

UBC Food System Project

Scenario 1: Improving Farm Viability:

Volunteer Programming and Decreasing Labour Inputs

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Abstract

The UBC Farm is a practical example of agriculture within an urban centre that embraces and promotes sustainable agricultural production, food security and safety, and the health of human communities. Unfortunately, the Farm is running at an annual deficit. In response to recommendations from past UBC Food System Project (UBCFSP) groups, our group examined the possibility of expanding production on the Farm as a way to increase revenue. A recurring recommendation in past UBCFSPs was to increase the Farm's production area in order to increase revenues. However, as expansion has not yet occurred, our project goal was to determine the limiting factors and what modifications were needed in order to facilitate such growth.

Through interviews and research into past groups' UBCFSP projects we identified that the number of Farm volunteers has declined over the past year and that this declining group of volunteers is suffering from burnout due to the tediously repetitive and laborious tasks (such as weeding) that they must perform. Without an adequate labour force the Farm cannot expand. In order to address this limitation to expansion, our group explored both options to strengthen the current volunteer program at the Farm, and to explore ecologically sound, labour-saving farming techniques to alleviate volunteer burnout. We developed these findings into recommendations, which, if implemented, we believe will allow the Farm to expand production.

Table of Contents

1.0 INTRODUCTION	4
1.1 PROBLEM DEFINITION	4
1.2 GROUP REFLECTIONS ON THE VISION STATEMENT	7
2.0 METHODOLOGY	8
3.0 VOLUNTEERS AT THE UBC FARM: FINDINGS AND DISCUSSION.....	10
4.0 RECOMMENDATIONS FOR IMPLEMENTING A SUCCESSFUL VOLUNTEER PROGRAM.....	11
5.0 LABOUR-SAVING FARMING TECHNIQUES ON THE FARM: FINDINGS, AND DISCUSSION	16
6.0 RECOMMENDATIONS FOR LABOUR-SAVING FARMING TECHNIQUES.....	18
7.0 RECOMMENDATIONS FOR FUTURE UBSFSP GROUPS	20
8.0 CONCLUSION.....	21
9.0 REFERENCES	23

1.0 Introduction

The Centre for Sustainable Food Systems at UBC Farm (hereafter, “the Farm”) is a student-run, organically managed operation used for education, research, and community building (UBC MBA 1). The Farm is, first and foremost, a site of action learning and community involvement. While its social and educational value is immeasurable, with the threat of proposed development expansion, the Farm is in a vulnerable situation to prove that it can be a financially viable operation (Group 10 2005 n.p.). In response to recommendations from past UBCFSP groups, our group examined the possibility of expanding production on the Farm as a way to increase revenues.

A key limiting factor in this proposed expansion, as identified by Gavin Wright, volunteer coordinator at the Farm, is a lack of dedicated volunteers (personal interview). This is especially problematic, as the Farm is a volunteer-driven enterprise and a site for student education and involvement. The number of volunteers has declined over the past year and this declining group of volunteers is suffering from burnout from the tediously repetitive and laborious tasks (such as weeding) that they must perform (Wright personal interview). In this paper, we explore options to strengthen the current volunteer program at the Farm and combine this with ecologically sound labour-saving farming techniques in hopes of alleviating volunteer burnout.

1.1 Problem Definition

As a quest for local products, Scenario One is based on the recognition that local food has many elements of increased sustainability when compared to food shipped over long distances. The UBC Farm is an important element of the UBC Food System; it has continued to grow since

2000 as an example of urban production and local community support. In short, it is a practical example of agriculture within an urban centre that embraces and promotes sustainable agricultural production, food security and safety, and the health of human communities. Extending local purchasing from the Farm will thus contribute to an exemplary model food system.

Our group was assigned this scenario with a goal of extending local food purchasing. The Farm has held Saturday Farmer's Markets, which have been a significant success, to bring local food to the UBC and Vancouver communities. This success, however, has been insufficient for the Farm's to demonstrate financial viability. While creating direct connections and networks within the community via Farmer's Markets is an important element of increasing the locality of food at UBC, we chose to pursue another avenue to increase the viability of the Farmer's Market, and the Farm, specifically.

Our research and interviews with Mark Bomford, Programs Coordinator at the Farm, and Gavin Wright, Volunteer Coordinator at the Farm, revealed that the UBC Farm is currently running at an annual deficit, and is relying on annual grants of \$100,000 (UBC MBA 15). A recurring recommendation in past University of British Columbia's Food System Project (UBCFSP) groups and collaborators, including the 2005 MBA report, is to expand the Farm's production area in order to increase revenues (UBC MBA 12; Group 2 2005 n.p.). The recommended expansion is that of the market garden from the current 1.4ha to the potential 3.2-3.3ha of cultivatable land (UBC MBA 12; Group 2 2005 n.p.). The seemingly simplistic nature of this recommendation led us to question why previous recommendations had not yet been implemented. Thus, we aimed to investigate and determine what has limited this expansion, and what modifications are needed to facilitate it.

Expansion will allow for increased revenue, as demand for the Farm’s produce is consistently greater than its supply (UBC MBA 3). We verified this continued demand through dialogue and collaboration with other groups, who assured us that market demand via farmer’s markets, the AMS, and UBC Food Services exists. Expansion is an important component of financial viability because the Farm’s revenue is positively related to the Farm’s production level, as illustrated in *Figure 2.1*, from the Sauder School of Business group’s 2005 UBCFSP paper.

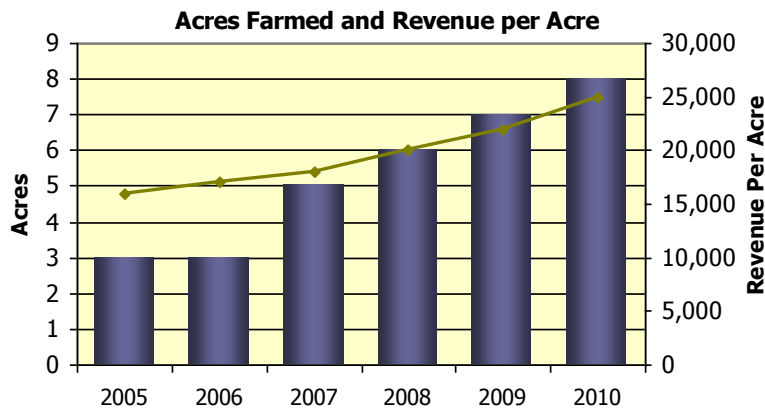


Figure 2.1. Acres farmed and revenue per acre (UBC MBA 12)

Our goal is to create a situation in which the expansion of the Farm’s production is feasible, such that the needs of the Farmer’s Market, and the UBC community can be met to a greater extent. By increasing the potential output of the Farm, the needs of the UBC Food system can thus be locally met and demonstrated to a greater extent. In addition, we are hoping that increased production can meet the requests of a new and improved farmer’s market, as other groups in Scenario One are concurrently working on this element of the Farm’s viability.

By addressing the identified problems of volunteer interest, commitment, and retention, our project deals with the ongoing labour needs at the Farm. We explore methods in which the area of the Farm’s Market Garden can be expanded by using ecologically sound, labour-saving

practices applied by a strengthened team of volunteers. Considering that there has been a consistent demand for products from the Farm, we feel that by shifting the focus toward increasing the productive capacity at the Farm. We are addressing two problems identified by our colleagues in AGSC 450 2004: that the Farm's operating cost exceeds its revenues; and that while UBC food providers have expressed interest in the Farm produce, prices and quantities have not been competitive with UBC Food Services' current suppliers (Rojas and Richer 6).

1.2 Group Reflections on the Vision Statement

Our group consists of students in Nutritional Sciences, Agroecology, and Global Resource Systems. This variety of educational backgrounds provided a diversity of views towards the vision statement of how to make the UBC community more sustainable. As a result of our diverse backgrounds and personal experiences, morals, and feelings, our group members placed emphases on different components of sustainability; environment, economic, and social. As a group, we agree with the seven guiding principals that have been collaboratively developed by the project partners, and have provided comments on those in which we felt needed further exploration and discussion:

“2. Relies on local inputs when possible, where inputs and waste are recycled and/or composted back into the system in which it originated” (Richer 26).

There needs to be a definition of the term ‘local,’ which specifies whether the term implies geographic or political locality. While the group came to the consensus that products from within British Columbia are ‘local’, we could not agree on whether the next-best criteria should be distance or political boundaries. This disagreement illustrates the many different perspectives of

our group members, as the more eco-centric felt it was more important to reduce food miles, while the more strongly anthropocentric felt it was better to support fellow Canadians.

“6. Enhances feelings of community belonging, which requires a heightened awareness of every component, from the point of production to end disposal” (Richer 26).

As a group we discussed how this was an important principle to our scenario. The Farm could play a very important role in giving identity to food production by allowing the community to see how food is grown and harvested. The Farm gives priority to raising awareness of the importance of locally-grown produce over making an economic profit.

“7. Is based on long-term financial viability; contains a mixture of imported and local foods whenever possible; on foods that come from socially and ecologically conscious producers who receive fair prices for their products” (Richer 26).

We believe that this guiding principle is the driving factor behind our problem statement as the UBC Farm is a socially and ecologically conscious producer that has failed to be financially viable thus far. The wording of this guiding principle is a little confusing because, while it addresses financial, social, and ecological viability, it does not assign priorities to these aspects of sustainability. Often times, the socially and ecologically conscious choice is not the most economical – such is the case of the UBC Farm.

2.0 Methodology

Our group took a multi-faceted approach that divided into two main streams to address these complex issues. In order to develop our problem statement, we conducted a preliminary interview with Gavin Wright, an employee of the UBC Farm, who is familiar with different aspects of the Farm’s operations, especially the volunteer program. Once our problem statement

was finalized, we reviewed past UBCFSP projects to ensure our work would build upon their findings. As our problem statement took on two major areas (one regarding volunteer programming, and the other involving farming methods, such as labour reduction and improved agroecological farming methods), we divided our tasks, findings, and discussion into two major sections (3 & 5). Corresponding recommendations are divided into their own sections (4 & 6), which were then integrated into recommendations for future groups (Section 7).

Research in the area of farming methods included an excursion to the UBC Farm to establish what techniques they currently employ. From there, we interviewed Greg Rekken, Production Coordinator at the Farm. We conducted interviews with Randy Hooper from Discovery Island Organics, concerning organic farming techniques. We also researched information regarding organic labour-reducing farming techniques, in order to both allow expansion of cultivatable land at a minimum labour cost and to relieve volunteer burn-out. Our research did have some overlap, and as a group we interviewed Mark Bomford about technical aspects, funding issues, and volunteer programs at the Farm.

In the volunteer stream of research, we reviewed literature concerning programs to both encourage volunteer turn out and to strengthen volunteer retention. We also conducted an interview with Brenda Sawada from SEEDS (Social, Ecological, Economic, Developmental Studies), regarding volunteer management. Additionally, we held an ongoing dialogue with Gavin Wright about our findings regarding both technical elements at the farm and volunteer programming to assure suggestions and recommendations that we developed were appropriate.

3.0 Volunteers at the UBC Farm: Findings and Discussion

Based on a preliminary interview with Gavin Wright, we established that one of the key limiting factors to production on the UBC Farm is its lack of a dedicated volunteer base (personal interview). We concluded that this weakness in the Farm's current volunteer program would be a significant obstacle to our proposed expansion of production.

3.1 The Importance of Volunteers on the Farm

Volunteers are an integral part of the UBC Farm. Volunteering raises awareness of the Farm and strengthens its social value as community members come together in shared interest. In this time of uncertain fate, social value is especially important in countering the questionable economic value of the Farm. The current level of annual funding on which the Farm relies is insufficient to employ the number of staff that would be required for its operation; therefore, the majority of activities at the UBC Farm rely on the physical labour of volunteers. Volunteers further aid the economic situation at the UBC Farm because the hours they spend completing tasks are treated as in-kind support, and thus aid in securing funding from outside sources (Bomford personal interview). Evidently, from both a social and economic basis, increasing production at the UBC Farm will require a corresponding increase in the number of dedicated volunteers.

3.2 Findings Regarding Volunteer Programming

In comparison to the summer of 2004, volunteer turnout during the summer of 2005 decreased from approximately 190 to 170. It is important to note, however, that the total hours of volunteer contribution increased over this same time period from 1800 to 2550 hours (handout). In order to successfully expand production, this increased commitment needs to be matched by an increased number of volunteers. Volunteer retention is crucial to the sustainability of the Farm

as training is gained through ongoing experience. Without this training, the Farm is not making efficient use of the volunteer hours that they secure. We believe that weaknesses in the current volunteer program at the Farm have led to inefficient recruitment and retention.

The decrease in participation could be partially attributed to the drop-in basis in which the current program is implemented. This leads to inconsistencies in volunteer turnout, thereby making it difficult for the Farm coordinators to plan and organize daily activities. Wright understands that there is too little structure to the system; however, he does not want volunteers to feel obliged to participate. Rather, he believes that by giving students the freedom of drop-in, they will most likely enjoy their experience from which they learn and develop an attachment to the Farm. Although there are advantages to this drop-in system, if a successful volunteer program is to be established, there needs to be a balance between allowing flexibility and expecting commitment from both volunteers and Farm management.

For information on ways to bring balance to the current volunteer program, we contacted Brenda Sawada, the coordinator of UBC SEEDS, who has years of experience with volunteer programming. Sawada (personal interview) explained that the Farm is in its current state due to a lack of a structured volunteer program, and suggested that an experienced, well-trained volunteer manager be hired on a long-term basis to address these issues.

4.0 Recommendations for Implementing a Successful Volunteer Program

4.1 Perform an Evaluation of the Current Volunteer Program and Explore Funding Sources

Given the current volunteer situation and issues at the Farm, as described above, it is evident that there is a necessity to create a fun and successful volunteer program that is organized and well managed. The first step in developing a solution to the problems discussed is a matter

of performing a comprehensive evaluation, such as examining the current statistics, and acknowledging the many problems that currently exist, before any further progress can be made for improvement. Most importantly, before any attempts are made to reform the current system, the Farm must invest time and money into areas of training, for both the management and volunteers, in order to establish proper foundations. According to a research update article on attracting and retaining volunteers, an area which we feel the farm would benefit from, the authors state, “if volunteers are to be effective, time and energy must be invested by the organization to recruit, train, supervise and recognize these individuals. Volunteers should not replace paid workers as a means to save money, but they can add value to what paid staff does if proper training is provided” (Henderson and Silverberg 8).

A simple cost/benefit analysis should also be conducted in order to implement a well-organized and structured volunteer program. Based on the number of hours that were submitted last year by volunteers, it will mostly likely be apparent that the amount of hours and work that are delivered from properly trained volunteers will dramatically outweigh the costs of employing a manager, coordinator and funding for sufficient training. For the Farm to prove itself to be a financially viable and sustainable resource for students, we propose that an improved and well-planned volunteer program be a step in reaching that goal.

4.2 Hire a Volunteer Manager

The proposed goal to improve the volunteer program is similar to the UBCFSP by its ongoing nature, and the need for continual inputs for improvements each year. Like the UBCFSP, there is a leader, in this case a Manager of Volunteers (MV), who continually oversees the progress and tasks that need to be completed. This position will need to be defined specifically, preferably via collaboration with the person to be hired. A long-term commitment to

the program would enable the MV to guide and develop the volunteer program over the years in order to make progress with continuance and coherence. By having the same manager employed year after year, s/he is aware of the successes and downfalls of the program and can therefore work on improving certain areas for the following years. In order to ensure strength and success in this role, we recommend that the MV be very knowledgeable in working with volunteers, and preferably has ongoing experience in a similar position.

4.3 Hire a Coordinator of Volunteers

Since the Farm is a resource for students, we feel that, in addition to a manager, a student should continue to fill the part-time position of Coordinator of Volunteers (CV). This position would have to be redefined from its present role. It would be different from that of MV, in that it may be a short-term (e.g. 6 months to a couple years) position, and would work as a liaison between the volunteers and the MV. This will allow students who are interested in both the Farm and volunteer management to gain experience, while under the supervision and guidance of the MV. We would recommend the CV be responsible for carrying out specific tasks assigned via collaboration with the MV, such that the CV could have the opportunity to act as a team leader rather than a program designer.

4.4 Explore Funding Sources for a Manager of Volunteers

Given that current funding for Farm employment is for student-targeted positions, often via funding grants, the hiring of a MV would require funding of a different nature. Though this position would only be part time, another source of funding may have to be pursued in order to hire a manager for the volunteer program. The UBC Campus Sustainability Office may be one potential area for funding and support. Nonetheless, we feel that the costs of employing a MV for the Farm would be outweighed by the benefits of their experience and guidance in the

development of Farm goals. This position would also allow for enhanced growth and development of both the Coordinator of Volunteers and the volunteers themselves.

4.5 Utilize the Volunteer Management Cycle

In order to have a successful volunteer program, the MV needs to adhere to the eight-step volunteer management cycle. The completion of each step of this cycle will ensure the hiring of qualified and dedicated volunteers, as well as the development of an organized and well-managed program (see Figure 4.1.5 below). Developing an organized program according to the volunteer cycle is a good solution to some of the existing problems that currently exist at the UBC Farm.

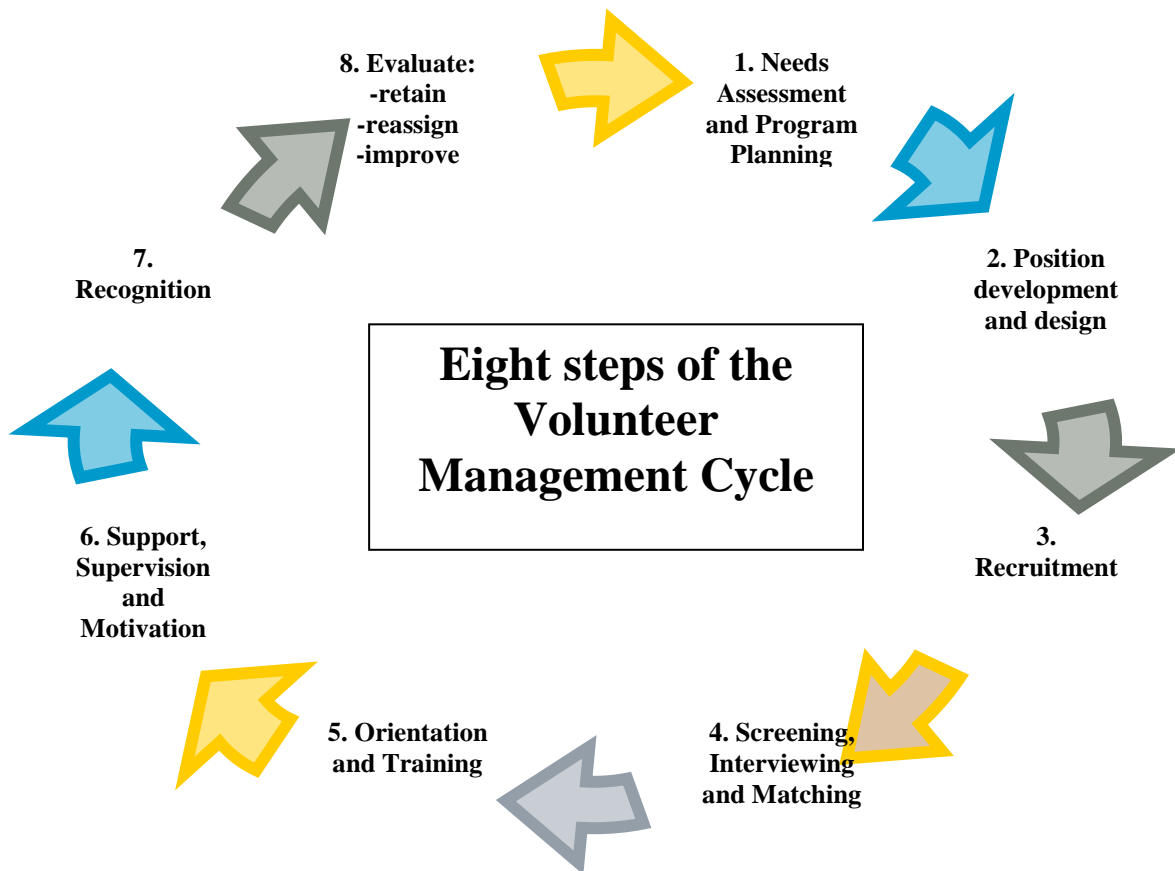


Figure 4.1.5. Eight steps of the Volunteer Management Cycle (Brenda Sawada personal interview)

4.6 Use Recognition and Incentives for Volunteers

We also recommend ongoing recognition of the importance of having fun and exciting components of the volunteer program. Wright has recently come up with the idea of having a stamp system where volunteers are initially designated to tasks such as weeding or planting for a set period of time. Upon completion, they receive a certification of expertise for the task. This system creates a concrete progression of skills in different areas according to the contributions volunteers make over the time of their involvement with Farm.

We highly recommend for the CV and MV at the Farm to develop systems such as the stamp system in order to create incentives for people to volunteer more often as well as to allow for growth of the volunteer. Volunteers need to be regarded with the same respect, and significance as any other paid employee. The many hours of work that volunteers can contribute to an organization are quite invaluable. An exciting program will also provide volunteers with a diversified education and a rewarding environment so that the individuals can engage in, and enjoy farm activities. This fits well with the Farm's goals for ongoing and active learning.

4.7 Expand Farm Outreach to Recruit More Volunteers

In terms of outreach, the Farm's need for volunteers could be advertised around campus, as well as through postings on the Farm website. As we found that the majority of volunteers come from the Faculty of Land and Food Systems, we have identified this as an opportunity for future growth and expansion to obtain volunteers from other faculties. It is important to provide a clear job description when making postings, as this will help the Farm in "hiring" committed and dedicated volunteers who are interested in the growth and success of the Farm.

Active learning on the Farm is an important goal, especially for the viability of the Farm, however, we believe that without proper training, guidance, and set rules, this cannot be

maximized. An example of a set rule would be a minimum hour commitment policy, which would foster commitment and ‘seriousness’ of volunteers. While numbers indicating increasing number of average hours worked by a smaller number of volunteers over the past two summers, there is room for improvement.

5.0 Labour-Saving Farming Techniques on the Farm: Findings, and Discussion

The UBC Farm relies largely on volunteer participation in order to carry out its day-to-day operations. Volunteers are responsible for much of the manual labour required for production on the Farm, and for weed control in particular. Unfortunately, our interview with Gavin revealed that volunteers frequently become burnt out from the monotonous task of manually pulling weeds and lose interest in their volunteer responsibilities, resulting in a lack of volunteer retention (Wright personal interview). This loss of volunteers has presented a barrier to increasing production, affecting the Farm’s ability to supply the Food Services outlets on campus or expand the Market Garden’s capacity to supply its weekly farmer’s market.

To combat this problem of volunteer “burnout,” and hopefully increase retention we have examined various labour-saving weed control methods, including mulching and cover cropping, tractor weeding and no-till systems, and the use of allelopathy in crop selection. The incorporation of these tools could decrease the heavier or more tedious labor tasks that are demanded from volunteers and help increase their retention, which is critical for the proposed increase of Farm production.

5.1 Farming Methods Currently in Use at the Farm

Weed control at the Farm is currently done using labour by hand, mulches, cover cropping, and some limited tractor tillage and cultivation. The Farm currently uses a number of

mulching techniques. Mulches are materials that suppress weed growth, moderate soil temperature, and conserve soil moisture (United States Department of Agriculture n.p.). Plastic mulches, paper mulches, straw mulches, and living mulches are all currently being used on the UBC Farm (Rekken personal interview). Plastic mulches are effective at controlling weeds growing in the crop rows, and on the Farm this method is employed in the growing of melons, peppers, tomatoes, and eggplant (Rekken personal interview). This method is efficient in suppressing weed species and warming the soil, and is relatively cheap, costing approximately \$150 for 5000 square feet. Regrettably, plastic mulches are not biodegradable and in the past have left remnants in the Farm's soil after removal, which has posed environmental problems and concern (Rekken personal interview). Additionally, the plastic can cause anaerobic soil conditions, which restricts gas exchange (United States Department of Agriculture n.p.). Because roots respire just as human lungs do, they require oxygen and need to be able to release carbon dioxide (Brady and Weil 202).

5.2 Available Equipment at the Farm

Currently, the UBC Farm uses two different tractors that serve different purposes; a larger tractor for tillage, and a smaller one, rented from Totem Field, for cultivation (Rekken personal interview). In addition to high hourly rental costs of the Totem Field's tractor, a major problem is the presence of club root at the Totem field (Bomford personal interview). Club root is a fungus which affects *Brassica* plants and can drastically reduce the yield of a crop. It is also quite infectious, even while lying dormant in the soil for many years (Zitter 730). In order to combat this risk of cross-contamination to the Farm, which would have very detrimental effects on *Brassica* crops, which account for 40% of the Farm's crop, extensive and time-consuming cleaning of the tractor must be done every time the tractor is rented (Bomford personal

interview). This results in both an inefficient use of time as well as additional costly hours of renting.

6.0 Recommendations for Labour-Saving Farming Techniques

6.1 Utilize a Modified Paper Mulch for Weed Suppression

We recommend using paper mulches as a biodegradable alternative to the plastic mulches used at the Farm. Unfortunately, paper is significantly more expensive than plastic mulch, costing \$150 for 1200 feet (Rekken personal interview) and the Farm has experienced problems with it shrinking within the first few weeks of application (Rekken personal interview). To rectify the latter of these problems, Shogren et al. (118) found that paper mulch coated with a vegetable oil polymer was both effective at controlling weeds and biodegradable in a reasonable time frame, but did not shrink, as non-treated paper mulches tend to do.

Addressing the same issue, Randy Hooper, a garlic farmer and co-owner of Discovery Island Organics, suggests cutting the paper mulch into 80-foot sections, and planting two weeks after application (Hooper personal interview). Hooper further suggests using brown paper mulch while growing buckwheat and crimson clover in the inter-rows as a living mulch. The buckwheat puts on biomass faster than the crimson clover, and will thus dominate the inter-rows, absorbing the wind so that the paper mulch is not disturbed. When the buckwheat grows tall, Hooper crimps it over using a piece of plywood. This allows the crimson clover to dominate the inter-row, while the buckwheat becomes dead mulch.

6.2 Experiment with Further Use of Cover Crops

We recommend the use of living mulches as a further technique for weed control, as the Canadian Organic Growers Association (COG) suggests (n.p.). Other species we recommend that can serve as living mulches include hairy vetch and fava beans (Smith et al 4). Cover crops

and smother crops, such as buckwheat or alfalfa, help prevent weeds from establishing seeds and compete with weed species for nutrients, water, and sunlight (COG n.p.). Ongoing and increased use of these different mulching and cover cropping techniques are recommended at the Farm in order to suppress weed growth, thus allowing volunteers to spend their time doing a wider variety of tasks, and breaking the monotony of constant weeding.

6.3 Utilize Plant Crops that take advantage of Allelopathy

Allelopathy is a phenomenon that occurs when plants release compounds that are detrimental to the growth of surrounding plants (Gliessman 156). Allelopathic crops can be used to control weed growth by directing this characteristic. For instance, sunflowers and small grains (oats and wheat), as well as winter cover crops, such as winter rye, release allelopathic compounds that interfere with weed germination (COG n.p.; Gliessman 161). However, these compounds can also interfere with cash crops the next year if they are not managed properly, so we recommend they be used with care (COG n.p.). In some systems, wastes from processing can also be used as allelopathic agents: dried cocoa pods can be crushed and spread between rows to inhibit weed germination, and there is some potential in using apple pomace for the same purpose (Gliessman, 162).

6.4 Obtain another Tractor

Because the Totem Field's tractor costs money to rent, takes additional time to obtain and return, and poses the threat of cross-contamination, and the Farm's tractor needs replacement (Bomford, in Group 2, 2005; Bomford personal interview; Rekken personal interview), we recommend that a new tractor be purchased. This is a worthwhile and necessary investment for the Farm, as a tractor efficiently aids in plowing, tilling, and cultivating, replacing time-

consuming physical labour. Specifically, through tilling, a new tractor will allow greater effectiveness in weed removal.

6.5 Begin Experimental Use of No-Till Systems

In addition to using tillage methods in some areas of the Farm, another useful management technique that the UBC Farm should consider is a no-till method. No-till soil management is a system where the soil is undisturbed from seeding to harvest and from harvest to the next seeding (Uri 6). Conservation tillage leaves at least 30% of the vegetation covering the soil before tillage intact (Uri 14). No-till can reduce the amount of labour needed per acre by up to 20 minutes, as well as having other beneficial impacts such as reduced soil erosion (Uri 7) and lessened earthworm disturbance. It is also associated with lower fossil fuel usage and lower machinery costs (Uri 8).

However, no-till systems often rely on pesticides for weed control (Uri 6), which the Farm would not want to implement, as they use organic farming methods (Bomford personal interview). As well, Krzic et al. (37) found that conservation tillage systems may lead to high slug populations when winters are mild, leading to a reduction in crop yield. So, while a no-till system has both positive and negative points, we feel that it would be worthwhile to test this system at the Farm to see if it yields positive results.

7.0 Recommendations for Future UBCFSP Groups

We recommend that future AGSC 450 students in 2006 look at the following specific issues:

- Look into the possibility of receiving sponsorship from tractor companies who are willing to support the UBC Farm. Tractors significantly contribute to labour savings, however,

the purchase of such large machinery is too costly and is most likely not an option with present funding.

- Look into funding options for a Manager of Volunteers, and collaborate with the Farm and Brenda Sawada to define the roles of both a Manager of Volunteers and a Coordinator of Volunteers in order to develop an organized and structured volunteer system.
- Look into ways to improve and expand awareness of and recruitment for Farm volunteering opportunities outside of the Land and Food Systems faculty.
- Perform a cost/benefit analysis for investments made for training volunteers, volunteer coordinator and employment of volunteer management.

8.0 Conclusion

While the global food system today has delivered impressive growth in production, evidence has accumulated that distribution problems, negative environmental impacts, and the vulnerable nature of the food system are issues in need of address (Lang and Heasman 89-91, 92-94). As populations rise in urban areas, there are many implications on food sustainability. Specifically, as globalization proceeds, food travels further distances from farms to plates, and the sustainability of our food system erodes for a number of reasons. The ever-increasing food miles that foodstuffs travel from production to consumption is a major source of pollution in the food supply chain. The production of these foods can have greater detrimental effects on the environment than that of locally produced, conventional agricultural products (Lang and Heasman 235, 242). Other areas of concern include the sustainability of agricultural production itself, food security and safety, and health within human communities (Lang and Heasman 48).

The University of British Columbia's Food System Project (UBCFSP) recognizes the issues and concerns discussed above and responds to them by exploring and encouraging local food production, of which the Farm plays an important role at UBC. The project ultimately seeks to demonstrate UBC as a microcosm of applied principles of sustainability and health at the local level, in order that local policy and principles on campus can serve as an example of success to extend and implement at a larger food systems level. As such, it aims to identify barriers to sustainability, and develop opportunities to improve and implement measures to become a model of a just and sustainable food system (Rojas and Richer 3). As a community-based action research project, the UBCFSP relies on collaboration of representatives from all levels - from policy-makers, to individuals as purchasers and consumers of food (Rojas and Richer 3). Thus, based on these principles, we have recommended practical changes at the local level, through extending supply, viability, and awareness of local food at the UBC Farm, thus contributing ideas in that the project can further develop and play an important role in the UBC Food System.

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