UBC Social Ecological Economic Development Studies (SEEDS) Student Report

Sustainability: UBC Food System Educational Role of UBC Farm

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AGSC 450

April 11, 2002

Sustainability: UBC Food System

Educational Role of UBC Farm

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AGSC 450 **April 3, 2002**

Abstract

There are two barriers that must be overcome to reach economic, environmental and social sustainability of the UBC Food System; the lack of awareness of what a sustainable food system is, and the disconnection of the UBC community from the natural environment that would support such a system. This can be achieved through education, specifically using the UBC Farm. The Farm provides a vital link for students, staff and faculty between the consumption and production of food and can be used to develop a strong sense of community and inform community members about sustainable food production. [redacted]

Introduction

In the Trek 2000 document, one of the stated goals is to make UBC "a model of a sustainable community and campus: safe, clean, livable, and environmentally friendly[1]". A sustainable food system on the UBC campus would be one that recognizes and respects not only the environmental components and implications of the food system, but both the social and economic factors as well. In order to transition to a sustainable food system the UBC population needs to take an active role in making changes, which foster and support this transition. However, the driving force for such a change in the UBC community is lacking due to a low level of awareness and knowledge surrounding sustainable food systems, and the environment in which they operate. Jack Kloppenburg poses a question that is central to this problem, " How can we act responsibly and effectively if we do not understand how the food system works and our role within it[2]?" At UBC the two barriers to this understanding are the lack of awareness of what a sustainable food system is, and the disconnection of the UBC community from the natural environment that would support such a system. [redacted]

Problem Definition

What is sustainability?

To be sustainable, the UBC Food System must be environmentally, socially and economically viable. The natural environment provides resources for interaction, growth, and success, and it is the foundation for a sustainable UBC Food System. Therefore, the UBC community should respect and protect the environment by supporting programs such as buy local, nutrient recycling, and composting. These programs not only protect natural capital, they also help the UBC Food System to become self-reliant. Together with effective management, the UBC Food System can be profitable, and at the same time, be able to reinvest in the UBC community to promote education and participation within the campus and in society. Public education and involvement contribute to a healthy and sustainable environment, society and economy. As food is essential to everyone, faculties, staff and students in the UBC community, together with the public at large, should be unified and involved in maintaining the sustainability of the UBC Food System. [redacted]

[redacted]

[redacted]

Value Assumptions

Our desire to make the UBC Food System sustainable is founded on community based and weak anthropocentric ethical principles. We strongly believe that individual choices should be considered and evaluated based on the impact that the actions will have on the community, not just the individual. Although for this project the community is defined geographically by the University Gates, we believe that this principle of considering the impact of individual choices on the community should be applied beyond those boundaries.

Our views are anthropocentric in that we place a higher value on our own species, humans, than on others. This is a natural perspective to have because our survival depends on protecting our own interests[3]. However, we must also consider that our continued survival and well being as a species depends on maintaining a healthy ecosystem in which to live[3]. Humans are but one part of

the global ecosystem and we should give value to all elements of the natural world in order to ensure the proper functioning of the ecosystem now and in the future. Weak anthropocentrism is a value system that acknowledges the interconnectedness of humans and other species in the natural world and also promotes evaluating human preferences by considering the effects of an action beyond simply satisfying a human desire[4]. [redacted]

How does the UBC Farm contribute to a transition to a sustainable food system?[5]

UBC Farm is a student-driven initiative with the objective of creating an international centre for sustainable agriculture, forestry and food systems. It is located on 40 hectares of farm and forested land at the South Campus of the University of British Columbia. The goal of the UBC Farm is to work towards the development of a healthy South Campus community that supports the ecological, social, economic and educational interests of the University.

An important element of the UBC Farm initiative is educating the students, faculty, staff and local community about sustainable farming and food systems. This includes incorporating the UBC Farm into UBC course curriculum, involving elementary and secondary students and developing a strong community outreach program. We have decided to focus on educating the UBC community for our project.

The UBC Farm is critical to the UBC Food System because it is both a working model of sustainable agriculture and the only on-campus site of food production. The Farm has great educational potential to raise awareness about agriculture, food, and sustainability. Through this process of educating the UBC and surrounding community, it is hoped that awareness of, and interest in, the Farm will also be raised. With increased participation and support, the Farm will be maintained and will continue to be used as an educational tool. The goal of community education, involving sustainable food systems and food production, and the impact of individual food choices on sustainability, is to achieve a paradigm shift towards more sustainable actions by the UBC community, resulting in a more sustainable UBC Food System.

What is known about the UBC Farm and how can it be used as an educational tool?

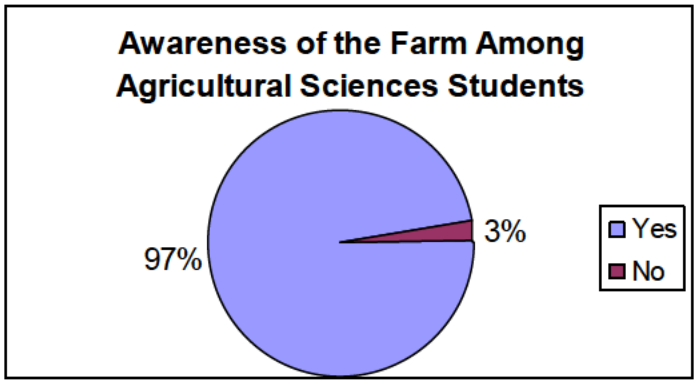
Methods

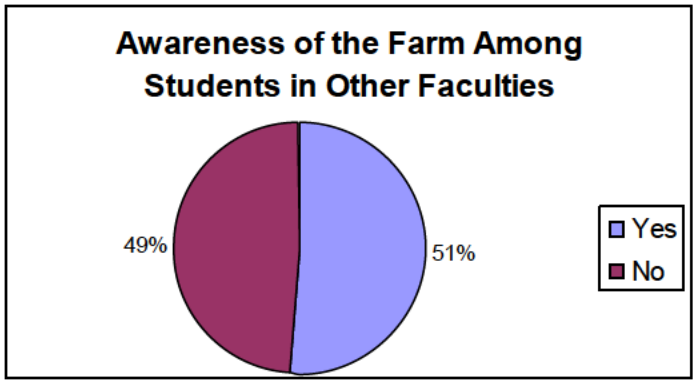
Before making recommendations about including the Farm into course curriculum, it is important to assess the level of awareness of the Farm among students in the Faculty of Agricultural Sciences compared to students in other faculties. [redacted] This helps to determine the potential response to education about the farm and the marketing of farm products on campus. [redacted] Rather than re-inventing the wheel, our group used a survey conducted by Jessica Robertson in December of 2000 for her English 301 class, "Increasing Awareness of the South Campus Farm at the University of British Columbia." (see Appendix 1) For this survey, personal interviews were conducted with students, staff and faculty who are involved with the farm, students in the Faculty of Agricultural Sciences, and students in other faculties. [redacted]

In addition to this survey, our group consulted three professors from the UBC Faculty of Agricultural Sciences to determine how the UBC Farm can contribute to education about sustainability. We interviewed Dr. Art Bomke, Agroecology, Dr. Gwen Chapman, Dietetics, and Dr. George Van der Merwe, Food Science. [redacted] The list of questions can be found in Appendix 2 of this report.

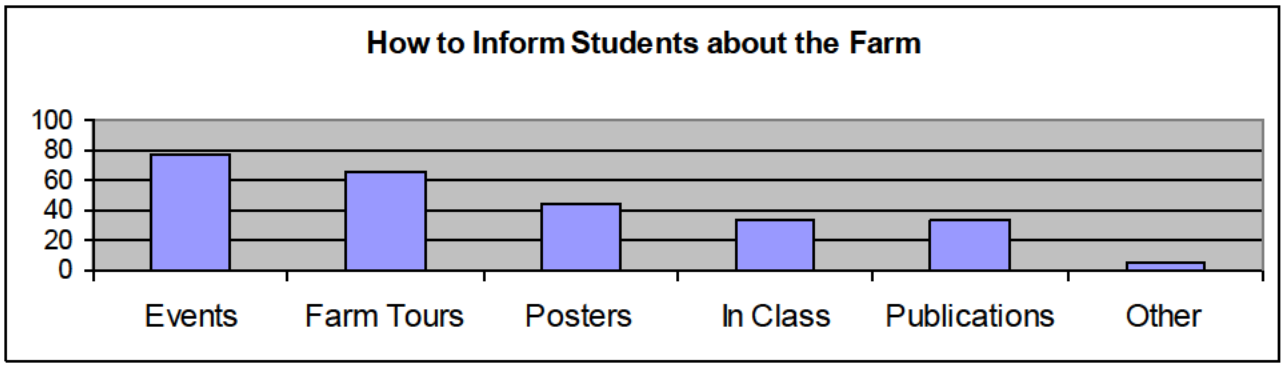
Results

The awareness of the Farm in the Faculty of Agricultural Sciences was far greater than the awareness in other faculties[6].





Generally people would like to learn more about the Farm. 86% of Agricultural Sciences students, and 82% of other students, indicated that they are interested in learning about UBC Farm. Many people are also interested in active participation at the Farm with events such as Market Days, Social Events, and hands-on experience[6].



Professors within the Faculty of Agricultural Sciences believe that the UBC Farm is an excellent model and indicator for sustainability of food systems. Dr. Art Bomke explained that the Farm's location at the rural-urban interface is similar to productive farms throughout southern BC and the world. This offers us a first-hand opportunity to learn about the advantages and disadvantages of farming at the urban edge. Students will leave UBC with a better understanding of the forces that affect farmers in urbanized regions and will be better trained to support them with professional advice and to participate in planning and design exercises that will enhance the sustainability of small farms near urban centres. Dr. Gwen Chapman sees the Farm as a hands-on laboratory and demonstration project that can help teach students and the general public about sustainable food production and the integration of food production into an urban community.

These professors are also interested in incorporating the UBC Farm into course curriculum. Dr. Gwen Chapman believes that the Farm is a good fit with the Land, Food, and Community courses and could potentially be integrated into FNH 473 (Nutrition Education in the Community) and FNH 342 (Consumer Aspects of Foods). The Agroecology program has already incorporated the Farm into many courses such as AGRO 361 and 490. Dr. Bomke believes that the Farm offers us an

excellent outdoor laboratory within minutes of the classroom. Dr. Bomke also believes that there is strong potential for the inclusion of UBC Farm into more courses within the faculty. Dr. George Van der Merwe feels that the Farm can provide important commodities, such as wine grapes and dairy products, that can be included into the Food Science curriculum.

Finally, professors in the Faculty of Agricultural Sciences believe that there are many opportunities for other faculties to become involved with the UBC Farm and take advantage of the Farm as an educational tool. Dr. Bomke explained that the Faculties of Education, Applied Science, Forestry, Science, Arts, the School of Community and Regional Planning and Landscape Architecture are currently using the Farm. Dr. Bomke also anticipates much greater interest when our Farm development has had a few more years to progress. [redacted]

Transition to sustainability

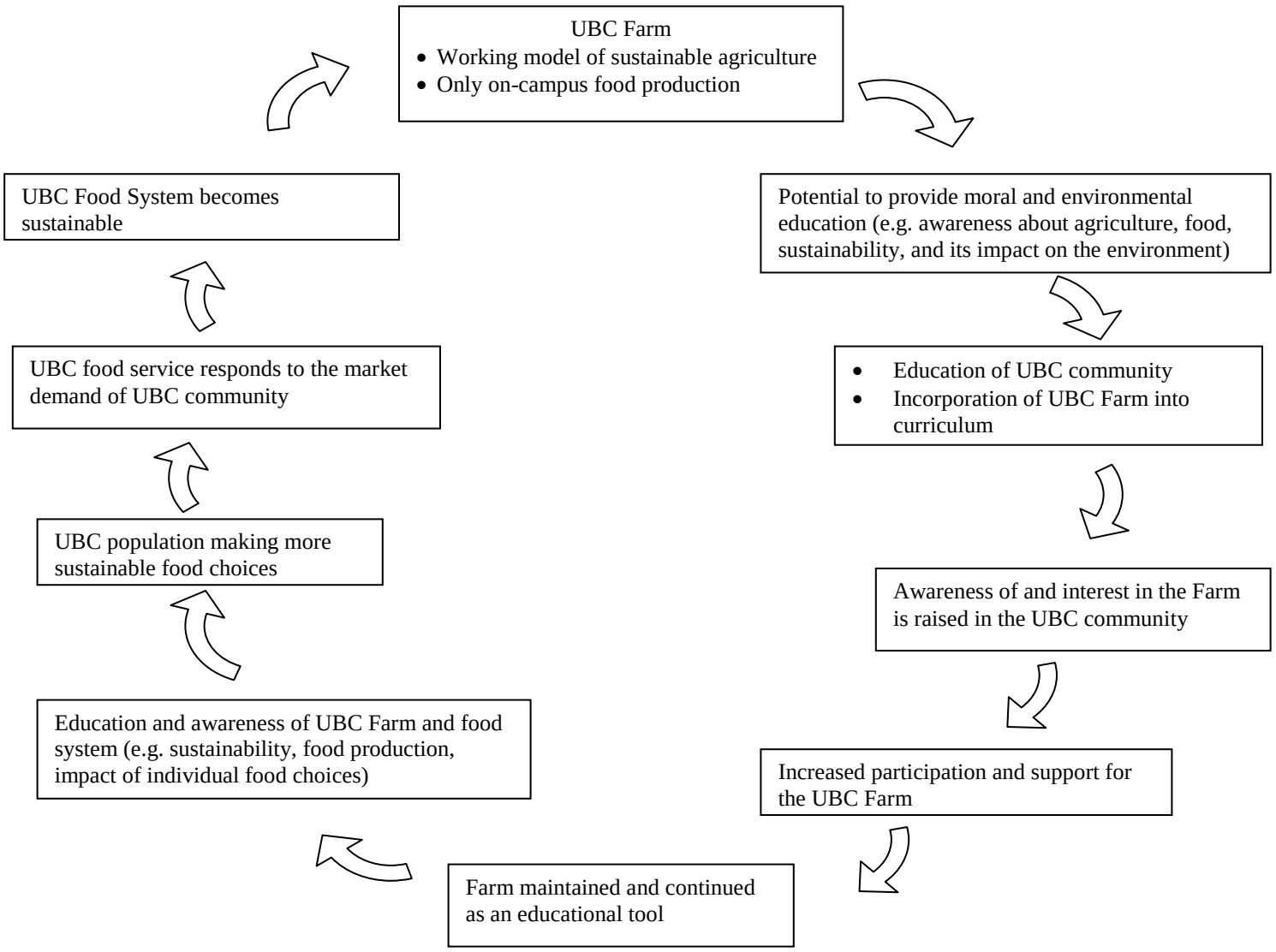
How do we achieve sustainability through education?

The UBC Farm is both a starting point, and the central basis of, a cycle which will facilitate a transition to a sustainable UBC Food System, if set in motion. The UBC Farm has great potential to serve as a medium through which the UBC population can gain knowledge and a sense of connection to the food system, sustainability, and the environment. In " What is Education for? ", David Orr suggests incorporating campus resource flows, such as the Farm, into the curriculum in order to offer a moral and environmental education to the students[7]. This type of education, as Orr defines it, provides an environment of experiential learning through which students can gain an understanding of "the effects of knowledge on real people and communities[7]".

Currently the many disciplines of the university lack a sense of unity with each other, as they are isolated in their own lecture halls and laboratories. In addition, the majority of these disciplines lack any sort of education surrounding one of the most basic human survival functions, which is to

procure food from the natural environment, and to maintain this environment in order to sustain ourselves over the long term. Incorporating the UBC Farm into the curriculum will help to correct the problem of a lack of awareness and connection with our food system and the environment, by increasing education, interest, participation, and support for the Farm. This in turn will allow the UBC Farm to continue to serve as an educational model of a sustainable food system, as well as an on campus site of food production.

The Cycle – The Link between Education and Sustainability



Recommendations

1) Incorporate the Farm into the curriculum of all faculties on campus. Having a connection on campus among all faculties will unite everyone towards a common goal. All members of UBC can then act as role models and advocates of the Farm and sustainability. Since the UBC Farm is the only farm in the City of Vancouver, support for survival must come from all four corners including the UBC sustainability office, the professors, the students, and the community.
2) Raise awareness about the existence and location of the UBC Farm, starting from the elementary school level. Elementary students should be given the privilege of visiting the Farm and being exposed to the concept of sustainability. These young learners can educate their parents who have not received such knowledge.
3) Community outreach programs. The Farm is already able to provide produce to the UBC community and the markets held during the summer also promote awareness. Other programs that could raise awareness about the Farm and sustainability are cooking classes and gardening workshops.

The Next Step

1. Survey the community at large to see if they would use the services of the Farm.

2. Gather data from the Farm over the next few years including:
- What sells the most?
- How many people are visiting the Farm? (Number of schools that plan field trip to the Farm).
- Number of students involved? (Summer jobs, volunteers)
- Number of courses integrating the Farm.

[redacted]

Conclusion

Orr predicts that a long-term outcome of providing moral and environmental education is consciousness raising. By promoting education and awareness of the UBC Farm, the UBC population will become more conscious of their food choices and the implications of these choices on the environment, economy, and society. Raising awareness of these issues will increase the likelihood of the UBC population making more sustainable food choices. The overall effect of this sequence of events is to help transition the UBC Food System towards sustainability. However, it is

important to note that the cycle does not stop here. It continues to perpetuate its own motion, and in doing so will support the growth of the UBC Farm, the student's moral and environmental education, as well as a sustainable UBC Food System.

Acknowledgments

We would like to thank the following UBC Faculty of Agricultural Sciences professors who participated in our March 2002 survey: Dr. Art Bomke, Agroecology, Dr. Gwen Chapman, Dietetics, and Dr. George Van der Merwe, Food Science. We would also like to thank our TA, Katie Nolan, for helping us to stay on track.

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3) Murdy, W.H. 1993: "Anthropocentrism: A Modern View". In Armstrong S. & Botzler, R. 1993, Environmental Ethics. Divergence and Convergence. McGraw Hill, Toronto. Pages 302-310.

4) Norton, B.G. 1993: "Environmental Ethics and Weak Anthropocentrism". In Armstrong S. & Botzler, R. 1993, Environmental Ethics. Divergence and Convergence. McGraw Hill, Toronto. Pages 286-289.

5) Bouris, Kristina. 2001. UBC Farm Schools Program: A Vision - Program and Prospectus: A working document.

6) Robertson, Jessica. 2000. "Increasing Awareness of the South Campus Farm at the University of British Columbia." English 301 Term Paper, UBC.

7) Orr, D. 1991: " What is Education for? " *Trumpeter* 8:3 Summer, pages 99-102, Victoria.

Appendix 1 – South Campus Survey

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c/o AgUS
MacMillan Building, Rm. 270
2357 Main Mall
V6T 1Z4

South Campus Survey:

1. What is your:
Faculty _____ Major _____ Specialization _____

2. Were you aware that there is a farm on UBC's South Campus?
Y / N
3. If so, how did you hear about it?
___Another student ___Advertising
___In class ___Other - please indicate _____

4. Would you like to know more about it? Y / N

5. If so, how would you prefer to learn about it?
___Farm tours ___Events such as bar-B-Q's or concerts at the farm
___Information published in campus publications such as the Ubyssey
___Posters
___Announcements by professors in lectures
___Other – please indicate_____

6. Would you buy produce, such as fruits or vegetables, or eggs grown and/or distributed on South Campus farm? Y / N

7. If the answer to number 6 was NO, please indicate why:
___I don't buy groceries ___It's too hard to get there
___It's not a reputable food store ___Other – please indicate _____

8. Would you prefer to buy locally grown produce from the farm over other produce that is brought in and distributed there? Y / N

9. Do you prefer to buy organically grown produce? Y / N

10. Would you pay more for organically grown produce? Y/ N (N/A)
Thank you.

FYI: The information in this survey will be used in an English 301 report. Results will be published anonymously (of course). Survey answers will only be used to find total numbers of various answers to the questions; no survey will be published individually. The results may also be passed onto the UBC farm manager.

Appendix 2 –UBC Farm Education Survey and Responses

1. How do you think the UBC farm can contribute to education about sustainability?
2. Could you incorporate the farm into courses in your department?
3. Is this something you would like to be a part of?
4. How would you accomplish this?
5. How do you see other faculties incorporating the farm into their curriculum? Which ones and how?

1. Art Bomke, PhD. Professor, Agroecology.

    1. How do you think the UBC farm can contribute to education about sustainability?

    The UBC Farm can operate at several levels as model or indicator for sustainability of food systems. First, its location at the rural-urban interface is similar to productive farms throughout southern BC and the world. This offers us a first-hand opportunity to learn about the plusses and minuses of farming at the urban edge. Students will leave UBC with a better understanding of the forces that affect farmers in urbanized regions and will be better trained to support them with professional advice and to participate in planning and design exercises that will enhance the sustainability of small farms near urban centres. Of course, the actual learning around growing plants and animals and managing the soil/climate resources at Point Grey is portable to anywhere, including regions with minimal urban impact.

    2. Could you incorporate the farm into courses in your department?

    Yes, in fact we have already begun to do this through our Agroecology core courses, e.g. AGRO 361 and are experimenting with new hands-on approaches to learning that require the land and facilities on the UBC Campus. AGRO 490, Topics in Agroecology, has been offered for the first time this spring and is focussing on learning more about extending the growing season and its relation ship our climate and soils at the campus. As you are aware, we also used the Farm to introduce soils and climate to the AGSC 250 class. The Farm offers us an excellent outdoor laboratory within minutes of the class room. Our program has undergone a tremendous amount of change in learning methods, e.g. adoption of PBL, in the past three years, and I expect to see more and more AGRO courses taking advantage of UBC Farm as we begin the second phase of our curriculum development and my colleagues become more aware of the possibilities of using the Farm as a laboratory. Finally, I want to recognize the work of students of FRE 302, who have focussed their business planning studies on enterprises proposed for UBC Farm. In fact, one of these proposals, the Market Garden, is set to begin its second year of production and is one of the foundations of the Farm's activities.

    3. Is this something you would like to be a part of?

    Absolutely! I believe in this very strongly and will be devoting a lot of effort to this over the next few years.

    4. How would you accomplish this?

    First, I will be taking a study leave in 2002-3 and plan to focus part of my efforts during that time on the development of the Farm's resources to serve UBC's educational, research and community outreach missions. This time away from the day-to-day demands of teaching will

give me an opportunity to explore the approaches used by other institutions for integrating working farms into their curricula. Secondly, I will be available for PBL case writing around topics that include the Farm. Finally, my experience growing up on a small mixed farm and my years of research in support of BC farmers give me a certain perspective that is needed to make sure that what we do on the Farm is relevant to farmers around the province and the local food systems they participate in.

5. How do you see other faculties incorporating the farm into their curriculum? Which ones and how?

We already have classes or student projects from the Faculties of Education, Applied Science, Forestry, Science and Arts. The School of Community and Regional Planning and the Landscape Architecture are two examples of graduate programs currently using the Farm. These activities are happening even before we have had an opportunity to develop much in the way of facilities to support the use of the Farm by other units on campus. I anticipate much greater interest when our Farm development has had a few more years to progress.

2. Gwen E. Chapman, PhD, RDN, Associate Professor, Dietetics

1. How do you think the UBC farm can contribute to education about sustainability?

I see the farm as a type of laboratory or demonstration project to teach students and the general public about sustainable food production and the integration of food production into an urban community.

2. Could you incorporate the farm into courses in your department?

For the most part, I think the farm is probably a good fit with the LFC courses (like 450!). It might be possible to incorporate it into a food security problem in FNH 473, to use more of a community food security approach rather than the hunger food security focus of the Downtown East Side problem. It might also be possible to use the farm as an example in FNH 342 (Consumer Aspects of Foods). But in both these cases, I don't know how use of the farm would differ from how it is being used (and the learning objectives it addresses) in AGSC 450, so I think it might be redundant to use it in FNH courses.

3. Is this something you would like to be a part of?

I'd be interested in finding out if any of the students who have taken FNH 473 come up with ideas about how the farm could be used in that course in a way that is different from what you're doing in AGSC 450. If so, I'd be interested in considering using the farm in that course. Otherwise, I don't see being a part of this, as the farm would not be a good fit with the other courses I teach.

4. How would you accomplish this?

5. How do you see other faculties incorporating the farm into their curriculum? Which ones and how?

The only programs that come to mind here are biology, environmental studies and perhaps education. Again, I see the farm as a laboratory to teach about sustainable/urban food production.

3. Dr. George Van der Merwe, Professor, Food Science

1. How do you think the UBC Farm can contribute to education about sustainability?

UBC Farm should:

- be able to support itself. Generate its own funding to support students.
- Producing something that can be sold to a public and students.
- Shouldn't make profit but just enough money to sustain itself.
- be able to support education.
- justify its existence by educating students.

2. Could you incorporate the farm into courses in your department?

If the farm produce grapes, a pilot winery (a small scale winery) can be established. Currently, no wine production is taking place in the Food Science department. Dairy production is a part of Agricultural Science, and food chemistry is a part of Food Science. Thus, milk produced by AGSC can be used in Food Science lab.

3. Is this something you would like to be a part of?

Can be a part of wine making system. Can have wine party at the farm. This will bring students to the farm and increase awareness.

4. How would you accomplish this?

- Is there a land available to plant grape?
- Funding is needed for facilities with wine making equipment.
- Production of experimental wine (research).
- Educating students in wine making.
- Not sure about selling wine due to strict restriction by government.

5. How do you see other faculties incorporating the farm into their curriculum? Which ones? How?

- Chemical Engineering – fermentation
- Mechanical Engineering – equipment
- Chemistry – wine analysis
- Microbiology – microbes in wine
- Biotechnology