food provider; thus enabling the transformation of the current UBC food system from an industrial food dependent food system to a local food dependent, self-reliant food system.

Local utilization of products grown at the Centre for Sustainable Food Systems at the UBC Farm, commonly referred to as just the UBC Farm, contributes to the sustainability of the food system at UBC. The local products produced at the Farm not only fulfill the needs of small-scale and diversified agriculture in the community (Rojas et al., 2007), but also a need for the existence of an educational mandate aimed at increasing awareness regarding the importance of local, organic food. The Farm thereby preserves the existence of local food and its ecological, social and economical benefits to the environment (Group 13, UBCFSP Group Paper, 2006). By purchasing food from local food sources such as the UBC Farm, food retail outlets can contribute to the local economy, while simultaneously enhancing a sense of community (Lyson and Green, 1999). Furthermore, increased proportions of local farm items in this food system can help reduce ecological damage such as land degradation and air and water pollution caused by greenhouse gas emissions during long-distance transportation of industrial food and by the chemical fertilizers and pesticides used to produce industrial food. In addition to the benefits of UBC food sustainability on the local community, benefit may also be realized at the global food system

level, as a sustainable food system at UBC would illustrate the importance and feasibility of a local, sustainable food system which could have positive effects on various levels of the global food system.

For these reasons, our group focused on the integration of UBC Farm food items into the menu of Bernoulli's Bagels (B.B.). B.B. is an Alma Mater Society (AMS) food outlet located in the Student Union Building (SUB), which is the location of many campus food providers. We proposed to commence a 'Bernoulli's UBC Bagel Month Event' featuring fresh, local UBC Farm produce from September to October, the period of highest sales volume at B.B. In order to make this possible, we created a new recipe for the B.B. menu and determined patron's acceptability of it by carrying out a taste-test and survey in the SUB. We also developed a marketing strategy and many educational tools for promoting the proposed bagel thus facilitating increased awareness of local foods among individuals on and off campus. This paper will present our progress on the integration of UBC Farm items into the B.B. menu and on the enhancement of the awareness of 'food localism' (Blewitt, 2006), a concept that will help us to achieve our goals for the UBCFSP.

Problem Definition:

As students of the Faculty of Land and Food Systems, we are all too familiar with the adverse effects of the global or industrial food system. This system relies on fossil fuel energy through the use of machinery, chemical fertilizers, pesticides, genetically modified seeds, irrigation, drying, cleaning and food transportation (Toledo, 1995). Fossil fuel energy is non-renewable and thus the global food system is not sustainable. Furthermore, synthetic fertilizers can leak into water as well as pollute the atmosphere, resulting in unsafe drinking water or decreased fish populations and the greenhouse effect, respectively (Pollan, 2006). The industrial farm lacks diversity as it seeks greater and greater specialization via production of animal and plant monocultures to increase productivity. Monocultures are more susceptible to infection and diseases than the more integrated, holistic polycultures (Toledo, 1995). These farms are also situated far away meaning their products must be shipped long distances before they arrive on our plates, contributing to air pollution. This distance between the consumer and farmer also makes it impossible for them to establish lasting relationships with one another. Such relationships align

with concepts of social sustainability. In addition, industrial foods are usually heavily processed and, as previously mentioned, are transported over long-distances before reaching the consumer (Pollan, 2006). These foods may have lost much of their nutritional value and thus may adversely affect our health.

Not surprisingly, many of our campus food outlets serve industrial food. A more sustainable alternative to industrial food is food that is produced organically and locally. Organically produced food is not grown with synthetic fertilizers or sprayed with pesticides or herbicides. In the case of rearing animals, these animals are not given antibiotics. Organic farmers also try to preserve cycles, one of which involves providing cows with pasture on which to feed and then using their manure to fertilize that pasture, and takes advantage of the efficiencies of animals on their farm. For example, Joel Salatin, a Virginian organic farmer, allows his chickens to dig into cattle manure, eating the grubs, which the chickens love, thereby breaking the cycle of infestation and disease (Pollan, 2006). Furthermore, organic farms are biologically diverse, growing plants and raising several different animals. These practices make local organic food production more sustainable than industrial food. The UBC Farm is local, situated on campus in Vancouver, BC, and voluntarily produces food organically. They use compost to maintain soil fertility, manage weeds by hand or mechanical cultivation and utilize beneficial insects to manage pests (UBC Farm, 2005). However, according to Mark Bomford, the Program Coordinator at the UBC Farm, the Farm is not yet organically certified. To increase the sustainability of campus food outlets, we can help them incorporate UBC Farm products into their menus. We have been assigned to complete this very task for Bernoulli's Bagels.

Vision statement:

A vision statement is defined as a synthesis of ideas that describes the attributes of a sustainable food system. It tells us "Where do we want to go?" and "What does our common dream look like?" (Roja, Richer & Wagner, 2005). The UBCFSP vision statement is designed to achieve sustainability through economic, social and ecological means. As a group we have agreed that a weak anthropocentric framework, a framework that is 'human centered' is the most appropriate value system for developing the seven guiding principles from the vision statement. While we place a higher value on our own species,

we must also consider that our continued survival and well being as a species depends on maintaining a healthy ecosystem in which to live (Murdy, 1993). We want to create a sustainable food system that has environmental, ecological and social benefits that together, diverge to also benefit humans.

In the collaborative opinion of our group we believe that the seven Guiding Principles in the UBCFSP vision statement provide a good foundation to build a sustainable food system. We agree with all the seven principles; however, we believe that a few points and slight changes should be added to the statements to clarify and enhance their meanings.

We agree with the First Principle - *Food is locally grown, produced and processed*, as it means that the food system is ecologically sustainable, and benefits the environment. To further this principle, we believe that it should be changed to ‘*Organically and locally grown...*’ By organic we mean ‘Small Organic’, as defined by Pollan (2006); organic produce produced by small farms that practice sustainable farming. Regarding the Second Principle - *Waste must be recycled or composted locally*. Our group suggests that this principle should state not only that waste must be composted locally, but this compost should also be *used* locally to eliminate transporting compost and creating unnecessary pollution. We also agree with the Third Principle that *Food is ethnically diverse, affordable, safe and nutritional*; however, we as a group recognize that it is difficult to produce ethnically diverse foods locally, and therefore all seven principles may not work in tandem in all situations. We also suggest that the Third Principle should include the word *seasonal*; seasonal foods tend to be of greater quality and lower price than the same foods shipped to us when they are not in season. The Fourth Principle stated that *providers and educators promote awareness among consumers about cultivation, processing, ingredients and nutrition*; we agree and believe that education regarding our food system is of the utmost importance and should be taught to children at a young age, in hopes that it will shape their lasting views on all aspects of food. The Fifth Principle - *Food brings people together and enhances community* reminds us of the article “Sustainability and the Practice of Everyday Life” by Blewitt (2006). He discussed how ‘slow food’ (as opposed to ‘fast food’) brings people together and enhances their knowledge of food. The Sixth Principle – *Food is produced by socially, ecologically conscious producers* is very important. Farmers

should not only be aware of the impact they are having on the surrounding environment, but also on the individuals with whom they are in contact. We recognize the time and effort required to come into direct contact with the public; however, we feel that this is an important aspect of a viable food system. Finally we agree with the Seventh Principle – *Providers pay and receive fair prices* because if the providers pay fair prices, then it follows that the farmers are receiving adequate compensation for their work. Also, if the providers are receiving fair prices, then it can be assumed that we, as consumers, are paying fair prices. We believe that by maintaining this exchange in a local setting, the opportunity for ‘mark ups’ is diminished and the prices remain fair for all parties involved.

Methodology:

To assess the feasibility of incorporating UBC Farm produce at B.B., many aspects were considered. It was important to determine the types and quantities of UBC Farm vegetables that would be best suited for this food service outlet, if and when those items would be available for purchase, the cost of those items, if consumer support existed for purchasing such items, and if so, how much would consumers be willing to pay for them. We also needed to determine the best time and place to showcase UBC Farm produce sold through the AMS and determine what the most effective marketing strategy for Farm produce would be; recognizing that marketing UBC Farm produce sold through the AMS would have to closely relate to the boundaries of seasonal produce availability.

To begin planning effective integration of UBC Farm produce into B.B. menu, we first determined what was available. Based on the 2006 UBC Farm produce availability list, it became evident to us that a year long relationship between any AMS food service outlet and the UBC Farm was not feasible as food is not grown at the Farm year round. Choosing to work within this parameter, we decided that a seasonal special, running for one month, incorporating UBC Farm produce was the most feasible option and the most likely initiative to be implemented.

Literature from previous years was then consulted to determine what had already been undertaken, if any recipes had been developed and/or tested and to build on recommendations made by previous groups. An extensive list of recipes had been developed (Group 3, 2006) based on Farm produce

availability in 2005, but had not yet been tested. We determined which recipes would coincide with produce available from UBC Farm in 2006, tailoring two recipes to align with our preliminary research regarding what was currently on the menu at B.B. and which menu items were the most popular choices. We then costed these recipes using a systems management approach (Splett & Owen, 1999) to determine exact quantities of ingredients needed, including waste, to produce each recipe. This approach is used in most industrial food service establishments and consists of the following steps; recipe selection and standardization, precisely measuring ingredients and waste, calculating economies of scale to suite the establishments needs, and then calculating the exact cost per gram of both ingredients to be used, and waste thrown away. For our test recipes, this meant purchasing all ingredients for each recipe; cleaning, washing and measuring all ingredients to be used, including waste; preparing the recipes; and testing for quality. This last step, testing for quality, was conducted by Cathy, the manager at B.B. Unfortunately, Cathy found these recipes, adapted from the previous year's work, too similar to current menu items already offered at B.B. Our group then developed, tested and costed our own original bagel recipe, a Rosemary Butternut Squash Melt (APPENDIX A) incorporating very popular Farm items using the same systems management approach outlined above (Splett, 1999). Again, we provided Cathy with a sample so as to physically test this recipe. This time however, she was very excited about our recipe and encouraged our group to elicit consumer support for such an item at B.B.

To obtain a preliminary snapshot of consumer acceptance for our Rosemary Butternut Squash Bagel, we conducted a consumer survey and sample session using the Convenience/Ex post facto method (Sellers, 2000). We choose this method as it is commonly used during preliminary research when time, money and convenience are of utmost importance (StatPac Inc, 2007). It allowed us an approximation of whether or not consumers at B.B. would be willing to purchase such a bagel, if consuming produce produced on UBC Farm was important to them, if any improvements could be made to the recipe, and how much consumers would be willing to pay for the bagel. Our survey consisted of 5 questions as well as demographic information about our sample population (APPENDIX B). Results of our survey, as well

as a discussion and recommendations of findings will be discussed later in this paper.

Findings:

AMS Food and Beverage system:

B.B. is a part of the AMS Food and Beverage department, a non-profit organization comprised of 11 outlets (AMS, 2006). The AMS Food and Beverage department is led by Nancy Toogood (AMS Food and Beverage manager) and two assistant managers, Tom Coleman and Bill Anderson (AMS, 2006). Nick Gregory, the supervisor of AMS Food and Beverage outlets (AMS, 2006), also played an important role in our study.

AMS Food and Beverage's purchasing standards:

One of our biggest challenges in incorporating UBC Farm produce into B.B. was to meet the standards requested by the AMS Food and Beverage department. Via e-mail communication, Nick Gregory mentioned, "quality, selection, availability, order quantities, order frequency, delivery times, terms, and price are all ingredients which affect our [AMS Food and Beverage department's] purchasing decisions." In an interview, Nick said that there are two suppliers currently supplying food to AMS Food and Beverage department, Central Foods Co Ltd. and Allied Food Services Ltd., and adding another supplier, like UBC Farm, would not be a problem. However, the Farm must be able to commit to a set price and quantity and must be able to supply this quantity on a consistent basis. Nick also mentioned that being able to have the produce delivered directly to the storage room on the first floor of Student Union Building is a necessity.

AMS Food and Beverage's ordering process:

Cathy, B.B's manager, took us through the entire processes—from ordering to receiving the produce. First, Nick will receive orders from outlets, such B.B.; he then places orders to suppliers. Suppliers will then deliver the orders to the storage room. All the incomings and outgoings are tracked by Nick and his employees. Everyday, each outlet will take a portion from the storage room, and the costs to each outlet are calculated from the amount of supplies each outlet received from the store room.

Bernoulli's Bagels basics:

Numerous visits and interviews with Cathy enhanced our understanding of B.B. B.B. and the Gallery Lounge are physically interconnected, with B.B. serving food to both outlets. The price of bagels ranges from \$4 to \$5.50. Cathy told us that there are more than 10 types of bagels, and every bagel sold in B.B. is made fresh, from scratch, each morning. B.B. also makes its own Philadelphia style cream cheese from scratch, and squeezes its own fresh juice. Besides bagels, B.B. also serves soup, nachos, baked potatoes, freshly squeezed juice, and mini-pizzas. Since B.B. is a part of AMS Food and Beverage department, B.B. cannot sell anything identical to other AMS Food and Beverage outlets, like cookie (Blue Chip Cookies), sushi (Honour roll), salad (Pacific Spirit Place) or full-sized pizzas (Pie R Squared), to avoid competition. B.B. is working towards sustainable food service by giving discounts to customers with their own container and by composing the waste from food production.

Bernoulli's Bagels and new menu item:

In the interview, Cathy showed interest towards creating new menu items that incorporated UBC Farm produce. Cathy told us that she is interested in a vegetarian melt, which Bernoulli's does not yet have on its menu, and was therefore interested in our Rosemary Butternut Squash Bagel. We also suggested incorporating salads to Cathy, however, the idea was turned down because of limited refrigerator space, the need to maintain a grab-and-go type menu, and the issue of competition as mentioned above.

Bernoulli's Bagels and the Rosemary Butternut Squash Bagel:

Cathy was very fond of our creation; the Rosemary Butternut Squash Bagel and showed an even greater interest of incorporating it into her menu upon seeing the results of our survey. Many of the ingredients, except for butternut squash and rosemary, already existed on the current menu at B.B. Cathy suggested using red onion instead of the shallots available from the Farm to enhance its appearance. When our group made the samples for the survey the unit cost was found to be \$2.28; however, Cathy estimated that Rosemary Butternut Squash Bagel would be priced similarly to other melts currently available from B.B. at \$5.50 per bagel. Presuming that B.B. would be purchasing ingredients at a price lower than local supermarket price, there is a potential for upwards of \$3.22 profit.

UBC Farm in relation to our menu:

During our efforts to incorporate UBC Farm produce into B.B., we invented the Rosemary Butternut Squash Bagel. The ingredients are butternut squash, parmesan cheese, rosemary, garlic, red onion, olive oil, halved-bagel, and pepper and salt. Among these ingredients, butternut squash, rosemary, garlic, and onion (not red onion) are grown on the UBC Farm. Butternut squash is available from September to November; garlic is available from July to November; rosemary is available year round; and onion is available from June to November (Bomford, 2006). Therefore, all the ingredients are available from September to November and in a good quantity. In the case of butternut squash, the actual yield will not be known until the middle of August, at which time B.B. could confirm their orders.

Survey Results:

We surveyed 124 participants (37 male and 87 female) whose ages ranged from 15 to 61 years old, with the average age being 24 years old. The majority of the participants were undergraduate students (66%), but there were also staff members (8%), graduate students (4%), and others (20%) who were visiting campus. After tasting the sample, 83% of people answered that they were willing to purchase the bagel; there was little gender variation in their responses. We also asked what price participants would be willing to pay for the bagel. 34% of participants responded that they would pay more than \$4. We then asked participants if the use of UBC Farm produce would motivate them to purchase the bagel and 81% of participants answered yes, with many participants stating they would pay more for the bagel if it contained local Farm produce. The top 6 reasons for being motivated to purchase were: local (36%), support UBC (22%), organic (14%), healthy (10%), sustainable (7%) and fresh (7%). There were a few participants who were apathetic regarding where their food is produced or they only cared about the taste; however, the numbers were not significant—only 3 people. Many participants commented that they liked the overall taste (23%), the squash (17%), the seasoning (12%), the cheese (9%) and the bagel (7%). Participants also provided suggestions for improving the bagel, for example, adding more cheese (23%) or more flavours (10%). For complete survey result, please refer to Appendix C.

Discussion:

A literature review of Group 13, 2006 provided us with a model that reaffirmed the connections we felt we had to make with the stakeholders of this project. The literature provided valuable information on how imperative sampling would be in the implementation of this bagel. Positive results from sampling would motivate Cathy to include this bagel on the menu by providing proof that the recipe would be well received by consumers, and would assure Nick Gregory that the bagel will sell.

We initially considered transitioning all of the produce used by B.B. to UBC Farm produce; however, according to Gavin, the UBC Farm could not confirm specific quantities of produce available prior to August; even then, there was no guarantee that the produce required could be provided by the Farm. The Farm cannot provide such a guarantee due to the unpredictability of our climate and its impact on the Farms growing season, as well as unforeseen insect and disease out breaks. Any of these situations could inhibit the UBC Farm from providing all of the produce required by B.B. It was also made clear to us that for the volume of produce currently required by B.B., Nick Gregory would require a contract signed in advance in order to provide a guarantee of produce availability as a lack of produce could negatively impact the outlet's sales. In addition, the farm does not grow produce throughout the calendar year, something that would also be required by Nick Gregory and B.B. Unfortunately, B.B. realizes the bulk of their sales from September- April, the same time period that produce availability from the Farm is lowest. We also understood from Gavin that the current sales pressure in late summer-early fall at the Farm is already immense because of the wildly successful farmers market and C.S.A programs. These issues directed our group to the development of a UBC Farm bagel special running from September 17, 2007 to October 12, 2007, so as to avoid dramatically increasing the pressure on the Farms production and to increase the feasibility of actually implementing UBC Farm produce into the menu at B.B.

The notation of a limited time UBC Farm special was very acceptable to Cathy as she often has bagel specials that are not part of the main menu. We also presented the idea of a UBC Farm fresh salad special designed by group 3, 2006, which we had thought would be a great addition since it would contain a wide variety of produce from UBC Farm. This idea however, was not feasible due to the narrow menu

focus at B.B. and a lack of refrigerated storage space for salad ingredients or finished product. In addition, according to AMS regulations the restaurant cannot be in direct competition with other AMS outlets, like the Pacific Spirit Place which already sells salads.

Choosing the recipe for our bagel special and the time period in which the special would occur was done concurrently. In choosing a recipe, careful consideration was made to prevent overlap with the current menu, per Cathy's request. Issues arose because not only did the bagel have to be dissimilar to any currently on the menu, but the recipe also had to comprise of Farm produce that was abundantly available during that time. We found the time period with the most produce available, and therefore the optimal time to offer a special, was in September-October. As mentioned, the sales volume at B.B. is more than double what it would be during other months for September and October. This coincided with the highest traffic volume experienced at the SUB as new students are discovering new places to eat. Tom Coleman indicated that if marketed adequately, choosing these dates could increase the profile of our bagel special, lending itself nicely to our goal of maximizing consumer exposure to fresh, local foods from UBC Farm. In looking at the produce available, we choose butternut squash, rosemary, garlic and onions for their relative abundance from the Farm during this time. Group members had also previously prepared a similar recipe and found it to be very acceptable. Additionally, some members of our group are dietetic students and provided background nutrition knowledge that supported this recipe as a healthy and delicious option that would provide two servings of grains and one serving of vegetables. Our colleagues in Group 3 from last year also recommended the use of butternut squash, further cementing our recipe decision. The complexity of designing a bagel that met all of the stakeholders' needs was a challenging task but the decision came together nicely given the congruence of Farm produce availability during the busiest months experienced by both B.B. and the SUB.

Our decision to offer this bagel on a limited time frame ended up making our goals of implementing this special more feasible as we found that B.B. would only require approximately 10-15 squash for the entire month. This estimation was based on precise calculations of the amounts of produce B.B. used for other similar bagels during the months of September and October, along with the systems management

approach described in our methodology. The relatively small quantities of produce required for the menu worked in our favor as it would minimize the pressure on the UBC farm production system, an issue of utmost importance as already mentioned.

In addition to our bagel special, we had originally designed a UBC Farm apple pear juice to serve concurrently with the bagel in an attempt to increase the amount of Farm produce exposure during our special period. Cathy sampled this healthy juice and showed interest in incorporating it into her menu as B.B. currently sells other freshly squeezed juices. This was not feasible however, as even though apples and pears were on the 2006 UBC Farm production list, Gavin informed us that apples would not be available during the upcoming 2007 year. The apple orchard was just recently planted and will not be producing apples for quite some time.

The implementation of this special would create a partnership between B.B. and the UBC Farm, allowing for trust to develop and possibly enabling B.B. to expand their use of Farm produce in the future. The Farm, however, is not currently economically stable as it requires outside grants to remain operational and cannot meet its economic needs through sales alone. While a contract with B.B. would not fix this problem, it could help move the Farm towards sustainability. Such an alliance would not only provide another revenue stream for the Farm, it would also help greatly expand the visibility of the UBC Farm on campus. This would benefit the Farm and the greater student population as for some, purchasing a “UBC Farm” bagel special will be their first exposure to local organic produce and could aid in their understanding of the importance in choosing local, sustainable food. According to Pollan (2006) eating is an agricultural act, as well as a political one, and hopefully learning about the UBC Farm will act as an entry point for students and staff in their understanding of how food is produced so that they may conscientiously undertake this act. We discussed that our month long special could be expanded to include additional specials; for example bagels designed by the two other groups working on this same scenario. Implementing 3 specials, over 3 different months would further enhance the benefits mentioned above and would continue to raise the profile of the UBC Farm on campus.

According to the findings from our survey, we found that only 4% of participants were willing to pay the amount that Cathy felt she should charge for this bagel; \$5.50. However, we determined that the order in which the questions on our survey were asked could have negatively impacted our findings regarding the price customers would be willing to pay. The participants were asked what price they would pay for such a bagel, before being told that the produce was grown at UBC Farm. Some 13 people actually reported, after being told it was UBC Farm produce, that they would be willing to pay more for the bagel. We had not anticipated that local and organic would affect consumer's acceptable purchasing price because according to group 20 (2005) the most important elements in purchasing food were found to be price, quality, and taste. In contrast to their results, we found that some people were willing to pay up to a dollar or two more for this bagel if the produce was from the UBC Farm. In addition, 81% of participants surveyed were motivated to buy this bagel because it was made using UBC Farm produce. Two participants surveyed also stated that they would not normally purchase food from this outlet, but would consider purchasing food from B.B. if our UBC Farm bagel was available. There also seemed to be some confusion with pricing as participants could not actually see the size of the bagel compared to the sample size they received. For example, some participants, those who responded that they would be willing to pay 50 cents for the bagel, may have estimated a price for the sample size and not the actual bagel itself. We even had participants state to surveyors that they were intentionally under reporting the price in hopes that this would influence the final selling price of the product when B.B. makes the special available. Finally, the average price participants indicated they would be willing to pay for this bagel may have been lower than the actual price consumers would pay, as the average price found in our survey includes the prices stated by participants who indicated they would not buy this bagel which may have considerably confounded our results.

Overall, consumer support was strong for the UBC Farm bagel; however price appears to be a possible limiting factor. There is a strong demand for UBC Farm produce therefore we feel B.B. should seriously consider adding this bagel to the menu as a special during the dates outlined above. Talks broke down last year during the agreement process of the contract constructed by group 13 (2006) which was

designed for Pie R Squared and the UBC Farm. The signing process was not completed as the Farm could not guarantee the required quantities of produce to Pie R Squared, and as indicated, without a guarantee of quantity from the UBC Farm, the AMS would not sign a contract. As a result of these findings, and the other issues outlined above, we developed a UBC Farm special to initiate the connection between the two parties in hopes that a contract could eventually be signed.

Marketing Strategies:

Marketing will be crucial to the success of any UBC Farm products in the SUB outlets. Group 3 (2006) and group 20 (2005) both found that in order to engage students and staff in the idea of sustainability, education should occur through marketing to get the word out about new products and about the larger ideas of a sustainable food system. We designed supporting literature in the form of an informational brochure that could be handed out with the bagel and could be available for other consumers at the point of purchase as well (APPENDIX D). It could be used to expand the consumer's knowledge on sustainability, on local food systems, and on why eating locally is sustainable. The employees are of vital importance when marketing a new product as they are the front line for information at the point of purchase. If staff do not back the product it could negatively affect sales. A frequently asked question sheet was developed for the employees, so they would know why B.B. is selling the UBC Farm bagel (APPENDIX E). It also could act as a training tool in order to enable the employees to better answer consumer questions about the UBC Farm or sustainability. We also designed a poster to be put up in front of B.B., which would showcase the specials currently available in conjunction with UBC Farm (APPENDIX F). This would be beneficial as the poster could be used to showcase all specials containing UBC farm products. All of these marketing tools also promote the UBC Farm directly as its logo is used throughout. We contacted Gavin to ensure that there were no legal issues surrounding our use of this logo. The logo should also be placed next to the UBC Farm products on B.B.'s menu so they can be clearly identified. Stickers were also developed that could be handed out with the purchase of the bagel, acting as free promotion as students could put them on their binders or bags (APPENDIX G).

Recommendations:

Our recommendations are to several stakeholders, our AGSC 450 2008 colleagues, B.B., AMS Food and Beverage Department, UBC Food Services and Imagine UBC coordinators.

Future menu items for Bernoulli's Bagels

We have several suggestions for our 2008 colleagues regarding the development of several new menu items for B.B. The first item is a juice for which we developed a recipe and that could be offered by B.B. in September. The juice consists of apples and pears, both of which are the most abundant at the UBC Farm in September, and lemon, lemon rind and honey. A group member prepared the juice and offered it to Cathy for a taste test. She liked it due to the fact that it was pure, containing no additives or preservatives. According to said group member, the juice was easy to make and it could also be combined with a bagel or sandwich to produce a "UBC" meal deal. Often, these deals are designed to "trick" the consumer into thinking that they are getting more for their money so they often include soft drinks, which are so inexpensive that the food service operation makes a profit from these combos. The apple-pear juice is more expensive than pop however, and as a result, we recommend that our AGSC 450 2008 colleagues determine the cost of the juice and subsequently determine whether the juice and bagel/sandwich combo would generate profit for B.B., or if the two products should be sold separately. Furthermore, our 2008 colleagues would need to offer samples of the juice to passersby in the SUB and survey them, similar to what we did for our Rosemary Butternut Squash Bagel to determine consumer support. The apple-pear juice recipe required several changes, we suggest that our 2008 colleagues eliminate honey, which is expensive, from the recipe and use ripe apples and pears to enhance the sweetness and reduce the cost of ingredients.

Recommendations for campus food providers under the AMS Food and Beverage Department and UBC Food Services

We suggest that all campus food providers using UBC Farm produce submit a weekly joint order to the farm as opposed to filling separate orders. Currently, Sage Bistro at the University Centre serves Farm produce. Due to the success of our AGSC 450 2006 colleagues who were assigned a scenario

similar to ours, Pie R Squared (PRS) in the SUB will be offering a roasted butternut squash and rosemary pizza that was designed in the summer of 2006. Like our bagel, the squash and rosemary will be provided by the UBC Farm. Unlike PRS and B.B., both of which are run by the AMS, Sage Bistro is run by UBC Food Services. Through a joint order, the Farm would only have to deliver to the AMS Food and Beverage Department and UBC Food Services once. Joint orders would reduce transportation costs, time, labour and gas emissions, further enhancing the viability of such a relationship. Once campus food providers start ordering Farm produce together, it will be easy for any food provider under the AMS Food and Beverage department or UBC Food Services to purchase Farm produce.

Marketing strategies

The Roasted Butternut Squash Bagel must be promoted to the campus community in order to raise awareness and support for the Farm and local food production as well as to increase sales of our bagel. Imagine UBC is the university's annual orientation program in which participation from all 5000 first-year students is mandatory, meaning the program reaches many students (UBC Student Services). The program begins with a day-long orientation on the students' first day at UBC, Imagine Day, during which they meet with their "My Undergraduate Group" (MUG). The group consists of about 10-12 first-year students in the same faculty and a MUG Leader, an experienced and enthusiastic UBC student, guides the group on Imagine Day (UBC Student Services). Since a campus tour is scheduled for this day, we suggest that UBC Orientations, the AMS, and the coordinators of Imagine UBC ensure that all MUG Leaders bring their groups to the SUB and briefly inform the first-year students about the importance of supporting a local food system, the UBC Farm and about how B.B. and PRS offer food items that are made with UBC Farm produce. Ideally, the campus tour would include a tour of the Farm as it would allow students to see how the land is connected to the food; however, as there are currently so many events scheduled for Imagine Day, adding a Farm tour would possibly exhaust the students. This is not desirable and therefore we recommend that UBC Orientations and the AMS provide all MUG Leaders with resources regarding the Farm, such as the Farm's website, that can then be distributed to students.

Besides guiding their MUG on Imagine Day, the leader also maintains contact with the group throughout the school year. Assuming that this contact is via email, we suggest that the MUG Leaders are made aware of our limited time Rosemary Butternut Squash Bagel so that they can pass this information to their group at the beginning of the special. By educating first-year students, we are trying to gain their support for sustainable food systems and local organic food as early as possible so that we can move towards such systems sooner. Targeting this demographic can be seen as an upstream investment.

To target the general student population, we suggest that a B.B. ad be placed in the AMS Insider, the free UBC student day planner and information guide produced by the AMS that is distributed to 25,000 students during the first week of classes every September (AMS, 2006). Since many students will receive this planner, it is a great place in which to advertise our bagel. Since our bagel will be offered in September, we would like to see a calendar banner, a 4.5" x 1.5" ad, featured on a page showing either the entire month of September or one of the weeks in September. Based on our phone conversation with Lyanne Evans, the AMS Insider Advertising Coordinator, B.B. would be able to obtain this ad space if it has not been booked by another business; therefore, we suggest that B.B. book their ad space as soon as possible. The deadline for booking ad space for the 2006/07 planner was June 10, 2006 (AMS, 2006). Furthermore, we recommend that Bernoulli's inform the AMS Insider Ad Designer that the banner should promote their September Special, a Rosemary Butternut Squash Bagel with onions and garlic, and indicate that all vegetable ingredients were grown on the UBC Farm. The cost of the said calendar banner in the 2006/07 planner was \$350 (AMS, 2006), an expense that B.B. already incurs for the purpose of advertising.

Although students make up a large part of the UBC community, it also consists of faculty members, staff and visitors; therefore, we recommend that our 2008 colleagues devise marketing strategies that target these community members as well.

Sustainable Food System Education

Our AGSC 450 2008 colleagues should also follow up on some of our underdeveloped ideas for educating the UBC community about sustainable food systems. We are aware that some of our current AGSC 450 colleagues are working on refining a campaign for increasing the awareness of food system sustainability to be launched at the UBC Sustainability Fair in October 2007. There are clearly links between this scenario and ours: 1) we both want to teach the UBC community about sustainable food systems; and 2) only those who realize the importance of sustainable food systems will support them and purchase our bagel. Hence, we recommend that our 2008 colleagues assigned to work on these scenarios work together on developing an educational campaign for efficient use of time, skills, knowledge and use of resources.

To complement the frequently-asked-questions sheet that we produced for B.B.'s employees, we suggest that our AGSC 450 2008 colleagues create a lesson plan that could be used by Cathy to educate new employees about the importance of sustainable food systems and the UBC Farm. The BOPPPS Education Model could be used to facilitate the creation of this lesson plan (ISW International Advisory Committee, 2006). BOPPPS is an acronym for the essential components of a lesson plan developed by the UBC department of Education; **B**ridge-in, or the "hook" to capture learners interest in the subject, the learning **O**bjective(s); **P**re-assessment of learners' knowledge; **P**articipatory learning, where instructors actively involve learners in achieving the learning objectives through discussion, **P**ost-assessment, which allows instructors to determine what the learners learnt and whether the objectives were met; and **S**ummary, which helps learners reflect on and integrate the learning. Collectively, these components can improve the teaching and learning experience. As lesson plans created according to the BOPPPS Education Model can improve the teaching and learning experience, we recommend that our 2008 colleagues use it when creating the lesson plan for educating new employees about the importance of sustainable food systems and the UBC Farm.

We hope that the above recommendations will help our AGSC 450 2008 colleagues, B.B. and the AMS Food and Beverage Department move the UBC food system towards sustainability.

Conclusion:

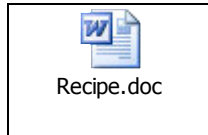
It is a challenging task to increase local food procurement on campus, which requires continuous effort from and stable linkages between various sectors of the food system to overcome barriers. Ideally we want our group's progress of integrating UBC Farm produce into B.B.'s menu to contribute in a tangible, meaningful way to UBC food system's sustainability. After creating a new B.B. recipe that incorporates UBC Farm produce and conducting a taste-test and survey to determine consumer support for this recipe, we believe that our new bagel recipe will help increase the awareness of local foods on campus as there is a great potential for expanding the proportion of locally and organically grown UBC Farm produce in campus food providers' menus. Nevertheless, from our investigation on incorporating UBC Farm produce into B.B., we have found that a major barrier to the establishment of a contract between these two food providers exists; the farm cannot provide a guarantee on their produce in advance due to the inconsistency and unpredictability of yields. Fortunately, the Farm feels quite confident regarding the availability of squash and rosemary in the quantities required at B.B., throughout September and October. For these reasons, we are optimistic about the feasibility of our proposed 'Bernoulli's UBC Bagel Month Event' and we hope that it will foster a transition towards a more sustainable food system at UBC and will provide a model for food systems around the world to follow.

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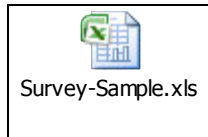
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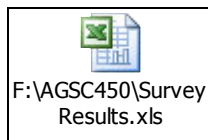
Appendix A: Recipe



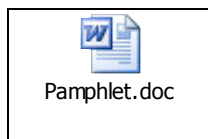
Appendix B: Survey Sheet Sample



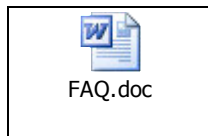
Appendix C: Survey Result



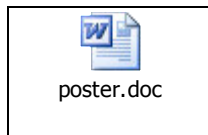
Appendix D: Information Pamphlet



Appendix E: Frequently Asked Questions



Appendix F: Poster



Appendix G: Sticker Ideas

