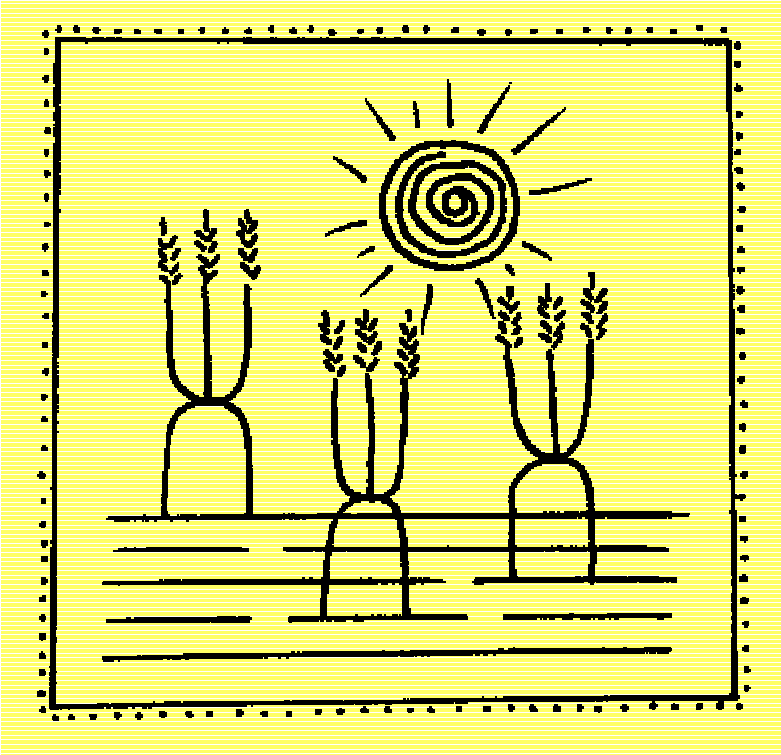
Sustainable Food Systems



on the University of Waterloo Campus

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Executive Summary

Sustainable Food Systems on the University of Waterloo Campus explores the opportunities and barriers associated with the purchasing of locally produced food by institutions, such as universities. The main purpose of this research was to assess the level of consumer awareness and support for sustainable food systems on the University of Waterloo campus. With this information, recommendations for future purchasing practices could be made to the Department of Food Services.

Every participant (n=140) in this research was a student at the University of Waterloo. Of these students, all but six were living in an on-campus residence at the time that this study took place. Although there was a demonstrated interest in having local and/or organic food choices available on campus, qualities such as freshness and flavour appeared to be more important overall. A number of students believed that a large proportion of food on campus should come from the local area. However, this did not always translate into a willingness to pay more in order to have these products made available to them. Many could correctly identify products that are grown or processed in the Region of Waterloo, as well as state advantages to supporting local agriculture. Awareness of the environmental and health benefits associated with sustainable food systems was not evident.

The principal recommendations to the Department of Food Services were to:

- study other perspectives on campus, including staff, faculty and upper-year student populations

- investigate the actual increase in price associated with the introduction of locally produced and organic food on campus

- consider collaborating with the Region of Waterloo Community Health Department in implementing the Region's first Farm-to-College project

Recent research suggests that awareness of the benefits of supporting local agriculture is steadily growing among Canadians (Norberg-Horde, Merrifield & Gorelick, 2000). The incorporation of locally produced food into institutional purchasing practices has considerable potential as part of an integrated approach to strengthening and sustaining local food systems (Community Food Security Coalition, 2002a). Not only could this initiative yield environmental, social and health benefits, but it may also result in increased publicity and positive recognition for the University of Waterloo Department of Food Services.

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1.0 Introduction

It has been estimated that the elements of a basic Canadian meal travel approximately 2400 kilometres before reaching the dinner table. As a result, transportation costs now account for 6 to 12 cents of every dollar that consumers spend on food (David Suzuki Foundation, 2002). In addition to its obvious reliance on fossil fuels, this type of food system increases the need for packaging and preservation, and often reduces the freshness and nutritional content of the food itself (Azuma & Fisher, 2001).

By comparison, the concept of a local food economy suggests a system in which food production, processing and distribution are integrated to enhance the environmental, economic, social and nutritional health of a particular geographical region (Wilkins, 2000). This definition reflects a prescriptive approach to building a food system that holds sustainability as a long-term goal (Pirog, 2001). According to Azuma and Fisher (2001), an important element for the success of local food systems is the formation of rural-urban links (p. 5).

One method of establishing rural-urban linkages is through the development of direct relationships between farmers and institutions, such as universities. In fact, studies suggest that direct "Farm-to-School" sales have substantial benefits for food producers and school food services alike (Azuma & Fisher, 2001). While the practice of direct purchasing remains in its infancy, it holds considerable potential as part of an

integrated approach to strengthening and sustaining local food systems (Community Food Security Coalition, 2002a).

2.0 Problem Statement and Research Objectives

2.1 Problem Statement

To investigate the level of consumer awareness and support for sustainable food systems on the University of Waterloo campus.

2.2 Research Objectives

2.2.1 Primary Objective

- To encourage and facilitate the adoption of institutional purchasing practices that help support a sustainable food system on the University of Waterloo campus.

2.2.2 Secondary Objectives

- To investigate the purchasing patterns of the Department of Food Services on the University of Waterloo campus with respect to locally grown products.
- To determine the level of consumer awareness and support for locally produced food on the University of Waterloo campus.
- To identify or strengthen strategies which link institutional purchasers with local food producers.

3.0 Purpose

Local food systems offer an alternative approach to meeting daily food needs, while also providing many health, economic, social and environmental benefits to communities. At present, many institutions are unaware of the impacts that result from their annual food purchases (Johnson & Stevenson, 1998). By developing a direct business relationship with local merchants, institutions like the University of Waterloo could not only obtain better food products, but also reduce their transportation costs, support local production and facilitate the transition to a more sustainable type of food system (Foodlink Waterloo Region, 2002).

4.0 The System Defined

4.1 Definition of Key Terms

- **Sustainable community.** "A community that is far-seeing enough, flexible enough and wise enough to maintain its natural, economic, social and political supports" (City of Olympia, 1993).
- **Local food economy.** "A system of producing, processing and trading food ... where the physical and economic activity is largely contained and controlled within the locality or region where it was produced, which delivers health, economic, environmental and social benefits to the communities in those areas" (Sustain, 2002, p. 4).

- **Community food system.** "A food system in which the food production, processing, distribution and consumption are integrated to enhance the environmental, economic, social and nutritional health of a particular geographical region" (Wilkins, 2000). This term may be used interchangeably with local or regional food system.
- **Locally produced food**. For the purposes of this study, a local food product is any food produced, processed and distributed within the Regional Municipality of Waterloo.
- **Waterloo Region**. "The geographical boundary of Waterloo Region encompasses the three urban municipalities of Cambridge, Kitchener and Waterloo, as well as the four rural townships of Wellesley, Wilmot, Woolwich and North Dumfries" (Regional Municipality of Waterloo, 2002) (Appendix A).
- **Consumer**. Any student, staff or faculty member at the University of Waterloo who purchases food on campus.

4.2 Scope

The research investigated food purchasing practices of both the Department of Food Services and of individual consumers on the University of Waterloo campus. Because a number of food outlets on campus are independently contracted and have different suppliers, the scope was limited to purchasing practices at cafeterias and outlets that fall under the Department of Food Services (Appendix B). Although data

on organic food was collected and analysed, the focus of the research was primarily to investigate the level of awareness and support for locally produced food on campus.

4.3 System Boundaries

It is widely recognized that many economic, social and environmental issues are characteristically complex (Azuma & Fisher, 2001). Accordingly, a systems approach was used to examine the underlying socio-economic and political structures that influence the purchasing of food on the University of Waterloo campus.

The small-scale analysis of food purchasing practices at the University of Waterloo was viewed as a subsystem of the larger food production, processing and distributing system of the Region of Waterloo. All food and beverage products delivered to and distributed by cafeterias (operated by the Department of Food Services) on campus were identified as inputs to the system. Although a number of potential outputs could be identified, such as the burning of fossil fuels and the disposal of excess packaging, a detailed evaluation of these outputs was considered to be beyond the scope of this report.

4.4 Actors

4.4.1 Core Actors

- **Department of Food Services.** Responsible for food purchasing on campus (University of Waterloo Food Services, 2002).
- **Food Services customers.** Sample population completing questionnaire.

4.4.2 Supporting Actors

- **Region of Waterloo food producers, processors and distributors.** Provide local products for residents in the Waterloo Region.
- **University of Waterloo Waste Management Coordinator (Patti Cook).** Responsible for working with service departments to improve existing systems and facilitate the implementation of new initiatives on campus (University of Waterloo, 2001).
- **University of Waterloo Administration.** Responsible for budget allocation on campus.

4.4.3 Shadow Actors

- **Food Advisory Board**. Includes students, dons, Food Services representatives, a Registered Dietician, and the Director of Business Operations at the University of Waterloo. Formed to "meet the dining needs of [Food Services] customers" (University of Waterloo Food Services, 2002).

5.0 Background

There is a considerable amount of research available with respect to local food systems. Direct institutional purchasing, however, appears to be a relatively new topic, particularly within Canada. For this reason, much of the literature evaluating the benefits and barriers to direct purchasing arrangements often comes from American or European sources.

However, groups examining food security issues are becoming increasingly prevalent across Canada. Foodlink Waterloo Region is a local example of a non-profit organization that aims to bring farmers and consumers closer together in order to create a more sustainable food system (Foodlink Waterloo Region, 2002). Together with the Waterloo Region Community Health Department, Foodlink has developed a pamphlet entitled *Buy Local! Buy Fresh!*, which lists over thirty farms in the Waterloo Region where consumers can purchase food directly at the farm-gate (Appendix C).

The Waterloo Region Community Health Department is just beginning to examine institutional food purchasing practices. In fact, it was not until recently that a nutritionist was hired to examine this issue (Desjardins, 2002). This year, the health department is the looking at the possibility of implementing Farm-to-School programs in the Waterloo Region. Several communities in the United States have had great success with these programs, whose aim is to partner local farmers with nearby schools (Azuma & Fisher, 2001).

Only one WATgreen project has studied sustainable food systems on campus. This project, entitled *Final report: on the local and organic approach to food on the University of Waterloo campus* (Botelho, Cunningham, Duimering, Jackson & Landry, 1991), reported mainly on the introduction of organic foods in the *Wild Duck Café*. Unfortunately, this café is no longer in existence and no further research has been done with respect to locally produced food procurement on campus.

6.0 Methodology

The research used a methodological approach based on both quantitative and qualitative design. Three different approaches were used to complete the research, including a literature review, a key informant interview and the administering of a customer survey. Each of these methods is outlined below.

6.1 Literature Review

The literature review was an integral component of the research, as much information was needed to develop a sufficient knowledge base with regards to sustainable food systems. In order to ascertain validity and reliability, a review of the literature was first conducted in sources recognized by the scientific community (Palys, 1997). Literature examining Farm-to-School and Farm-to-College programs was of particular importance to the discussion and recommendations section of this report.

Next, a review of previous WATgreen projects was done to assess the efforts that had already been carried out on the University of Waterloo campus with respect to sustainable food systems. As discussed above, there was only one project that examined the incorporation of alternative food products in campus cafeterias. The recommendations set forth by the project were helpful in determining the focus of this study.

Lastly, an Internet search was conducted to determine whether other educational institutions had implemented sustainable food system initiatives on their campuses.

The University of Wisconsin-Madison, Northland College, Cornell University and the University of British Columbia were found to have completed the greatest amount of work in this area and proved valuable resources for this study. It should be acknowledged, however, that efforts at other institutions may have been overlooked as the navigation in each website differs and completed studies were not always available on-line.

6.2 Key Informant Interview

An interview with the Assistant Director of Food Services, Jeffrey Chalmers, was conducted on January 23, 2003. This interview allowed the researcher to acquire a better understanding of food policy and trade activity on the University of Waterloo campus (Appendix D). Although not particularly committed to the idea of offering locally produced food in cafeterias on campus, Chalmers did express an interest in exploring consumer attitudes towards organic food. As a result, the Department of Food Services offered to pay for the printing and coding of the questionnaires on the condition that questions pertaining to organic food be added. A $25 gift certificate for use at any Food Services outlet on campus was also offered as a draw prize for study participants.

6.3 Customer Survey

On its website, the Department of Food Services claims that "we need and want to know what our customers think and how we can serve them better" (University of Waterloo Food Services, 2002). By surveying students, staff and faculty at the University of Waterloo, it was possible to assess the level of awareness and support for sustainable food systems on campus (Appendix E & F). The information could then be passed on to the Department of Food Services to help guide meal plan delivery.

Prior to submitting the proposed questionnaire to the Office of Research Ethics (ORE) at the University of Waterloo, a pre-test was performed to assess for ambiguities and common misunderstandings (Palys, 1997). Final revisions were made and approval to administer the questionnaire was subsequently obtained. Data collection took place Thursday, February 13, 2003.

A purposive sampling method was utilized as only registered students, staff and faculty at the University of Waterloo were to be included in the research (i.e. visitors on campus were not invited to fill out the questionnaire). The data collection took place outside two main cafeterias on campus: *Mudie's* and *Revelations*. Located within the residence buildings of Village One (V1) and Ron Eydt Village (REV) respectively, these cafeterias mainly serve students living in residence. Chosen in conjunction with the Assistant Director of Food Services, the sites were considered to be important collection areas as meal plans are currently mandatory for students living in V1 or REV and any changes to menu selection, especially changes to the cost of

the meal plans, would have the most affect on this group of students (Chalmers, 2003).

Largely because *Mudie's* is housed in the biggest residence building on campus, it continually has the most sales of any food outlet at the University of Waterloo (Chalmers, 2003). Accordingly, if local and/or organic food were to be introduced into meal choices on campus, it would most likely be at this cafeteria (Chalmers, 2003). In order to account for this in the research design, it was decided that the majority of questionnaires would be collected at *Mudie's*.

Data collection took place between 10:00am and 4:00pm at V1 and between 4:15pm and 7:00pm at REV. Customers were approached in-person and invited to participate in the research. The questionnaire, aimed at determining the level of awareness and support for sustainable food systems on campus, contained both open-ended and close-ended questions. Several questions were of Likert-type structure in hopes of identifying response patterns characterizing different "camps" of opinion (Palys, 1997).

Data was organized and tabulated through the use of Mark Reflex data sheets (Appendix G). Questionnaire responses were transcribed by the researcher onto the sheets, which were then fed through a reader at the Computer Help & Information Place (CHIP) on the University of Waterloo campus. The process of data analysis involved further coding of the data set onto an Excel file in the form of a "cases $\times$ variables" matrix (Palys, 1997).

The final data set was verified for accuracy by cross tabulating the original coded sheets with the new computer matrix. Descriptive and inferential statistics were then used to analyse and summarize the quantitative data (Palys, 1997). Qualitative data was organized by transcribing individual answers into an Excel file. Answers could then be grouped based on similarity of response.

6.4 Study Limitations

6.4.1 General Limitations

As with most student research, time constraints were a major limiting factor in this study. In particular, the decision to use Mark Reflex data sheets meant reformatting several parts of the questionnaire and resubmitting the final draft to the Ethics Review Board. By the time the questionnaire received approval, the dates for data collection were rather limited.

Based on the Department of Food Services' previous experience in conducting surveys on campus, it was suggested that the questionnaire not be delivered during or immediately following reading week. In order to ensure sufficient time for data analysis, the Thursday prior to reading week was chosen as the best option for data collection. As will be discussed in the following section of this report, this appeared to have had an effect on the efficiency of the collection strategy.

Human resource limitations were also noted as a general limitation to this study. Although the researcher had the assistance of one other student during the

actual data gathering, it was nine hours before a sufficient number of questionnaires were collected. Having a number of students, stationed at different food outlets on campus, would have guaranteed a bigger sample size in much less time. Also, collecting questionnaires at a greater number of food outlets would have allowed for a more representative sample of the campus population.

6.4.2 Survey Limitations

The time period chosen to administer the survey seemed to have negatively affected the overall efficiency of data collection. For example, students often declined the request to fill out a questionnaire, explaining that they were on their way to a midterm. It is also possible that several students had already left for reading week and were thus not captured in the study.

Having the researcher posted at the entrance to the cafeteria serving area was also an obstacle for data collection. Understandably, customers often stated that they were more interested in eating than in sitting down and participating in the research. Based on the pilot study, however, there was no better option if the questionnaire was to be done face-to-face.

As data was only collected at two sites on campus and mainly involved students living in residence, the research findings cannot be considered as representative of the entire university campus population. The Department of Food Services did state; however, that if changes were to be made to the meal

selection on campus, students living in residence would be most affected by any price changes. Therefore, the resulting data should at least be meaningful to Food Services.

7.0 Results

7.1 Literature Review

In order to ensure validity and reliability, a literature review was first conducted in sources recognized by the scientific community (Palys, 1997). Refereed journals such as *Agriculture and Human Values, Journal of Rural Studies, Alternatives Journal* and the *American Journal of Alternative Agriculture* were particularly useful in this research.

Background information on sustainable agriculture, as well as specific research concerning local food systems, could be found in all of these sources.

The WATgreen database was also searched in order to identify previous student research related to sustainable food systems on campus. *Final report: on the local and organic approach to food on the University of Waterloo campus* (1991) was the only report to fit this description (Botelho, Cunnignham, Duimering, Jackson & Landry, 1991). This particular project did result in the introduction of organic alternatives in the *Wild Duck Café*, however, the café is no longer in existence and no further research has been done with respect to locally produced food procurement on campus (University of Waterloo, 2001).

Lastly, the Internet was used to search for additional information on sustainable food systems. General websites that proved particularly useful included those for Agriculture and Agri-Food Canada, Statistics Canada and Canadian Organic Growers. An especially notable on-line resource was the Community Food Security Coalition.

In their publication *Healthy Farms, Healthy Kids: evaluating the barriers and opportunities for Farm-to-School programs* (Johnson & Stevenson, 2001), seven direct purchasing programs across the United States were evaluated. Overall, it was found that Farm-to-School programs provided substantial benefits to both participating farmers and schools. The authors did acknowledge substantial barriers to the success of these programs, including additional food and labour costs. However, the report concluded that Farm-to-School projects have considerable potential as part of an integrated approach to de-commercializing education, improving the health of youth and sustaining local food systems (Community Food Security Coalition, 2001).

In addition to general websites, various university and college websites were also searched. A number of valuable research documents - focussed specifically on institutional purchasing of locally produced food - were found to be available on-line. For example, the University of Wisconsin-Madison (UW-Madison), widely recognized as a leading research institute on food related issues, had recently made available their study entitled *Something to Cheer About: national trends and prospects for sustainable agriculture products in food service operations of colleges and universities* (1998).

In this paper, information gathered through anecdotal reports from producers, processors and marketers of sustainable agriculture products indicated that trade opportunities with educational institutions were difficult to establish and maintain. The study argued that by focusing on profitability, efficiency and supply contracts, most food service operations neglected to seriously examine the possibility of implementing community-level food purchasing practices. However, as the title of the paper suggests, many opportunities to establishing direct purchasing relationships could be identified. Institutions were encouraged to capitalize on these benefits and increase their current purchases of sustainable agriculture products (Johnson & Stevenson, 1998).

Unlike most universities where students have led the push for sustainable food systems, the faculty and staff at UW-Madison were the first to request that local products be used in campus cafeterias. Since the initiation of farmer-direct buying in the mid-1990s, UW-Madison Food Services has been serving items such as Wisconsin-grown apples, organic blue corn chips and organic potatoes on a regular basis. They also have many organic foods from outside of Wisconsin on their regular menu. Several times a year, Food Services organizes special events in the dorm dining halls that feature locally produced and organic foods (Center for Integrated Agricultural Systems, 2002a).

Northland College has also been a leader in supporting sustainable food systems on campus. In 1994, due to strong consumer demand, college administrators were able to negotiate their contract with a large multinational food supplier to

include locally grown and organic food in their menus. While Northland College is located in a region with a relatively short growing season, it manages to secure 15-20 percent of its food locally during the course of the year (Johnson & Stevenson, 1998). This has been achieved through farmer-direct buying that has mainly focused on storage crops such as carrots, potatoes and onions – all of which are organically grown. The achievements at this institution prove that customer demand can influence food services to support local farmers, even when the service provider is a for-profit contractor (Center for Integrated Agricultural Systems, 2002b).

The Cornell Food Project is another initiative in the Northeast Region of the United States that acknowledges the benefits of sustainable food systems. Operated entirely by Cornell students, the main objectives of this project are to provide information to the public on how to achieve a sustainable food system; to support local farmers and; to provide healthy meals at *Cornell Dining* using food grown and/or processed in the local and Northeast regions (Cornell University, 2002). Since 1999, the Cornell Food Project has been working closely with Cornell Dining and Retail Services to increase the amount of locally produced food served in campus dining halls (Haupt, 1999).

An excellent example of a sustainable food system initiative on a Canadian campus can be found at the University of British Columbia (UBC). The *UBC Farm* is a 40 hectare model farm that integrates sustainable land management and food production practices with applied research, education and community outreach. It grows a wide variety of organic crops, including radishes, kale, peas, beans, turnips

and tomatoes, as well as various herbs and flowers (University of British Columbia, 2002). Although it appears that a vast amount of student research has been done on food systems at UBC, no projects could be accessed via the Internet. Therefore, it could not be determined whether *UBC Farm* provides items for use in the cafeterias on campus.

7.2 Key Informant Interview

Jeffrey Chalmers is the Assistant Director of Food Services at the University of Waterloo. Conducted on January 23, 2003, this interview allowed the researcher to acquire a better understanding of current food policy and trade activity on campus. The results of this interview provided insight into various purchasing aspects affecting the decision to integrate locally produced products into the University of Waterloo food system.

In order to get a general sense of how food purchasing proceeds on campus, the interview began with a discussion about purchasing policies across campus. Interestingly, although there are specific food purchasing policies at the University of Waterloo, food outlets that operate under the Department of Food Services are essentially "exempt" from these policies. Because the department is seen to be acting in the best interest of the university and responding to consumer demand, Food Services is not required to go through the university's administration office when making their purchases. Overall, the Department of Food Services has a tendency to focus more on what Chalmers termed "best practices" rather than on specific policy.

Roughly half of all Food Services transactions take place in *Mudie's* (Village One Residence) and *Revelations* (Ron Eydt Village). For the week of January 2, 2003 there were 58 203 transactions across campus, with 18 333 occurring at *Mudie's* and 7772 at *Revelations*. On average, Food Services sells approximately 1400 dinner meals per night between these two cafeterias, with Wednesday being their busiest day of the week. Next year, there is an anticipated 5500 students entering first-year, most of which will be living in Village One or Ron Eydt Village. Both residences require students to purchase meal plans.

The next set of questions focussed specifically on how the department goes about making their food purchases. Rather than purchasing food directly, Food Services contracts with distributors and suppliers. It is "practice" to contract with local *suppliers* (e.g. Don's Produce); however, all suppliers purchase their produce from the Ontario Food Terminal in Toronto (OFT). As a result, Food Services saw no way of determining where each food item coming onto campus was actually produced.

In fact, the production location is not of particular importance to the department's purchasers. Instead, the most important factors when selecting products are quality and price. Quality encompasses the notions of cost-efficiency/yield (i.e. when a can of tomatoes is emptied, is it easy to get all of the product out?) and consistency (i.e. Food Services buys as many brand names to ensure reliability). Chalmers did state that Food Services is willing to pay more for a quality product if it is local, which he defines as food produced anywhere in Ontario or Quebec.

Food is delivered at all different times across campus, depending on the need (e.g. a catering event would necessitate a larger volume). In terms of quantity, the most important food items are broccoli, apples, iceberg lettuce and romaine lettuce. During the summer months, most of these products are known to come from farms in Ontario and Quebec. However, the department did not have records showing exactly where these products were produced.

At present, none of the department's purchases are organically produced. This is an area that Chalmers is eager to investigate as he believes that organic food has a huge market potential. He expressed interest in collaborating with the interviewer to investigate attitudes towards organic food on campus.

When asked about the barriers to purchasing locally produced food, Chalmers stated that the main issue was the large quantity of food needed by Food Services. To his knowledge, local farms could not provide enough produce to meet this need on demand. Safety was also a matter of concern. At present, Food Services uses as many brand name items as possible because it is believed that the companies that make these products, having bigger insurance coverage, can take better responsibility for any health and safety matters that should arise (e.g. outbreak of food-borne illness). Evidently, small farms would not be able to provide the university with this security.

Chalmers did note many potential benefits to purchasing locally produced food, including reduced transportation costs, support for local businesses and acquiring fresher and more nutritious products. In fact, the availability of fresh and

nutritious food was mentioned as a perceived weakness of Food Services that Chalmers would like to improve upon. Organic food was again noted as way of working towards this goal.

The factors necessary for Food Services to change its purchasing practices were listed as follows:

- The most important factor is to ensure that Food Services does not break any existing contracts with suppliers/distributors (e.g. beverage and dairy suppliers). They are part of a co-op with four other universities and have specific contracts that they must honour.
- A change has to prove economically beneficial.
- The new product(s) must be of high quality.

Although these factors are essential, the department does make room for exceptions. When an issue or request is brought to the attention of the department, either through an individual, group and/or the Food Advisory Board at the university, attempts will be made to modify their service. Changes that have been implemented in the past have included a Halal program at *Mudie's* and the selling of Fair Trade coffee at three outlets on campus.

7.3 Customer Survey

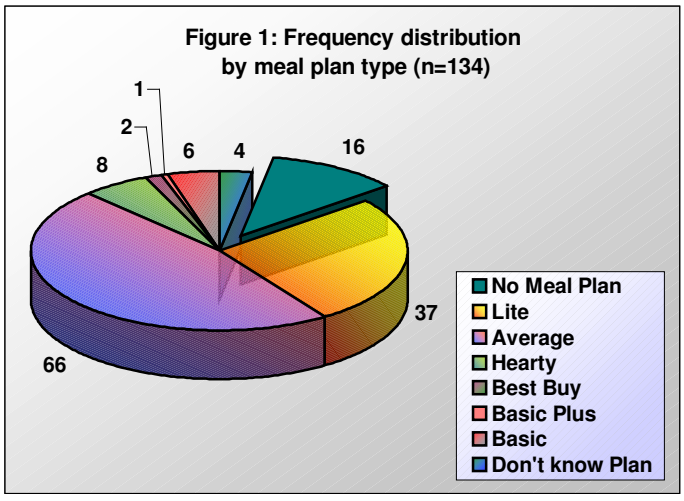
7.3.1 The Survey Sample

The number of questionnaires filled out by Food Services customers totalled 140. Of these, 103 (74%) were collected at *Mudie's* and 37 (26%) were

collected at *Revelations*. This split closely mirrors Food Services data provided for the week of January 2, 2003 where a total of 26 105 transactions took place between these two cafeterias, with 18 333 (70%) occurring at *Mudie's* and 7772 (30%) occurring at *Revelations* (Chalmers, 2003). It also considers the information, provided by Chalmers, that if local/organic food choices were to be integrated into a cafeteria on campus, it would most likely be at *Mudies's*.

The survey population can be described based on the answers given for questions 1 – 4 of the questionnaire. All respondents were students, with the majority (59%) being male. Ninety-six percent of the sample indicated that they were living in an on-campus residence. Of these, 54% were living in Village One (V1), 30% in Ron Eydt Village (REV), 10% in Mackenzie King Village (MKV), 4% in Columbia Lake Townhouses (CLT) and 1% in Eby Hall. Seeing as meal plans are mandatory in most on-campus residences, it is not surprising that 134 (96%) respondents also marked that they were on a meal plan. The number of students on each type of meal plan is depicted in Figure 1.

Most respondents were on the Average meal plan, with the second most popular type being the Lite Plan. This information was important to the research because further analysis could be



done to see, for example, what proportion of students on a particular meal plan were interested in local or organic food.

7.3.2 Responses

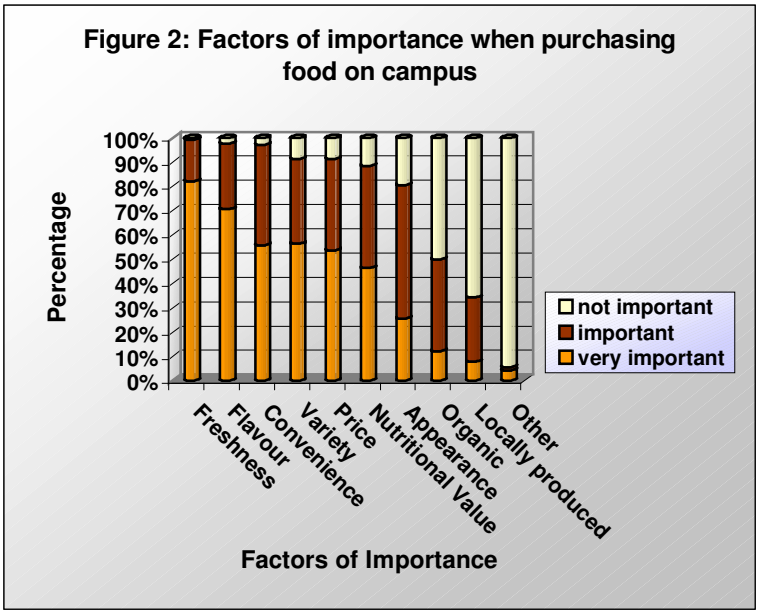
7.3.2.1 Customer Attitudes

Several questions assessed consumer attitudes towards local and organic food. In question 8 of the questionnaire, respondents were asked to mark the importance of several factors with respect to their food purchases on campus. Thirty-four percent of respondents marked local food as important or very important to them. Numbers were slightly higher for the importance of organic food, which was indicated as being important or very important by nearly 50% of the sample.

Of those students living in residence and having the Average meal plan (n = 66), 14 stated that local food was important to them, while only 3 saw this factor as very important to their food purchases. Attitudes towards organic food were slightly higher, with 22 describing it as important and another 6 considering it very important. These numbers indicate that approximately 26% of students on the Average meal plan find local food important or very important, while 42% find organic to be important or very important.

Of those students living in residence and having the Lite meal plan (n = 37), 11 stated that local food was important to them, while another 3 stated that it was very important to them. As for these students' attitudes towards organic food, 6 felt it was an important factor affecting their food purchases and another 16 stated it as being very important. These numbers show that approximately 38% of students on the Lite meal plan find local food important or very important, while 59% find organic food to be important or very important.

When all factors are looked at together, however, other trends become obvious. Figure 2 illustrates this fact. Even though a number of students stated that local and organic food are important to them, other factors such as freshness, flavour and convenience tended to be more important overall. Although not included in this chart, the same trends were noted with respect to purchases made off campus.



When considering the study participants who were not living in residence (n = 6), 4 marked both local and organic as important factors in their on-campus purchases. The case appeared similar for purchases made off campus. Although these numbers are substantially higher than those for students living in residence, the sample size was far too small to yield representative results.

Since *Mudie's* would be the likely spot for changes to menu selections on campus, a look at the attitudes of customers who frequent this establishment was warranted. The following tables show customers' views with respect to the importance of local and organic food, as well as their stated willingness to pay extra for these types of food choices.

Table 1: Attitudes of Mudie's customers towards locally produced food.

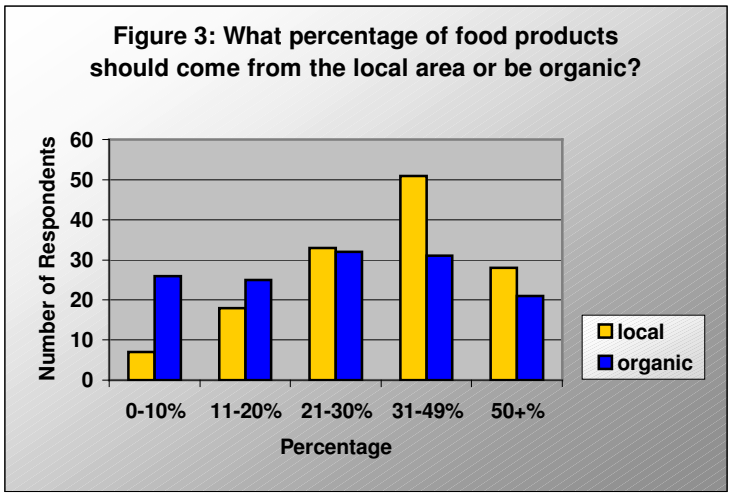
Eating at Mudie's	**Locally produced food**			
	Not Important	Important	Very Important	Will Pay More
Often (n=93)	58 (62%)	28 (30%)	7 (8%)	28 (30%)
Sometimes (n=36)	26 (72%)	7 (20%)	3 (8%)	8 (22%)
Total (n=129)	84 (65%)	35 (27%)	10 (8%)	36 (28%)

Table 2: Attitudes of Mudie's customers towards organic food.

Eating at Mudie's	**Organic food**			
	Not Important	Important	Very Important	Will Pay More
Often (n=93)	48 (52%)	34 (36%)	11 (12%)	35 (38%)
Sometimes (n=36)	17 (47%)	14 (39%)	5 (14%)	18 (50%)
Total (n=129)	65 (50%)	48 (37%)	16 (13%)	53 (41%)

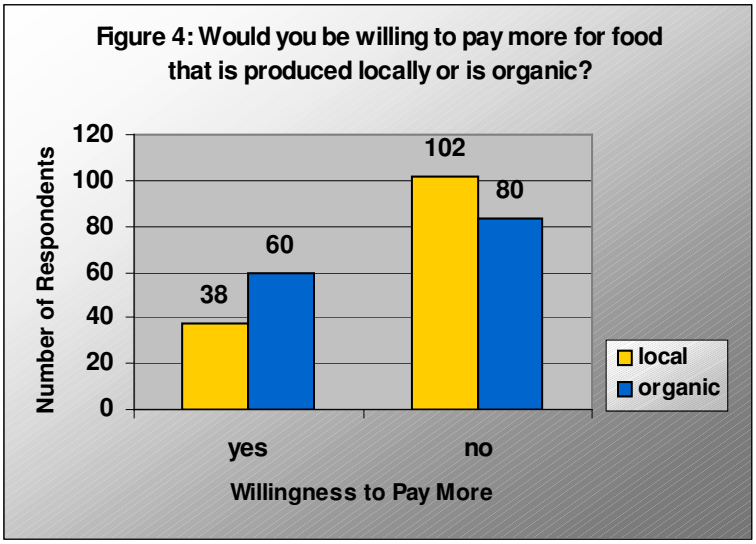
The data suggests that, of the students who frequent *Mudie's*, just over 35% see local food as important or very important and 28% of these students would be willing to pay more for it to be offered on campus. As for organic food, 50% of the students that eat at *Mudie's* see this choice as important or very important, with 41% willing to pay more for it to be offered on campus.

Questions 10 and 13 asked participants to indicate how much food on campus *should* come from the local area or be organic, respectively. As shown in Figure 3, 51 respondents (37%) of the total sample (n = 140) marked that 31-49% of food should come from the local area. Opinions for organic food were more evenly distributed, with the majority marking that anywhere between 21-50% of the food on campus should be organic.

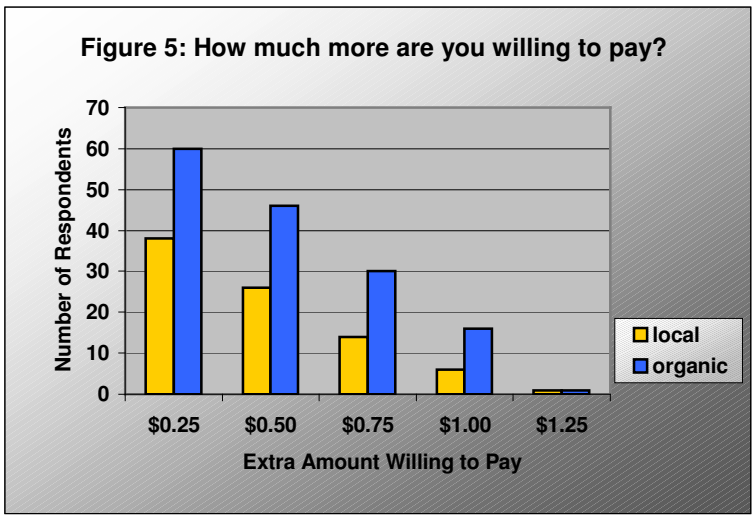


Respondents were also asked whether they would be willing to pay more for food that is produced locally or that is organic. Despite the high

percentage of respondents believing that one-third to one-half of the food on campus should come from the local area, only 38 respondents (27%) marked that they would also be willing to pay more to have this option available to them. As can be seen in Figure 4, a higher number of respondents were willing to pay more to have organic food choices on campus.



Lastly, Figure 5 indicates how much more respondents would be willing to pay for local or organic food choices on campus, supposing that a regular meal costs roughly $5.00. It was assumed that those accepting a price increase of $1.00, for example, would also tolerate an increase of anything below this value. Thus, the column for $0.75 includes all



those who marked that they would accept an increase of $0.75, as well as those who marked that they would be willing to pay $1.00 and $1.25. The figure for $0.25 includes all respondents willing to pay more.

7.3.2.2 Customer Awareness

Three questions provided respondents with the opportunity to indicate their awareness with respect to sustainable food systems (Questions 12, 15 and 16). These questions asked the respondents to list food products produced in the Waterloo Region, as well as comment on the positive and negative aspects to supporting local agriculture.

Nearly half of the respondents did not answer question 12, which read: “Please identify any food products that you believe to be produced in the Region of Waterloo”. However, those who did provide an answer could correctly identify food products that are produced within Waterloo Region. Although many respondents simply wrote “fruit” or “vegetables”, specific answers included corn, potatoes, apples, milk, beef and bread. Five respondents wrote that no food products were produced within the Region of Waterloo.

The majority of customers indicated positive aspects to supporting local agriculture. The two most frequently cited aspects were that it helps

support the local economy and that it provides fresher food for the community. Few respondents mentioned the environmental or health benefits associated with supporting local agriculture.

Among the comments given for the negative aspects of supporting local agriculture, 16 respondents claimed that there were none. The two most frequently cited aspects were that local products are more expensive and there is often less variety (due to cold weather). A number of respondents also indicated that the practice of buying locally grown items disproportionately focuses on location rather than on quality.

8.0 Interpretation of Results

The results of this research were found to be consistent with previously published studies on consumer attitudes towards locally grown produce (Bruhn, Vossen, Chapman & Vaupel, 1992; Lockeretz, 1986). However, as discussed in the limitations section of this paper, the data in this study are not entirely representative of the larger population on the University of Waterloo campus. The following interpretations must be considered within this context.

With respect to the key informant interview, it appears that the Department of Food Services is willing to try new ideas, as long as they prove economically feasible. The fact that the department wants to provide more nutritional choices in their future menus is a good first step towards incorporating local and/or organic choices into campus menus. Chalmers did have some knowledge regarding institutions that have

begun to incorporate organic foods into their menus but he was not aware of any of the initiatives involving direct purchasing from local farmers. He mentioned that he loves to "look in a [dining services] magazine and see that the University of Waterloo is already doing that" (Chalmers, 2003). Perhaps if he were to be made aware of the successes of other food service providers that are running Farm-to-College projects, he would take the purchasing of local food more into consideration.

There are many points to consider regarding the customer survey. For instance, when survey participants were asked to mark the importance of certain factors with respect to the food/beverages that they purchase on and off campus, flavour and freshness were noted as the most important factors overall. According to a report in *California Agriculture* (1992), local produce is often fresher and tastes better than produce that has traveled through the conventional marketing system (Bruhn, Vossen, Chapman & Vaupel, 1992). Although several students indicated freshness as a benefit to purchasing locally, the connection between freshness and flavour did not appear to have been made by the participants in this study.

In addition, participants rarely mentioned any environmental or health benefits associated with local food systems. It has been widely documented that imported foods rely heavily on fossil fuels, packaging and preservation (Azuma & Fisher, 2001). By comparison, local food systems are often associated with fewer environmental problems and have the potential for very high quality products that can be harvested when fully ripe. With minimum shipping, food can arrive at the university shortly after harvest and, if held at the proper temperature, will have little

loss in nutritive value (Bruhn, Vossen, Chapman & Vaupel, 1992). It appears that the study participants would benefit from learning more about the environmental and health aspects of local food systems.

In an open-ended question with respect to negative aspects of supporting local agriculture, many respondents stated that both local and organic products costs more than food purchased through conventional channels. However, studies at the University of Wisconsin-Madison suggests otherwise. Recent research on institutional food purchasing found that, while items such as local and organic beef were considerably higher in price, other items such as apples and tortilla chips proved to be less expensive (Center for Integrated Agricultural Systems, 2002c). Again, study participants would benefit from an increased understanding of the true costs of sustainable food systems.

As noted in the results section of this research, many students did not answer the open-ended question that asked them to identify food products that are produced in the Waterloo Region. This caused minor problems in interpreting the results as it was not evident whether the student either had no guess or simply did not feel like taking the time to think about the question. However, the top 10 food crops in Ontario are corn, peas, apples, tomatoes, grapes, beans, pumpkins, carrots, cucumbers and onions and the students who did answer the question were able to indicate many of these products (Ministry of Agriculture and Food, 2002).

There could be several reasons as to why the majority of students do not seem interested in supporting local agriculture. One major factor may be because many

students do not live in the Waterloo Region throughout the whole year and may not even be thinking of staying in Waterloo after they graduate. Therefore, they may see no strong need to purchase local food, particularly if they are unaware of the environmental and social benefits of supporting local farmers. More importantly, many students stated that they already think that the meal plan is too expensive. Even if they think that supporting local farmers is important, they may not engage in the effort because they "can't afford it".

9.0 Discussion & Recommendations

> *"The farm income crisis we've all heard about is real. Today, net farm income for many farmers is as low as it was during the great Depression. But this isn't the Depression. The world economy hasn't collapsed; the stock markets haven't crashed; and there has not been a prairie-wide drought. Never during times of economic prosperity have we seen a farm crisis of this magnitude"*(Family Farm Tribute, 2001).

Of all occupations in North America, farming is facing the greatest decline. In fact, in the United States farming is not even listed in the 2000 census as an occupation (Family Farm Tribute, 2001). Increasing costs for land and water coupled with the unchecked growth of agribusiness is causing growers to sell their farms in order to feed their own families. To make ends meet, most farms now rely on the income of family members working off-farm (Azuma & Fisher, 2001).

Interestingly, while farmers' wallets are getting slimmer, students across North America are experiencing an epidemic of obesity. For many post-secondary students,

on-campus dining halls provide a significant proportion of their meals. Unfortunately, a number of colleges and universities are now contracting meals out to fast food chains. This trend is having negative effects on student health (Azuma & Fisher, 2001).

Farm-to-College programs can help improve students' eating habits, while also offering opportunities for increasing farmer income (Markley, 2002). Promoting these partnerships also strengthens relationships between the community and the university or college (Community Food Security Coalition, 2002c).

A study of 18 Farm-to-College projects across the United States showed that consumption of local foods and the awareness of the benefits to supporting local agriculture are on the rise amongst students. Many campuses have student greening groups that are developing educational materials and programs on sustainable agriculture and the benefits of eating locally produced foods. The future of small farms, the environment, and students' eating habits looks brighter because of these partnerships between farmers and colleges (Community Food Security Coalition, 2002c).

Based on the results of this research, the following recommendations are offered to the Department of Food Services at the University of Waterloo:

- Study other perspectives towards sustainable food systems on campus, including those of staff, faculty and upper-year student populations. Although the sample size for students living off-campus was rather small in

this study, there appeared to be a higher interest in local and organic food within this population when compared with those students living in residence.

- Determine the origin and growing methods of major Food Services purchases and investigate the actual increase in price associated with the use of locally produced and organic food on campus. A number of students did express that they would agree to a slight increase in the cost of their meals in order to have local and/or organic food choices on campus. The university could make up this difference by economizing on other items on the menu. The following quote from Northland College administrator, Tom Wojciechowski, explains:

> "Most of the items that we are doing local and organic cost a little more. We do all kinds of trade-offs. We do a steak night twice a month that is kind of a high cost meal. We could go down to one day a month with that and save enough money to bring in another organic product" (Northland College, 2002b).

- Consider collaborating with the Waterloo Region Community Health Department in implementing the Regions' first Farm-to-College project. Not only could this initiative yield the environmental, social and health benefits outlined in the literature, but it may also result in increased publicity and positive recognition for the University of Waterloo Department of Food Services.

Of course, it is not solely up to the Department of Food Services to promote the benefits of supporting sustainable food systems. Thus, the following recommendations suggest a collaborative approach between the Department of Food Services, staff, faculty and students on the University of Waterloo campus:

- Educate the campus population by giving out information on sustainable food systems and samples of locally grown food.
- Investigate sources of food that local farmers can easily sell. This includes seasonal food that is being grown in large quantities, food that can be stored without processing and products that customers will especially appreciate like fresh tomatoes, local apples, and cheeses.
- Offer a special event featuring food from local farms, such as a catered local meal or a local, organic dinner in the dining centre. This can demonstrate student and community interest, allowing administrators to see that buying directly from farmers is possible.
- Organize tours of local farms. Invite food service staff along with local restaurant owners and chefs who are already buying and serving locally grown and organic food in their restaurants.

10.0 Summary

The overall health of a community is an important indicator of its vitality and sustainability. This health can be assessed, in part, by evaluating the quality of the local food system. Not only does a varied diet contribute to individual health, but the

way that food is grown and distributed also profoundly affects the environmental, social and economic well-being of a community. A logical and appropriate way to revitalize a community is through the development of a local food economy. (Feenstra, 1997).

The local food movement, steadily growing from the grassroots, is making its presence felt in the rising demand for organically produced food and in the growing popularity of farmers' markets (Lyson, Gillespie & Hilchey, 1995). Consumers and farmers are forging links to promote smaller-scale, more diversified and ecologically sound agriculture (Norberg-Hodge, Merrifield & Gorelick, 2000). People are beginning to realize that by relying more on locally grown and organic foods, they can help solve a whole range social, environmental and health problems in their communities.

Shortening the links between farmer and consumer may in fact be the most enjoyable way to bring about fundamental change for the better. Achieving this objective, however, will require creative solutions for challenging powerful government policy and corporate interests. By integrating local and organic food choices into campus cafeterias, the University of Waterloo could prove its leadership and support for a more sustainable approach to food purchasing.

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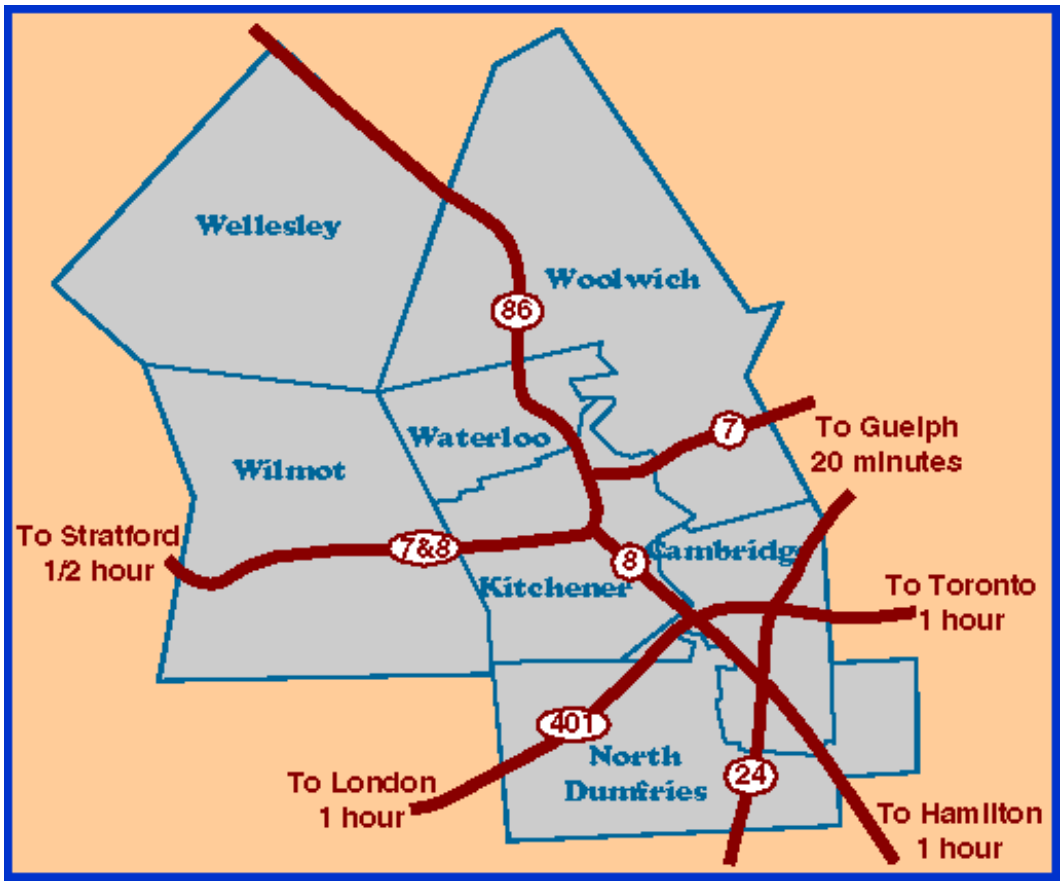
Appendix A

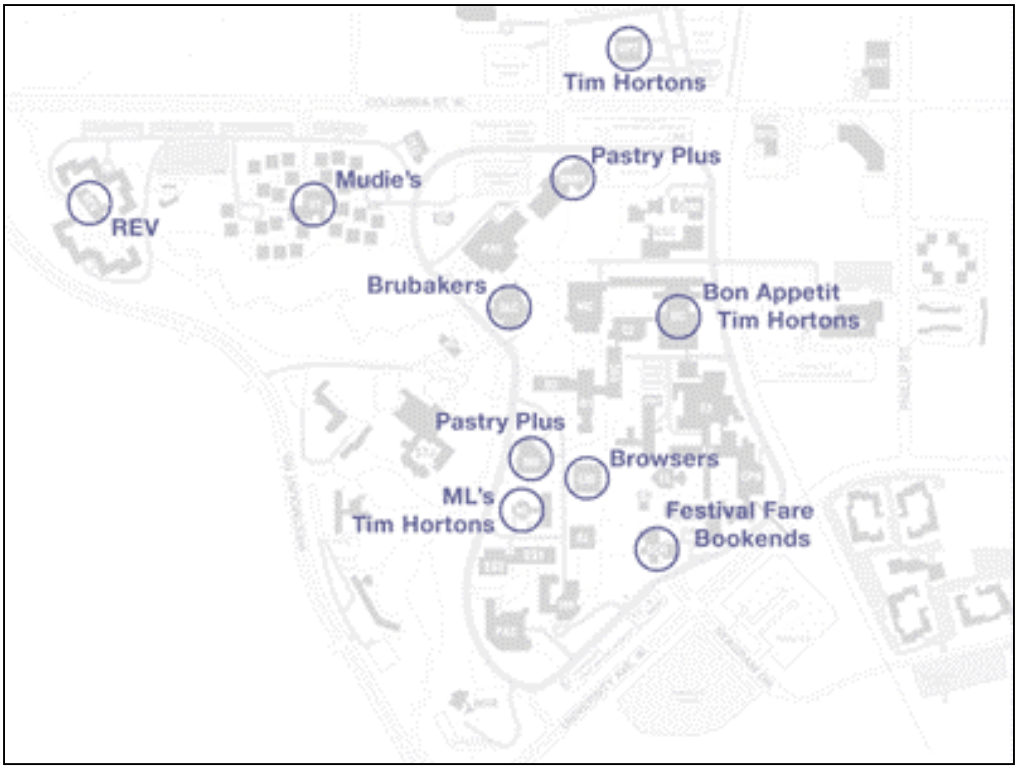
Map of Regional Municipality of Waterloo



(Waterloo District School Board, 2000)

Appendix B

Eateries Managed by the Department of Food Services



(University of Waterloo Food Services, 2002)

Appendix C

Buy Local! Buy Fresh! Pamphlet

Inserted in hardcopy. Please see Region of Waterloo website.

Appendix D

Key Informant Interview

1. Are there any official purchasing policies at Food Services?

- There *are* specific purchasing policies for the University, however, any food outlet that falls under the Department of Food Services (see website) is, in a sense, "exempt" from these policies. Basically, it is thought that they are acting in the best interest of the University and responding to demand – they can therefore sign-off for their own purchasing

- Small coffee & donut shops, such as the Math & Science outlets, are responsible for their own purchasing (and often have different suppliers)

2. Of the total purchases of Food Services, what are some of the most important food items purchased?

- In terms of quantity, the most important food items purchased are broccoli, apples, iceberg lettuce and romaine lettuce

- Most of these products are from Ontario and Quebec (lettuce), particularly during the summer months

3. What factors go into the purchasing of products at Food Services? For example, how do you decide on which potatoes to purchase?

- Food Services does not buy their food directly. Instead, they contract with distributors and suppliers

- Many of Food Services produce *suppliers* are local (within Waterloo Region), but they all purchase from the Ontario Food Terminal in Toronto (OFT)

- When making purchases, the factors that are most important to them are quality and price (in order of importance)

- Quality includes cost-efficiency/yield (i.e. when a can of tomatoes is emptied, is it easy to get ALL of the product out?), consistency (i.e. Food Services buys as many brand names as possible as it is believe that the product is consistent/reliable)

- Price includes the fact that Food Services is willing to pay more for a quality product if it is local (Ontario or Quebec)

4. Which of the items identified in Question 2 are *produced* locally?

- Seeing as suppliers buy their produce at the OFT, there is often no way of knowing where each food item is actually produced (according to Food Services). In addition, this is not an important factor for them as they are primarily concerned with the quality and cost of the product
- It should be noted that Food Services definition of "local" is any product produced or processed within Ontario or Quebec (roughly)

5. Approximately what percentage of total food purchases are locally produced?

- See question 4.

6. Approximately what percentage of your total purchases are organic?

- None of Food Services purchases are organic. This is an area that they are eager to investigate as they believe that this area will quickly become a big market. They expressed interest in collaborating with the interviewer to include some questions related to organic food to the proposed questionnaire to be distributed at Food Service outlets.

7. How frequently are deliveries consisting of locally produced food items made to the university campus? Who makes the deliveries?

- Food is delivered at all different times across campus, depending on the need (e.g. a catering event would necessitate a larger volume)

- Food Services makes it a practice to contract with local *suppliers* (e.g. Don's Produce), but it is rarely possible to use local (Waterloo Region) food, produce in particular, due to volume and consistency needed by the Department

- Examples of locally-produced or processed items that Food Services purchases are: candy from St. Jacob's, meat products from Pillar's and Schneider's, Fair Trade Coffee from Kitchener (?)

8. Is "buying locally" an issue for the primary suppliers of Food Services?

- See question 3.

9. What are the existing/potential barriers to the purchasing of locally produced food items by Food Services?

- One of the main existing barriers is the quantity needed by Food Services. It is not feasible to link up with a number of separate farms in the area to supply them with commodities. This is linked with the need for "convenience". Food Services needs fluctuate (e.g. catering) and they need the guarantee that products are available to them

- Safety is also of concern. Food Services uses as many brand names as possible in case it needs to trace back to the source (e.g. outbreak of food-borne illness)

10. What do you see as the existing/potential benefits to the purchasing of locally produced food items by Food Services?

- Save on transportation costs
- Supporting local companies
- Fresher, more nutritious products. This was mentioned as a perceived weakness of Food Services at present. They would like to improve their record for providing more nutritional choices in their menus. Organic food was mentioned as a way of working towards this goal

11. What factors are necessary for Food Services to change its purchasing patterns?

- The most important factor is that Food Services doesn't break any existing contracts with suppliers/distributors (e.g. they have signed onto contracts with beverage and dairy suppliers. They are also part of a co-op with 4 other Universities who have specific contracts that they must honour)

- A change has to prove economically beneficial

- The new product(s) must be a high quality

- Food Services is willing to do promotional campaigns to test out new products (e.g. Tortilla & Salsa promotion in the summer, 3 counters selling completely Vegan menus)

- If an issue comes up through an individual/group/Food Advisory Board, attempts will be made to inquire about change. Changes that have been implemented in the past have included a Halal program at Village One and the selling of Fair Trade coffee at three outlets on campus

Extra Information Gathered During Interview:

- Week of January 2, 2003: 58 203 transactions by FS => 18 333 @ Village 1, 7772 at REV (roughly half of FS Dept. transactions happen in these two cafeterias)

- FS sells, on average, 1400 dinner meals/night between V1 and REV. Wednesday is their busiest day of the week.

- Next year, there is an anticipated 5500 students in first year, most of which will be living in residence (V1 currently has 1379 beds, REV has 1000 beds) – both residences (V1 & REV) require students to purchase meal plans

- FS has never been approached by farmers in the area with respect to direct purchasing (Martin's Fruit Farm apparently sells to Zehr's)

- When asked how they introduce a new item: promotions, chef tries it out and asks clients directly whether they liked it or not

Appendix E

Cover Letter for Questionnaire

Hello! I am a 3rd year student in the Department of Environment and Resource Studies at the University of Waterloo. I am currently working on my 3rd year research project and, under the supervision of Professor Robinson, am examining attitudes toward the purchasing of organic and/or locally produced food on the University of Waterloo campus. For instance, one thing that I am interested in knowing is what is important to you with respect to the food you purchase on campus.

As a participant in this research, you need only fill out a questionnaire, which should take approximately 5 minutes. If you prefer not to respond to a particular question, you may leave the question unanswered. Answers will remain anonymous. The questionnaires will be stored in a locked filing system at the researcher's home until the end of this school term (Winter 2003), upon which they will be shredded in the office of Environment & Resource Studies.

Based on the information obtained through this research, recommendations for future menu selection/food purchasing will be presented to Food Services at the University of Waterloo. In addition, the Waterloo Region Community Health Department, currently examining institutional food purchasing practices, has requested a copy of this research. If you would like to view the research findings, please feel free to e-mail me at dmounce@hotmail.com.

This project has received ethics review and clearance through the Office of Research Ethics and the Department of Food Services at the University of Waterloo. If you have any comments or concerns resulting from your participation in this study, please contact Professor James Robinson at 519-888-4567, Ext. 2706, or Dr. Susan Sykes at the Office of Research Ethics at 519-888-4567, Ext. 6005.

Your participation in this research is greatly appreciated!

Appendix F

Questionnaire

1. Gender: 1a☐ Male b☐ Female

2. Group: 2a☐ Student b☐ Faculty c☐ Staff

3. Do you currently live in a UW residence?

3a☐ No, I don't live in a UW residence.

3b☐ Yes, I live in the following residence:

- 4a☐ V1
- 5a☐ REV
- 6a☐ CLT
- 7a☐ MKV
- 8a☐ Beck
- 9a☐ Wellesley
- 10a☐ Eby
- 11a☐ Minota Hagey

4. Do you currently have a pre-purchased meal plan?

12a☐ No, I am not on a meal plan. I purchase meals at a cafeteria/food outlet ***on*** campus:

- 13a☐ Never
- b☐ Occasionally (i.e. a few times/month)
- c☐ Often (i.e. a few times/week)
- d☐ Always

12b☐ Yes, I am on the following meal plan:

- 14a☐ Lite ($1195)
- 15a☐ Average ($1395)
- 16a☐ Hearty ($1595)
- 17a☐ Best Buy ($1200)
- 18a☐ Basic Plus ($1000)
- 19a☐ Basic ($600)
- 20a☐ Don't really know

5. How often do you eat meals *off* campus?

21a ☐ Never
b ☐ Occasionally (i.e. a few times/month)
c ☐ Often (i.e. a few times/week)
d ☐ Always

6. Please state the number of times per week that you buy each of the following anywhere *on* campus (including outlets that don't accept meal cards):

	0	1	2	3	4+
Breakfast	22a ☐	b ☐	c ☐	d ☐	e ☐
Lunch	23a ☐	☐	☐	☐	☐
Dinner	24a ☐	☐	☐	☐	☐
Snacks/Beverages	25a ☐	☐	☐	☐	☐

7. Please indicate how often you purchase your meals, snacks and/or beverages at each of the following:

	Never	Sometimes (i.e. a few times/month)	Often (i.e. a few times/week)
Bon Appetit (Davis Centre)	26a ☐	b ☐	c ☐
Browsers (Dana Porter Library)	27a ☐	☐	☐
Brubakers (Student Life Centre)	28a ☐	☐	☐
Modern Languages (ML)	29a ☐	☐	☐
Mudie's (V1)	30a ☐	☐	☐
Revelations (REV)	31a ☐	☐	☐
Other: _____	32a ☐	☐	☐

8. Please mark the importance of each of the following factors with respect to the food/beverages you purchase *on* campus?

	Not Important	Important	Very Important
Appearance	33a ☐	b ☐	c ☐
Convenience	34a ☐	☐	☐
Flavour	35a ☐	☐	☐
Freshness	36a ☐	☐	☐
Locally produced	37a ☐	☐	☐
Nutritional Value	38a ☐	☐	☐
Organic	39a ☐	☐	☐
Price	40a ☐	☐	☐
Variety	41a ☐	☐	☐
Other: _____	42a ☐	☐	☐

9. Please mark the importance of <u>each</u> of the following factors with respect to the food/beverages you purchase *<u>off</u>* campus?

	Not Important	Important	Very Important
Appearance	43a☐	b☐	c☐
Convenience	44a☐	☐	☐
Flavour	45a☐	☐	☐
Freshness	46a☐	☐	☐
Locally produced	47a☐	☐	☐
Nutritional Value	48a☐	☐	☐
Organic	49a☐	☐	☐
Price	50a☐	☐	☐
Variety	51a☐	☐	☐
Other: _____	52a☐	☐	☐

10. Approximately what percentage of the food products purchased by Food Services do you think <u>should</u> come from the local area (i.e. Region of Waterloo)?

53a☐ 0-10% b☐ 11-20% c☐ 21-30% d☐ 31-50% e☐ 50^{+} %

11. Would you be willing to pay more for food that is produced locally?

54a☐ No, I would not be willing to pay more.

54b☐ Yes. Assuming a regular meal costs roughly $5, I would accept the following price increase for a meal that used local products:

55a☐ $0.25 b☐ $0.50 c☐ $0.75 d☐ $1.00 e☐ $1.25+

12. Please identify any food products that you believe to be produced in the Region of Waterloo.

56a_____ _____

_____ _____

_____ _____

13. Approximately what percentage of the food products purchased by Food Services do you think <u>should</u> be organically produced?

57a☐ 0-10% b☐ 11-20% c☐ 21-30% d☐ 31-50% e☐ 50^{+} %

14. Would you be willing to pay more for food that is produced organically?

58a☐ No, I would not be willing to pay more.

58b☐ Yes. Assuming a regular meal costs roughly $5, I would accept the following price increase for a meal that used organic products:

59a☐ $0.25 b☐ $0.50 c☐ $0.75 d☐ $1.00 e☐ $1.25+

15. What do you see as negative aspects of supporting organic and local agriculture?

60aLocal: _____

_____

61aOrganic:_____

_____

16. What do you see as positive aspects of supporting organic and local agriculture?

62aLocal: _____

_____

63bOrganic:_____

_____

Appendix G

Mark Reflex Sheet

Inserted in hardcopy.