

UBC Social, Ecological Economic Development Studies (SEEDS) Student Reports

Development of a Sustainable Food Purchasing Guide

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LFS 450

April 2010

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Development of a Sustainable Food Purchasing Guide

For the AMS Food and Beverage Department and UBC Food Services



LFS 450, Group 4, Scenario 4
Spring 2010

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Table of Contents

Abstract	3
Introduction	3
Project/Problem Definition	4
Why Local?	5
Why Seasonal?.....	5
Why Socially Equitable?.....	6
Why Environmental Stewardship?.....	6
Vision Statement for a Sustainable UBC Food System.....	7
Methodology	7
Review of Past LFS 450 Projects.....	8
Review of Other Successful Examples	8
Communication with Stakeholders	8
Findings	9
Other projects/places.....	9
University of Northern British Columbia	9
Harvard University.....	9
UBC's Current Sustainable Food Procurement Successes.....	10
Food Procurement Findings.....	10
Vegetables & Fruit.....	11
Dairy.....	13
Meat.....	15
Meat Alternatives.....	17
Seafood.....	17
Eggs.....	18
Grains	18
Condiments	20
Sugar	20
Oils.....	21
Distributors.....	21
Recommendations	22
UBC Food Services and AMS Food and Beverage Department Procurement Staff.....	22
Utilize and refer to our purchasing guidelines listed in the 'Food Procurement Guide'.....	22
Feasibility of our Recommendations	23
Future LFS 450 Students.....	23
Connect local farmers with the UBC food system.....	23
Increase awareness of food procurement policies to students	23
Collect Feedback Regarding our 'Food Procurement Guide' from AMSFBD and UBCFS	23
Further Investigate seafood, oils, sugar, flour and other baking goods	24
LFS 450 Teaching Team.....	24
Conclusion	24
References	25
Appendix	28

Abstract

Every year, LFS 450 students take part in the University of British Columbia Food System Project (UBCFSP) to engage the campus community in ways that push the food system closer to a position of sustainability. The project summarized within this report was to create a food procurement policy for UBC Food Services (UBCFS) and the AMS Food and Beverage Department (AMSFBD) to help encourage purchasing of more sustainable options. Through a series of interactions with community stakeholders, review of past student projects and further independent research, a "Best, Good, Avoid" guideline was created for vegetables/fruits, dairy, meat/seafood/meat alternatives/eggs, grains and condiments/baking supplies. This simple to follow, three tiered system, was designed to allow purchasing staff to easily determine which food items they will stock and how these items rank in terms of environmental, economic and social sustainability. The report is concluded with some recommendations for food procurement staff that highlights the importance of local, seasonal and organic food. Suggestions to future LFS 450 students include getting feedback on our 'Food Procurement Guide' and enhancing the content within the seafood, oils, sugar, flour and other baking goods section of the guide. Another more complex but highly rewarding project would empower students to connect local farmers with the UBC food system directly. Finally, some suggestions for the LFS 450 teaching team are outlined that we hope will help future classes.

Introduction

The University of British Columbia Food System Project (UBCFSP) is a component of the capstone course in the Land and Food Systems Series, LFS 450. The project offers us, the students, a variety of opportunities to engage the community on campus in ways that directly impact the food system. This unique circumstance differs from previous LFS courses as the community is one which we are a part of rather than one we are exterior to. LFS 450 and the knowledge gained through previous LFS courses supply the tools we need to make real change in the way food is grown, purchased, distributed and disposed of on the UBC campus. The projects also benefit from a solid foundation, developed by previous LFS 450 students, on which each subsequent year can build upon to move UBC's food system closer to a position of sustainability.

This report will describe the specific project our group took on for the duration of the 2010 Spring term. We will begin with an explanation of what area of the UBCFSP we explored and how it relates to the global food system as a whole. Next we will consider the vision statement for a Sustainable UBC Food System put forth by past renditions of this project to explore our value assumptions that will put our

thoughts and recommendations into context. A short methodology section will outline the steps followed and resources used to carry out our research. Our report concludes with a review of our findings and recommendations for UBC staff and future LFS 450 students. Our hope is to present a cohesive document that synthesizes the vast amount of information already collected by past LFS 450 students, augmented with further research carried out by our group. In addition, we have developed a preliminary food procurement guide for purchasers at UBCFS and AMSFBD which can be further improved in future years as more research is conducted.

Project/Problem Definition

The project our group chose to investigate was the development of a sustainable food procurement policy for UBC Food Services (UBCFS) and the AMS Food and Beverage Department (AMSFBD). We believe that sustainable purchasing policies within UBCFS and AMSFBD should reflect a commitment to procuring food in ways that do not impede future generations from obtaining the same quantity and quality of nutritious food. This goal should be worked towards without dramatically impacting UBCFS and AMSFBD's ability to function financially or inhibit patrons from exercising cultural and personal food choices. This definition of sustainable food procurement follows the three pillar model of sustainability encompassing environmental, economic and social sustainability. The purpose of this project is to provide recommendations to UBCFS and AMSFBD that will reduce the environmental impact of food choices while providing equitable compensation to producers. Though we recognize that economic limitations restrict UBC food provider's choices, we feel that our recommendations are best provided independent of monetary considerations so that food purchasers can make appropriate decisions to balance their individual budgets. Specific recommendations were divided into the categories of vegetables/fruits, dairy, meat, meat alternatives, seafood, eggs, grains and condiments/baking supplies.

As with all LFS 450 projects, this scenario is not only relevant to the UBC Campus. Implementation of a sustainable food procurement policy at UBC has the potential to make a significant impact on the greater Vancouver area. UBC has substantial purchasing power with a number of local

distributors and by improving the types of food sold on campus, distributors may follow suit to ensure they can continue to maintain UBC as a customer. By impacting food distributors, UBC's activities may facilitate permeation of these procurement policies into other sectors of Vancouver's food system. This procurement policy highlights purchasing foods that are local and seasonal as well as from producers who are socially equitable and promoting environmental stewardship. It is our hope that its integration into UBC's food system will positively impact the campus community and serve as a model for other institutions.

Why Local?

Over the past few years, local food has gained substantial media attention, partially due to the success of books like "The 100-Mile Diet," but also as a result of growing concern for carbon dioxide emissions into the atmosphere. According to the Leopold Center, much of the food we eat travels 1,000 to 2,000 miles from a farm before reaching our plate, putting our nutrition in an extremely precarious position (Pirog et al., 2001). Maintaining a diet that can be supplied by local farmers (within BC or WA) not only reduces the ecological footprint of our daily consumption but also indicates we are getting food that is fresher and often more nutritious (Harvard Medical School, 2007). Furthermore, supporting local farms means that money is cycled locally, creating a stronger economy and fostering a healthy, well-established food system. Eating a local diet requires learning about what can be produced in BC and how to prepare it. If fuel prices continue to rise, as they surely will, and food is no longer able to travel vast distances to our plates, we still must be able to feed ourselves. Supporting local food fosters connections between education, health and nutrition to ensure that BC will be able to maintain strong, healthy communities for years to come.

Why Seasonal?

With local eating comes seasonal eating, particularly in BC's climate where winter allows for little food production other than in greenhouses. Seasonal eating requires some planning and ingenuity to create nutritious meals, but is an important component of a sustainable food system. Seasonal eating means consuming what is in abundance during each season. Whether this is fresh greens and vegetables

in height of summer, or potatoes and winter squash during the colder parts of the year, eating seasonally directly connects to consuming food that is produced within the region.

Why Socially Equitable?

Ensuring that the food purchased by UBC is socially equitable increases the social sustainability of our food system. Farmers must be paid a fair price for their product if we are to expect a farming community to flourish within BC and abroad. Purchasing fair-trade coffee, chocolate and other items provides some documentation of how producers are compensated for their crop so that the desire for cheap food does not occur at the expense of the farmer.

Why Environmental Stewardship?

Environmental stewardship on farmland is a key component of a sustainable food system. If the land used to produce our food is not kept in good health, we can not expect the food that comes from this land to continue to nourish our population. As the Rodale Institute puts it, "healthy soil, healthy food, healthy people, healthy planet" (2010). Often, individuals associate environmental stewardship on a farm with organic agriculture, believing this is the key to sustainability. While organic production is a form of environmental stewardship, it is important to recognize that other types of farming practices promote environmental protection. Often large-scale organic agriculture can contribute negatively to environmental sustainability as farmers attempt to maintain conventional agricultural techniques and simply substitute synthetic inputs with organic certified inputs. Because of this, it is wise to be aware of other beneficial practices farmers can carry out that might not lead to organic certification, but still are working towards environmental sustainability. For example, integrated pest management (IPM) employs monitoring and control techniques that lead to little or no pesticide use on crops. Furthermore, small conventional farms often manage their land with little environmental impact, even though some synthetic fertilizers may be used to maintain yields. Many of these operations may not be certified organic, but they still offer significant benefits to the environment over traditional large scale monoculture farming operations. Though we don't expect food purchasing staff to consider all these subtle variations that exist

in production techniques, we want to highlight that purchasing organic food does not guarantee a clear conscience.

Vision Statement for a Sustainable UBC Food System

Through past collaborations with UBC stakeholders and LFS 450 students, a vision statement was presented that says, "[t]he overarching goal of a sustainable food system is to protect and enhance the diversity and quality of the ecosystem and to improve social equity" (LFS Teaching Team, 2010b). Following this statement are seven points that outline what a sustainable food system looks like. Our group agrees with all points of the vision statement and believes that if UBC is able to reach these goals, it would be a model for many other institutions in Canada and abroad.

As our group was discussing the vision for a sustainable UBC food system, we began to identify the values we were bringing to the table and the lenses we were viewing this project through. Coming from the Faculty of Land and Food Systems, we realized that many of the beliefs we hold are not shared by everyone on campus, and therefore we must be conscientious of a variety of dietary choices and preferences. For this reason, we approached the project with a weak anthropocentric view; valuing environmental issues highly but recognizing that human well-being and maintaining financial viability is inevitably the goal of the UBC food system. However, to help continue pushing UBC's food system towards a position of sustainability, many of the recommendations we put forth may go beyond these limitations with the hope that some of them will be adopted. It is our belief that as sustainability continues to move into the mainstream, dietary choices and financial constraints will be smaller stumbling blocks to overcome by an institution that is considered a world class university.

Methodology

As we began to delve into understanding sustainable food procurement policies and what goes into creating an effective tool for purchasing staff, we consulted a number of resources to guide our project. To gain an understanding of what a food procurement policy entailed we referred to the Food Alliance's 'A Guide to Developing a Sustainable Food Purchasing Policy' which outlines important things to

consider (n.d.). As we continued our search for information we found that much of the basic research had already been carried out by past LFS 450 students as well as other universities and organizations. We envision our food procurement guide as a synthesis of these many separate resources into a cohesive source of information for purchasing staff in UBCFS and AMSFBD.

Review of Past LFS 450 Projects

Many past projects carried out by LFS 450 students contained excellent starting material to include in our document and acted as a framework to begin our research. Furthermore, these projects helped our group position this project within the UBC community and the UBC food system as a whole. These reports were found on the UBC SEEDS website in the 'SEEDS Library'. Through exploration of these reports and other groups' research methodology, we began to have a skeleton on which our project could be created.

Review of Other Successful Examples

While examining past LFS 450 projects, we came across a number of other examples that with further exploration, proved to be very inspiring and insightful for moving forward with our project. In particular, the Yale "Sustainable Food Purchasing Guide" was very influential in shaping our final procurement guide (Engel et al., n.d.). In addition, DeLisa Lewis, AMSFBD Sustainable Produce Procurement Liaison, assembled a comprehensive document summarizing some of the best practices AMSFBD should engage in when purchasing fruits and vegetables in a similar fashion to the Yale report (Lewis, 2009). Both of these documents were crucial to understanding the best way to move forward with our food procurement guide.

Communication with Stakeholders

Our primary stakeholder contact throughout this project was Nancy Toogood, the manager of AMSFBD, who has been a huge supporter of the UBCFSP since its inception. Through meetings with her, our group was able to better understand the limitations of AMSFBD so that our document can better serve the needs of her department and UBCFS. Nancy also provided suggestions for our project which would be of direct benefit to AMSFBD, which helped us envision the structure our document would take

on. It was interesting to learn how our ideas for the project morphed as we learned more about what would be useful to our stakeholders.

Findings

Other projects/places

University of Northern British Columbia

The University of Northern British Columbia (UNBC) has created the Green Strategy (Phase 1) plan for 2009 to 2011 in hopes of becoming a more sustainable campus (Green University Committee, 2009). The strategy focuses on many aspects including food, as one of their issues that needs to be addressed. One of their primary goals is based on maximizing local and organic food and increasing “ethical” options such as vegetarian and vegan foods (Green University Committee, 2009). To do this, they are exploring the potential for construction of an on-campus greenhouse and expanding their student garden and composting activity on campus. Another main goal of UNBC is to minimize food waste, packaging and throw-away service items by researching ways of minimizing processing and disposal of food (Green University Committee, 2009). In addition, they are investigating the initiation of a consumption tax on unsustainable food and food service items (Green University Committee, 2009).

Harvard University

Harvard University has made substantial commitments towards becoming a sustainable campus. A pledge previously known as the “Go Cold Turkey” pledge in 2002, and now known as the “Harvard Sustainability Pledge,” currently holds the pledges of more than 10,000 students who are committed to reducing their ecological footprint (2008). In addition, Harvard’s “Green Office” provides checklists that students use as a guide for events, kitchen supplies and energy (Sustainability at Harvard, 2009). At various events, the “Green Catering Checklist” is used to specify items that are 'greener' options, such as, “offer organic, shade grown, fair trade coffee, serve organic, biodynamic, or New England wines...etc” (Sustainability at Harvard, 2009). Furthermore, to reduce their ecological “food prints,” Harvard produced a checklist known as “Leaf Certification” (Sustainability at Harvard, 2009). The leaf has four

petals and the more petals that are shaded, the more sustainable the product is in a given area (Sustainability at Harvard, 2009). This system aims to raise awareness to students who are not well educated about sustainability.

UBC's Current Sustainable Food Procurement Successes

Presently, the AMSFBD and UBCFS are taking actions to play their part in becoming a more sustainable campus. Between AMSFBD and UBCFS the following changes have been instigated: offering sustainable seafood options, 100% cage-free eggs at all outlets, organic shade grown fair trade coffee, a selection of organic locally grown apples at residences, healthier food choices, composting bins at every food outlet, biodegradable cutlery, cups and containers, and discounts for customers bringing their own mug (LFS Teaching Team, 2010a). Both UBCFS and AMSFBD also offer an increased variety of seasonal and local menu items using UBC Farm ingredients (LFS Teaching Team, 2010a). Additionally, previous LFS 450 project groups have contributed by developing eco-friendly labels (LOV: local, organic, vegan) to identify menu items with a lighter ecological footprint. Last year, LFS 450 group 29 helped reduce the ecological footprint of rice at the Honor Roll, by calculating the distance that rice travels to campus from different parts of the world (Group 29, 2009). As a result, the Honor Roll has now switched to purchasing rice from California (Group 29, 2009). Furthermore, the AMS Lighter Footprint Strategy (AMSLFS) aims "to reduce the university campus's Ecological Footprint (EF) to sustainable levels and to foster environmental justice in [their] own operations and through [their] relationships within the University and the broader community" (Doherty & Stein, 2007). All these steps show a commitment to making positive changes in UBC's food system and we commend past LFS 450 students, AMSFBD and UBCFS for their efforts.

Food Procurement Findings

British Columbia is home to the most diverse agriculture industry in Canada (BritishColumbia.com, 1998). This vibrant agri-food industry produces more than 225 different agricultural products (BritishColumbia.com, 1998). Because of this, UBC can depend on locally grown

produce for a significant portion of its menu items. To illustrate how food can be sourced we identified different groups of food sourced by UBC and organized them into categories. Each food category that we focused on is divided into "Best," "Good," and "Avoid." These describe the most favourable choices within a particular category to the least favourable, in terms of environmental and social sustainability. This categorization is designed to help purchasers make the best choices. We choose not to focus on economic limitations because changes in world food markets and pricing are incredibly fluid. Instead we hope the guide will help the purchaser make the best choice given budget constraints which is why we have not limited our guide and have included "Good" options as well.

Vegetables & Fruit

Unlike much of the rest of Canada, the temperate coastal regions of BC offer season extension for production of a variety of vegetable and berry crops (BritishColumbia.com, 1998). Likewise, the dry interior region of BC has excellent soil conditions for other crops, including a wide variety of tree fruits, grapes and other vegetables that require a long, hot growing season (BritishColumbia.com, 1998). For an institution that is committed to sustainable food purchasing, UBC is fortunate to be located in British Columbia with access to a variety of local foods within a relatively short distance.

Best

Eating fruits and vegetables that are local and in season translates to food that is fresher, higher in nutrient content and requires less energy to produce and transport (Leitzmann, 2005). When possible, try to use the 'Get Local - Metro Vancouver' chart for determining which produce and fruits are in season (see Appendix). In the winter months BC can grow storage crops such as potatoes, onions, squash and apples. Production of frozen produce such as peas, corn and berries as well as canned food such as tomatoes is possible in BC. Consumption of frozen and canned food can reduce reliance on non-seasonal food from outside the local food shed.

In British Columbia, there is a large network of certified organic farmers that grow high quality organic produce for local and international markets. In many cases, organic produce is comparable in price to non-organic produce, despite the often assumed price premium. Because many organic farmers

in BC incorporate agroecological principles, including water conservation, maintaining and building soil health and conservation of wild flora and fauna, choosing organic when economically possible is highly recommended.

British Columbia also has an Environmental Farm Plan (EFP) which allows farmers to calculate their environmental strengths and potential risks, and work towards management practices that eliminate those risks (Ardcorp, 2008). Both conventional and organic farmers are encouraged to take part in the program. Choosing produce from farmers who have taken part in the program is an excellent way to ensure that food purchasers are supporting an operation that is moving towards sustainable farming practices.

Integrated pest management (IPM) is another way farmers are maximizing yields with the least detrimental environmental impacts (Ministry of Water, Land and Air, 2005). Farmers who subscribe to this management technique have IPM technicians come to their farm at least once a week to check for pest problems and prescribe control recommendations that only rely on pesticides in worst case scenarios (E.S. Crop Consult, n.d.). To minimize environmental impact and economic cost, IPM technicians check fields for the location of the outbreak and only treat the required area rather than broadcast treatments over an entire field. For example, a pest may only be encroaching on the crop from the edges of the field and spraying a few feet at the edge of the field may prevent pest damage. Conventional farmers who use IPM often have completed an EFP or are looking for ways to minimize both ecological and environmental costs to their farms.

Good

When food needs to come from outside of British Columbia, it becomes more difficult to be assured of the quality of the product, because regulations on agriculture are country specific. When purchasing food from outside of Canada, buying organic and fair-trade offers third-party certification that the food was grown in a more ecologically friendly or socially just way. Oregon and California, being further south, are an alternative to fresh produce in winter months when there is limited supply in British

Columbia. Refer to Yale's Sustainable Food Purchasing Guide for smart ways to eat tropical fruits (Engel, T. et al., n.d.).

Avoid

Purchasing produce and fruit from countries where labour and chemical regulations are less likely to be enforced is strongly discouraged (Baker et al., 2002). As an institutional leader, food dollars can make a large ecological, social and political impact on other parts of the world. Apples, peaches, pears, strawberries and celery have been found to be particularly high in pesticide residues when grown conventionally and should be purchased organic when possible (Baker et al., 2002).

Likewise, buying fruits and vegetables internationally when they are available fresh within BC is not recommended. Supporting local farmers recycles money within the local economy. Furthermore, buying international produce usually means less money going to farmers and more money in the pockets of a larger distributor (Gliessman, 2007). The environmental cost of shipping fruits and vegetables is high, as large amounts of fossil fuels are consumed, contributing to pollution (FoodShare Toronto, 2005). Where possible, alternatives should be used. Purchasing food that is grown in Canada, the United States and Mexico is recommended as opposed to purchasing food from Africa, China or South America.

Dairy

British Columbia offers an ideal location to raise animals. Because the weather is too cold to grow significant quantities of produce in the winter, it is important to be able to make products such as milk and cheese year round. Many dairy herds are located in British Columbia, including the Lower Mainland, southeastern Vancouver Island and the north Okanagan-Shuswap area (BritishColumbia.com, 1998). There are also a few located in south-east Vancouver, the north Okanagan area, the East Kootenay and Bulkley Valley/Cariboo/Peace regions (BC Dairy Industry Overview, 2007).

Best

Avalon Dairy is an idyllic example of a local, organic dairy supplier. They have two locations, one in Burnaby and one in East Vancouver, and are the oldest continuously operating dairy in BC (Avalon Dairy, n.d.). They offer a variety of certified organic milk products as well as conventional milk products

(Avalon Dairy, n.d.). They process their products at a plant located at their farm (Avalon Dairy, n.d.). They also deliver their milk in reusable glass bottles. There are a number of operators who deliver Avalon dairy products exclusively to locations in the lower mainland and one operator who delivers to a handful of provinces across Canada (Avalon Dairy, n.d.).

Olympic is another BC dairy company with perhaps the most sustainable philosophy and practices. Sustainability, environmental stewardship and social responsibility are central to Olympic's culture and impact the decisions they make when choosing their ingredients, managing their plant, participating in their community and operating their trucks (Olympic, n.d.). For example, Olympic supports local farmers by purchasing their dairy from farms within a 60 kilometer radius of their plant, and their fruit (for yogurts) comes from a supplier two blocks from their processing plant (Olympic, n.d.). At their plant, they recycle and reuse virtually everything, they have reduced water usage by 50% and have reduced energy requirements for heating and cooling (Olympic, n.d.). With their route logistics software, they can track their trucks' routes and make adjustments to be more efficient (Olympic, n.d.). Furthermore, Olympic partners with other suppliers to share truck space when the density of retailers is lower (Olympic, n.d.)

There are many other factors to consider other than the farm's location, when searching for sustainable dairy-related practices. The healthiest cows are pasture-raised and organic (Engel et al., n.d.). This way, they are consuming all natural grasses, legumes and shrubs, and they are free to graze. As a result, pasture-raised cows have been shown to possess considerably higher levels of omega-3 fatty acids, vitamin E, beta carotene, and other antioxidants (Engel et al., n.d.). Another health-related issue is the recombinant bovine somatotropin (rBST), a genetically engineered growth hormone. This hormone is injected into cows enabling them to produce 10% more milk than they would normally (Engel et al., n.d.). Consequently, however, these particular cows suffer from health issues such as udder infections, known as mastitis, and reduction in fertility (Engel et al., n.d.). Luckily, rBST is not permitted in Canada, so

purchasers buying dairy products from Canadian cows do not need to be concerned with this (Health Canada, 2004).

Good

Dairyland is a large food manufacturer supplying products across Canada. They are a company affiliated with Saputo, a very large food company that distributes their products to countries all over the world (Dairyland, 2008). Dairyland has a processing plant in the Lower Mainland that local dairies sell to (Dairyland, 2008). Dairyland also distributes organic milk which is a better alternative to conventional production systems (Dairyland, 2008).

Lucerne Foods is another large food manufacturer with various locations in British Columbia, Alberta and Manitoba (Lucerne Foods, 2006). Lucerne sources their milk from many dairy farms to make their products. This could mean that milk has to travel a significant distance if the dairy farm is across the province from the Lucerne processing plant. Lucerne also exports internationally, including Asia, Pacific Rim, Pacific Islands, Mexico, Latin America and the Middle East (Lucerne Foods, 2006). Kitzel Farm, located in Surrey BC, is visited every year by LFS 250 students and supplies their milk to Lucerne.

Avoid

Imported dairy products, particularly from the United States should be avoided. Unlike in Canada, the United States permits the use of the rBST growth hormone. Be cautious of products containing modified milk ingredients because they are not necessarily from Canadian cows. Because we are fortunate enough to have numerous dairy options available to us in Canada, purchasing dairy from outside of Canada is not necessary.

Meat

Meat production has been a highly contentious issue in the sustainability debate. In the past few years the woes of factory farming have become a part of consumer consciousness. Recent studies have shown that meat production accounts for 18% of annual greenhouse gas emissions and uses 78% of available agricultural land (FAO, 2006). However, meat consumption has not seen the significant decrease that environmentalists and animal welfare activists would like to see. Studies have shown that as

developing nations increase their standard of living, their demand for meat products increases as well (Delgado, 2003). This has a huge environmental impact given that feed conversion rates are between 3 kg and 10 kg of plant-based feed for 1kg of meat (Aiking et al., 2006). From an institutional perspective, it is unlikely that meat products will be removed from university offerings, as the desire for meat options is too great. However, finding the most humane and sustainable means of meat production is something that the university can strive for.

Best

Of the three main types of meat consumed, chicken has the highest energy conversion ratio of 4:1, followed by pork with 17:1 and beef with 54:1 (Segelken, 1997). From an energy use perspective, chicken products are most recommended. However, other factors including feed and waste need to be considered. Therefore free range organic chickens are the best choice because they receive some of their feed from local sources, range chicken operations are smaller resulting in less waste in a concentrated area, and production of their feed is more sustainable (Chickenout.ca, n.d.).

For pork that is locally produced, organic and free range is also the best option. BC Pork is an organization that has created more stringent production guidelines for their producers, and their farmers are located in the lower Mainland.

Beef production, as highlighted above, is the least energy efficient type of meat production. Moreover, cow ‘emissions’ are a major contributor to greenhouse gases (FAO, 2006). In BC however, cattle ranchers raise beef on marginal range lands that have little additional agricultural value. So when managed sustainably, compaction, overgrazing and consequent soil degradation can be minimized (Bomke, pers. comm., 2009). As a result, local, free range and organic meat is the best option.

Good

When organic options are made inaccessible by price, purchasing local and free range are recommended because of the reduced environmental impact and support for local producers.

Avoid

Meat products which are not 'certified organic' or 'free range' are likely a part of intensive animal production systems that produce vast amounts of waste, and keep animals in a confined space, enabling them perform necessary animal behaviours. Because of this, we recommend avoiding producers who do not use crate/cage-free. Producers who are not local are not recommended because of the different provincial and international standards for raising meat. For example, some producers use antibiotics for growth promotion which has been linked to antibiotic resistance in humans (Food Marketing Institute, 2004). If the meat is not certified by an independent body, guaranteeing quality is difficult. Beyond that, environmental costs of transportation render imported meat an unsustainable choice.

Meat Alternatives

The debate about soy products has been escalating due to concerns about genetically engineered (GE) soy beans. Although there is no concrete data concerning health problems and GE foods, some critics are advertising caution. Companies, like Monsanto, argue that their crops require less herbicides, however many genetically engineered plants contain genes that resist herbicides opening the opportunity for over application by farmers to ensure weed control. GE soy beans are one such herbicide resistant crop that makes the above concern a relevant issue (Du Bois et al., 2008). The UBC food system should avoid GE foods until the environmental and health risks have been sufficiently researched by independent sources. Presently in Vancouver, there are at least two suppliers of non-GE soy products. Superior Tofu is a BC company that sources all organic and non-organic soybeans from verified Canadian sources (Superior Tofu, n.d.). The other, Sunrise Soya is also a BC Company, and they source all organic and non-organic soybeans from Canadian and USA sources (Sunrise Tofu, 2009). All tofu products should be obtained from these companies or other companies with similar product specifications.

Seafood

Selection of sustainable seafood is a large area of research that has been carried out to some degree by Ocean Wise and SeaChoice. Ocean Wise recommends consuming fish that is:

"1) Abundant and resilient to fishing pressures

- 2) Well managed with a comprehensive management plan based on current research
- 3) Harvested in a method that ensures limited bycatch on non-target and endangered species
- 4) Harvested in ways that limit damage to marine or aquatic habitats and negative interactions with other species" (Ocean Wise, 2010).

A copy of SeaChoice's pocket guide for consumers has been included in the Appendix of this report to help inform procurement staff of appropriate seafood choices.

Eggs

At present, UBC has switched to eggs from cage free BC hens. This is an excellent step in sustainable food procurement. In the future, looking into free range organic eggs may be a slightly better option because of feed type and stricter regulations on space and animal welfare. Organic farms need to be certified by a third-party whereas free range operations do not. Whether free range eggs contribute to sustainability is still up for debate as this may be more of an ethical issue than anything else. It is worth noting that concentrated poultry operations that rely on battery cages have a significant quantity of chicken manure in a confined area, creating an environmental hazard if not properly disposed of.

Grains

The major grain crops grown in British Columbia are barley, oats and rye and considerable production of canola, dry field peas and forage seeds (Ministry of Agriculture, Food and Fisheries, 2004a). Approximately 85-90% of the grain crops grown in BC are in the Peace River region (Ministry of Agriculture, Food and Fisheries, 2004a). Many varieties of crops have been adapted for the soil and temperature conditions in the Peace River district including the North Okanagan, Vanderhoof, Creston and the Lower Mainland (Ministry of Agriculture, Food and Fisheries, 2004b).

Due to British Columbia's wet climate and relatively warm weather in the spring and summer months, most grains are grown throughout the spring and harvested in August and September (Ministry of Agriculture, Food and Fisheries, 2004a). Certain grains are difficult to produce and process, therefore, organic grain farmers need to clean food grains themselves and sell it to mills for processing in order for these grains to be available on the market for purchasing (Ministry of Agriculture, Food and Fisheries,

2004a). Currently, oats from northern BC are mostly sold to US mills, who then sell the processed grains back to British Columbia (Ministry of Agriculture, Food and Fisheries, 2004b).

Best

The Organic Milling Co-operative located in the Okanagan is a member owned, certified organic grain cleaning and sales co-operative (BCICS, 1999). It was formed as a co-operative to meet both growers' and customers' needs (BCICS, 1999). The co-operative helps farmers because the combination of crop rotation and small farm size makes it difficult for individual organic grain farmers in the Okanagan, to maintain a stable supply of grains from year to year (Organic Horticulture, 2004). The Organic Milling Co-operative buys grains from both its own members and other co-operatives, and then sells it to the specialty baking industry and health food processors (BCICS, 1999).

Anita's Organic located in Chilliwack BC, carry certified organic and kosher grains, all purpose flour and cereals (2009). There are no synthetic chemicals or pesticides used in any of their products (Anita's Organic, 2009). Anita's Organic works closely with the best organic farmers in BC and other Canadian prairies provinces to ensure quality crops (2009). The production for whole grain flour is through traditional methods of stone milling to provide the best quality product (Anita's Organic, 2009). In addition, stone milling equipment reduces about 15% of waste by decreasing the amount of dust created during production (Anita's Organic, 2009). Prices are based on the quality of the grains; therefore, it may be more expensive than other organic suppliers (Anita's Organic, 2009).

Good

Some grains are difficult to produce locally in BC due to unsuitable the climate and growing conditions. Therefore, many grains are brought in from processing vendors located in BC, but the source grains travel from other locations in Canada or internationally. For example, Western Rice mill, located in Vancouver, BC is a major rice vendor for UBC food services. They supply organic rice and commodities, such as Third Planet Rice Varieties and Lundeburg (Western Rice Mills, n.d). Lundeburg, located in California, is devoted in producing organic products based on their formula "Rich earth. Clean air. Pure water." (n.d). A combination of the ancient practice of crop rotation and fallowing weeds

without the use of chemical fertilizer, creates rich soil for rice (Lundeburg, n.d.). Lundeburg believes that with their continued use of organic and eco-farming methods they will produce healthy and delicious rice while protecting the earth (Lundenburg, n.d).

Avoid

Conventional grains imported from large corporate farms that continually use genetics for higher crop yield is not recommended, especially if they manage pests through chemical pesticides exclusively.

Condiments

Condiments including ketchup, mustard, relish, vinegar, salt, pepper, honey, syrup, soy sauce, salad dressings and other sauces are all popular items purchased by AMSFBD and UBCFS. Packaging is often a problem when it comes to condiments. Such items as ketchup, mustard, relish, salt, pepper and soy sauce are usually placed out in small packages for customers to take. Consequently, much unnecessary waste is produced. In most food outlets on campus, ketchup is served in a pump dispenser, indicating a step in the right direction. However, we recommend that the UBC purchasing staff develop a similar system to serve all of their condiments. For example, mustard can be served in a dispenser similar to ketchup and vinegar and soy sauce can be served in containers with a pouring spout. This allows customers to put the product directly onto their food at the condiment station, thereby eliminating much needless waste. In addition, this would likely reduce cost, as products purchased in bulk tend to be cheaper than separately packaged goods.

Sugar

The best option for purchasing sugar is Cocoa Camino sugar, a Canadian company based in Ottawa (Cocoa Camino, 2010). This organic and fair trade sugar is made without additives or emulsifiers (Cocoa Camino, 2010). As a first crystallization sugar, Cocoa Camino sugar retains naturally occurring nutrients by using a simple extraction process (Cocoa Camino, 2010). From a social perspective, profits from the sugar sold goes towards community capacity building projects in the places where the sugar is grown. Horizon Distributors and Discovery Organics also sell bulk organic sugar.

Presently, there are two large sugar companies in Canada. Redpath Sugar Ltd. has a refinery in Toronto, Ontario (Canadian Sugar Institute, n.d.). Lantic Inc., a result of the merging of Lantic Sugar Limited and Rogers Sugar Ltd., operates refineries in Vancouver, Montreal and Quebec, and also operates Canada's only sugar beet processing plant, located in Taber, Alberta (Canadian Sugar Institute, n.d.). However, about a year ago, genetically engineered (GE) sugar beets became the primary source of sugar from sugar beets for Lantic Inc. UBC currently purchases Rogers sugar. An option for staying with this company is purchasing Rogers organic line which addresses the GE and chemical input issue for sugar production.

Oils

Canola oil and olive oil are likely the most frequently consumed oils on campus. Canola oil is grown mainly in regions of western Canada, with some acreage in Ontario and the Pacific Northwest, north central and southeastern United States (Canola Council of Canada, 2010). Olive oil is cultivated from oil trees in the Mediterranean region and California. Purchasing organic oil is the most preferred choice. The next best choice is purchasing oils that are less likely to be made from genetically modified ingredients. Most vegetable oils used in food preparation are made of non-organic soy, corn or canola, which are likely to be genetically engineered (Engel et al., n.d.). Using non-organic sunflower or safflower oil instead of non-organic vegetable oil is a good choice because these oils are less likely to be from genetically engineered crops (Engel et al., n.d.).

Distributors

Unfortunately, for a large institution like UBC, purchasing food from small producers is difficult because of UBC's large demand and limited crop availability from smaller farms. Furthermore, transportation of goods from many different vendors is not financially feasible at UBC, so even if the produce is available, bringing it to campus is problematic (N. Toogood, personal communication, March 10, 2010). As a result, we feel that relying on food distributors to make connections to farmers is a more effective way of ensuring consistent access. Nevertheless, as a sustainability leader, UBC needs to

request things of distributors so they make purchases from smaller, local farmers that otherwise may be overlooked. Likewise, supporting distributors who are actively seeking to provide local and organic alternatives is a way for the institution to act on the message of sustainability it promotes.

Horizon Organics is Western Canada's largest distributor of organic and natural products in the dry, chilled and frozen categories (Horizon Distributors, 2009). They provide detailed information on the origin of products as well as other information relevant in meeting sustainable procurement guidelines (Horizon Distributors, 2009).

Discovery Organics is another company that strives to work with small organic producers to market their products. Primarily focusing on fresh produce, as well as some dried products and other grocery items, Discovery orders produce from BC, down the west coast of North America and as far South as Peru (Discovery Organics, n.d.). Although they offer a vast selection of local, seasonal produce, they also provide tropical fruits and vegetables (Discovery Organics, n.d.). Their catalog lists the specific location a product comes from to help ensure sustainable purchasing choices are made (Discovery Organics, n.d.).

Recommendations

UBC Food Services and AMS Food and Beverage Department Procurement Staff

Utilize and refer to our purchasing guidelines listed in the 'Food Procurement Guide'

Our food purchasing guidelines simplify the process of choosing eco-friendly and sustainable food products for UBCFS and AMSFBD. The guide is designed to be easy to use for purchasers. Using the “Best,” “Good,” “Avoid” categories can lead to better choices when purchasing food. It may also create new relationships with distributors and processors never considered before. Our hope is that relationships with local producers will strengthen and that the number of certified organic food products purchased is increased.

Feasibility of our Recommendations

Though our guide provides recommendations to achieve what we believe is the best case scenario, financial limitations may dictate what choices can be implemented by UBC. We would appreciate comments on our 'Food Procurement Guide' and whether or not our recommendations were achievable and realistic. This feedback will provide useful information for further group projects focusing on food procurement policies.

Future LFS 450 Students

Though we hope the food procurement guidelines we have outlined are helpful to UBC staff, there is inevitably more work to be done. The following suggestions are areas where we felt our guide could be improved and might be used as future launching points for students undertaking this project.

Connect local farmers with the UBC food system

This would involve going into the community and speaking with farmers to gauge their interest in supplying to UBC directly. Connecting with individuals outside of the faculty can often prove to be tedious, however, establishing such business relationships can be extremely beneficial for both the UBC food system and local farmers.

Increase awareness of food procurement policies to students

AMSFBD and UBCFS may consider increasing the amount of signage they place around the SUB and other food outlets to raise student and staff awareness of more sustainable food procurement policies that are being implemented. This could be done in conjunction with price increases to justify and quantify why price changes have occurred. Though this has been carried out to some extent by other groups, pairing it with food procurement guidelines may provide further benefits.

Collect Feedback Regarding our 'Food Procurement Guide' from AMSFBD and UBCFS

We recommend future students obtain constructive feedback from the AMSFBD and UBCFS on how useful our document is. Perhaps the first step would be to see if UBC food purchasers are even using the document. If not, why not? If so, how can it be improved? Are there other topics they would like to see in the document?

Further Investigate seafood, oils, sugar, flour and other baking goods

Because we chose to focus on the food categories that UBC food services uses most, we did a less thorough analysis of oils and other baking goods such as flour, sugar and spices. Seafood is another area that substantial research could be carried out to determine if SeaChoice's guide is adequate for UBC or if additional recommendations can be made to food procurement staff. Seafood information was not included in our 'Food Procurement Guide' as we were unable to conduct adequate research to provide meaningful recommendations for AMSFBD and UBCFS staff.

LFS 450 Teaching Team

At times it felt as though our TA was not appropriated matched with our scenario and we were often searching out meaningful answers elsewhere. This being said, we realize that there are limited TA resources available and often the ideal TA for a scenario may already be fully booked with other relevant scenarios. In addition to this point, it seems that there was some inconsistency between the teaching team's desired outcomes for our project. This often left us unsure of which path to follow to ensure we were meeting the project goals. Though these are both minor issues we felt they were worth noting to help the teaching team and students in the future.

Conclusion

Overall, it is clear that AMSFBD and UBCFS have made significant strides in moving the campus food system towards a more sustainable future. Implementation of some of the ideas put forth within this document and highlighted in our 'Food Procurement Guide' will continue the development of a sustainable food system on campus. However, consumer purchasing habits are a large obstacle to overcome and without student and staff support, many options that contribute to sustainability are simply not economically feasible. Regardless, each small step the UBC food system is a movement in the right direction towards being more environmentally, socially and economically sustainable. Through a shared commitment from UBC students, faculty and staff, a safe, resilient and most importantly, delicious food system can be fostered that meets the needs of all individuals on campus.

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Appendix

Healthy Choices for Healthy Oceans

By buying green-listed seafood, you are supporting sustainable fishing and farming practices. Use your consumer power at the grocery store or restaurant, and help keep our oceans and communities healthy.

But don't stop here! Find more seafood items, updates, and full assessments at www.seachoice.org, and don't forget to share your seafood smarts.

Created in collaboration with the Monterey Bay Aquarium

How To Use This Card

Keep this wallet guide with you—it will help you make more sustainable seafood choices. Wild-caught seafood is listed first, followed by farmed items in the lighter section below. Some items are listed in more than one column based on how and where it was caught or farmed (look for the bolded terms). Be sure to read labels and always ask questions when you shop or dine:

- What species is this?
- Is it farmed or wild?
- Where is this seafood from?
- How was it farmed or caught?

Then, check the listings and colour codes on the guide. If you're not sure, choose another Best Choice item.

SeaChoice is an initiative of Sustainable Seafood Canada:



www.seachoice.org

Printed on 100% PCW (post consumer waste) and PCF (processed chlorine free) paper

Canada's Seafood Guide



Best Choice

WILD:
 Clam: Razor **hand-dug (Can Atl)**, Softshell (**US Atl**)
 Cod: Pacific **longline, jig, trap (AK) †**
 Crab: Dungeness (**Can/US Pac**)
 Lobster: Spiny (**US**)
 Mackerel: King, Spanish (**US Atl, US Gulf of Mex**) ◊
 Mahi Mahi/Dolphinfish **troll/pole (US Atl)**
 Pollock: Alaska (**AK**)
 Sablefish **trap, longline (Can Pac, AK) †** ♥
 Sardine/Herring: Pacific (**Can/US Pac**) ♥
 Shrimp/Prawn: Spot (**Can Pac**), Pink (**OR**)
 Shrimp/Prawn: Northern **trap (Can Atl)**
 Squid: Longfin (**US Atl**)
 Swordfish **harpoon, handline (Can, US)** ◊
 Tuna: Albacore **troll/pole (Can/US Pac)** ♥
 Tuna: Skipjack **troll/pole, handline (ww)**
 Tuna: Yellowfin **troll/pole (US Atl)**
FARMED:
 Arctic char (**Can, US, Norway, Iceland**) ♥
 Catfish (**US**)
 Clams, scallops, oysters ♥, mussels
 Tilapia (**US**)
 Trout: Rainbow (**US**), **land-based (Can)** ♥

Some Concerns

WILD:
 Clam: Softshell, Quahog, Bar **hand dug (Can Atl)**
 Cod: Pacific **trawl (Can/US Pac, AK)**
 Crab: Rock (**Can Atl**), Snow (**Can Atl, AK**)
 Crab: Blue (**US Atl**) ◊, King (**AK**)
 Haddock **longline (Can/US Atl), sep trawl (Can Atl)**
 Halibut: Pacific, Atlantic **longline (Can/Pac Atl)**
 Herring: Atlantic (**Can/US Atl**)
 Lingcod (**Can, US**) ◊
 Lobster: American (**Can Atl**)
 Salmon: Pacific, all species (**Can Pac**)* ♥
 Shrimp: Northern **trawl (Can/US Atl)**
 Shrimp: Pink **trawl (US Gulf of Mex, US S Atl)**
 Sole: Pacific (**Can/US Pac**)
 Squid: all species (**ww ex Longfin US Atl**)
 Tuna: Bigeye, Yellowfin **troll/pole (ww ex US Atl), longline (US Atl) ◊, handline (HI)**
 Tuna: Albacore ◊, Skipjack **longline (HI)**
FARMED:
 Pangasius, Basa, Swai (**Intl**)
 Shrimp/Prawn: White (**US**)
 Trout: Rainbow **open-cage (Can)** ♥
 Tilapia (**Central/S Am**)

Avoid

WILD:
 Chilean seabass/Patagonian toothfish (**ww**) † ◊
 Clams: Arctic surf, Quahog **dredge (Can Atl)**
 Cod: Atlantic (**Can/US Atl**)
 Crab: King (**Intl ex US**), Jonah (**Can Atl**)
 Flounder/Sole: **trawl (US Atl)**
 Greenland halibut/Turbot (**Can Atl**)
 Haddock **trawl (Can/US Atl)**
 Halibut: Atlantic **trawl (US Atl)**
 Lobster: Spiny (**Brazil**)
 Orange roughy (**ww**) ◊
 Rockfish: all species** **trawl (Can, US)** ◊
 Scallops: Sea **dredge (Can Atl)**
 Shark: all species (**ww**) ◊
 Shrimp/Prawn (**Intl ex US**)
 Swordfish **longline (Can Atl, Intl ex US)** ◊
 Tuna: Albacore **longline (ww ex HI)** ◊
 Tuna: Bluefin (**ww**) ◊
 Tuna: Yellowfin, Bigeye **longline (ww ex US Atl)** ◊
FARMED:
 Pangasius, Basa, Swai (**Intl**)
 Shrimp/Prawn: Tiger, White (**Intl ex US**)
 Salmon: Atlantic (**ww**) ◊
 Tilapia (**China, Taiwan**)

Alert Codes

Green = Best Choice. Best Choice items are well managed, abundant, and caught or farmed in environmentally sustainable ways.

Yellow = Some Concerns. Some Concerns seafood should be consumed infrequently, or when a green choice is not available. There are concerns with abundance, management, or impacts on habitat or other marine life.

Red = Avoid. Avoid seafood items from this list for now. They come from farmed or wild sources with a combination of critical problems—habitat damage, lethal impacts on other species, critically low populations, or poor management.

◊ Limiting consumption of these items is recommended due to elevated mercury or PCB levels. Children and women of childbearing age should take the strongest precautions. Learn more at www.edf.org/seafoodhealth.

♥ Indicates seafood high in omega-3 fats and low in contaminants.

† Some or all of this fishery is certified as sustainable by the Marine Stewardship Council. Visit www.msc.org, and www.seachoice.org for more information.

* Check seasonal recommendations for wild BC salmon at www.seachoice.org

** Various species of rockfish are often sold as snapper.

Version: 07/2009

Abbreviations: Can=Canada, US=United States, Mex=Mexico, S Am=South America, Intl=International, Atl=Atlantic, Pac=Pacific, AK=Alaska, HI=Hawaii, OR=Oregon, WA=Washington, CA=California, ww=worldwide, ex=except, sep=separator



get local

METRO VANCOUVER

VEGETABLES	J	F	M	A	M	J	J	A	S	O	N	D
Artichokes												
Asparagus												
Beans (Fresh)												
Beans (Dried)												
Beets												
Broccoli												
Brussel Sprouts												
Cabbage-Green & Red												
Cabbage-Savoy & Red												
Carrots												
Cauliflower												
Celery												
Chard-Swiss												
Corn												
Cucumbers												
Fennel (Bulb)												
Garlic (Fresh)												
Garlic (Dried)												
Kale												
Leeks												
Lettuce												
Mustard Greens												
Onions-Green												
Onions-Red/Yellow												
Parsnips												
Peas												
Peppers												
Potatoes - New												
Potatoes - Red, Russet, Yellow												
Potatoes - White												
Pumpkin												
Radishes												
Rhubarb-Field												
Rutabagas												
Salad Greens												
Shallots												
Spinach												
Squash-Summer												
Squash-Winter												
Tomatoes												
Turnips-White												
Zucchini												

FRUIT	J	F	M	A	M	J	J	A	S	O	N	D
Apples												
Apricots												
Blackberries												
Blueberries												
Cherries (pie)												
Crab Apples												
Cranberries												
Currants												
Gooseberries												
Grapes												
Kiwi												
Melons												
Nectarines												
Peaches												
Pears												
Plums												
Prunes												
Quince												
Raspberries												
Rhubarb - Field												
Saskatoon Berries												
Strawberries												

MEAT & DAIRY	J	F	M	A	M	J	J	A	S	O	N	D
Dairy Products												
Eggs												
Beef												
Buffalo												
Chicken												
Duck												
Goat												
Lamb												
Ostrich												
Pheasant												
Pork												
Rabbit												
Turkey												

Note: Frozen meat products are available year round.

HERBS	J	F	M	A	M	J	J	A	S	O	N	D
Bay Leaves												
Basil												
Chives												
Chives-garlic												
Chervil												
Cilantro												
Dill -leaf												
Dill-seed												
Epazote												
Fennel-leaf												
Fennel -Seed												
Lavender												
Lemon Grass												
Lemon verbena												
Marjoram- sweet												
Mints												
Oreganoes												
Parsleys												
Rosemarys												
Sages												
Savory-summer												
Savory-winter												
Shiso												
Sorrel												
Tarragon-french												
Thymes												

ETC.	J	F	M	A	M	J	J	A	S	O	N	D
Grains												
Honey												
Mushrooms												
Nuts												

SEAFOOD	J	F	M	A	M	J	J	A	S	O	N	D
Clams												
Cod: Pacific												
Crab												
Crab: Dungeness												
Flounder/Sole: Pacific												
Halibut: Pacific												
Herring												
Lingcod												
Mussels												
Oysters: Pacific												
Prawns: Jumbo												
Prawns: Spot												
Sablefish (Black Cod)												
Salmon: Chinook/King/Spring												
Salmon: Chum												
Salmon: Coho (Northern)												
Salmon: Pink												
Salmon: Sockeye												
Sardines: Pacific												
Scallops												
Shrimp: Side Stripe												
Shrimp: West Coast												
Spring Dogfish												
Tuna: Albacore												

Note: Frozen seafood is available year round.

△ = Greenhouse Grown This guide is general information, availability can change due to weather.
 ◻ = Stored/Dried/Frozen

www.getlocalbc.org

PDF Version available at: <http://getlocalbc.org/files/Seasonal%20Chart.pdf>

Food Procurement Guide

For the AMS Food and Beverage Department and UBC Food Services

Developed by LFS 450 Students, 2010

Fruits and Vegetables

Tips

- Design menu options that change to follow BC seasonal produce availability. For example, kale makes an excellent green for stirfries near the end of the growing season when other vegetables are unavailable locally.
- Apples, peaches, pears, strawberries and celery have been found to be particularly high in pesticide residues and should be purchased organic preferentially over other products.
- Tropical fruit tips from Yale University:
 - Serve citrus fruits when they are in season (January, February, and March)
 - Fair-trade, organic options are readily available. Making an institution-wide change to fair-trade organic bananas is an easy, labour-neutral way to make your purchasing more sustainable.
 - Only serve honeydew melons and cantaloupe during summer months and in the early fall, when they are in season and taste best (Engel, T., et al. (n.d.)).

Quick Purchasing Guidelines

	Best	Good	Avoid
Farm Location	Grown in BC/WA	Grown in N. America	Grown outside N. America
Production Method	Mixed crop organic	Mixed crop conventional	Monoculture conventional
Farm Size	Small-medium	Large organic, small-medium conventional	Large
Food Seasonality	In season produce	Foreign grown produce in season	Not in season produce
Extras Things to Watch For	Fair Trade Certification, Salmon Safe Certification		
Distributors/Producers	Discovery Organics, Horizon Organics		

Dairy

Tips

- Healthy cows equal healthy people. Consuming dairy from cows raised on pasture (the cow's natural diet) results in a healthier animal that requires less external inputs in the form of grain feed and medication.

Quick Purchasing Guidelines

	Best	Good	Avoid
Farm Location	BC	Canada	Outside Canada
Production Method	Small scale organic	Large scale organic,	Large scale

		Small-medium scale conventional	conventional
Extras Things to Watch For	Pasture raised		Growth hormone (rBST) Grain fed
Distributors/Producers	Avalon, Olympic	Dairyland, Lucerne	

Meat

Tips

- Reduce meat consumption because studies have shown meat production accounts for 18% of global greenhouse gas emissions and uses 78% of available agricultural land (FAO, 2006)
- Chickens have the best energy conversion ratio of 4:1, beef has the worst.
- Free range and organic are better for the environment, for consumers and for the animals.

Quick Purchasing Guidelines

	Best	Good	Avoid
Farm Location	BC	Canada	Outside Canada
Production Method	Organic free range	Organic free range (large scale) Conventional free range (small-medium scale)	Large scale conventional confinement
Farm Size	Small-medium scale	Large scale (organic free range) Small-medium scale (conventional free range)	
Extras Things to Watch For	Grassfed BC SPCA certified		Growth hormone (rBST) Grain fed, concentrated feed lot finishing

Eggs

Quick Purchasing Guidelines

	Best	Good	Avoid
Farm Location	Lower Mainland	BC	International
Production Method	Organic free range	Conventional free range	Conventional caged
Farm Size	Small-medium scale	Small-medium scale	Large scale

Extras Things to Watch For	BC SPCA certified	Cage free raised hens	Battery cage raised hens
Producers	Rabbit River Biota Farms		

Meat Alternatives

Tips

- Buy products that are grown from local suppliers to ensure quality and lack of genetically engineered (GE) crops.

Quick Purchasing Guidelines

	Best	Good	Avoid
Farm Location	Canada	USA	International
Production Method	Small-medium scale organic	Large scale organic, Small-medium scale conventional	Large scale conventional
Extras Things to Watch For	GE Free		GE
Producers	Superior Tofu, Sunrise Soya		

Condiments

Condiments including ketchup, mustard, relish, vinegar, salt, pepper, honey, syrup, soy sauce, salad dressings and other sauces are all popular items purchased by AMSFBD and UBCFS. Packaging is often a problem when it comes to condiments. Such items as ketchup, mustard, relish, salt, pepper and soy sauce are usually placed out in small packages for customers to take. Consequently, much unnecessary waste is produced. In most food outlets on campus, ketchup is served in a pump dispenser, indicating a step in the right direction. However, we recommend that the UBC purchasing staff develop a similar system to serve all of their condiments. For example, mustard can be served in a dispenser similar to ketchup and vinegar and soy sauce can be served in containers with a pouring spout. This allows customers to put the product directly onto their food at the condiment station, thereby eliminating much needless waste. In addition, this would likely reduce cost, as products purchased in bulk tend to be cheaper than separately packaged goods.

Sugar

Tips

- Buying fair trade organic sugar would be an excellent way to show commitment to environmental and social sustainability on a global scale.

Quick Purchasing Guidelines

	Best	Good	Avoid
Production Method	Organic Fair trade	Organic	Conventional
Extras Things to Watch For	GE free		GE
Producers	Cocoa Camino, Discovery Organics	Horizon Distributors, Discovery Organics, Rogers Organic	Lantic Inc. (Rogers), Redpath Sugar Ltd.

Oil

Quick Purchasing Guidelines

	Best	Good	Avoid
Production Method	Organic	Non-organic safflower or sunflower oil	Non-organic vegetable oils
Extras Things to Watch For	GE free		GE

Grains

Tips

- Crop rotation is important for healthy soils and nutrient rich grain by reducing the need for fertilizers. It increases long term productivity of soils and reduces weed and pest pressure.

Quick Purchasing Guidelines

	Best	Good	Avoid
Farm Location	BC	Canada/USA	International
Production Method	Organic	Mixed organic and conventional	Conventional
Milling Location	BC	Canada/USA	International
Extras Things to Watch For	GE free		GE
Producers	Anita's Organics Organic Milling Co-op	Western Rice Mills Ltd	

References

- Engel, T. et al. (n.d.). Sustainable Food Purchasing Guide. Retrieved from Yale Sustainable Food Project website: <http://www.yale.edu/sustainablefood/>
- FAO. (2006). Livestock's long shadow: Environmental issues and options. Food and Agriculture Organization of the United Nations, Rome.