

University of British Columbia

Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Advancing Intersectional Climate, Biodiversity, Food Justice & Sovereignty Principles: Evaluation and Comparative Analysis of Food Certifications

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PRACTITIONER SUMMARY

FOOD CERTIFICATIONS FOR SUSTAINABLE PROCUREMENT

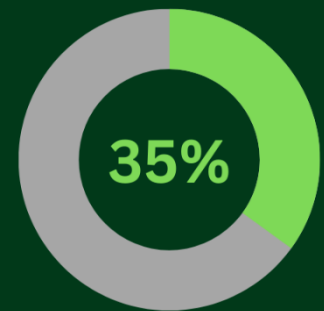


ISSUE

- Around one-third of all greenhouse gas emissions produced globally stem from food systems (FAO, 2022)
- The UBC food system is the second-highest contributor to GHG emissions on campus (UBC, 2021)
- UBC campus food system produces over 29,000 tonnes of carbon a year (CAP 2030)

OPPORTUNITY

According to Cline et al. (2022), food services provided by institutions such as universities make up around 35% of the global food service industry.



Adding sustainability-oriented values to their food procurement strategies can leave a large impact on the food service industry and society because of the intersectional nature of food systems.

INSTITUTIONAL PERSPECTIVE

- Certifications contribute to food system sustainability but may be a foreign concept to consumers
- Food certifications may not be able to meet all the requirements of a sustainable food system
- Greenwashing is a common issue in many food certifications

FARMER PERSPECTIVE

- Due to smaller size and lower budgets, small-scale farms experience more barriers to food certification than larger-scale farms
- Small-scale farms may not find food certifications beneficial due to their client's familiarity with their food production methods and principles

KEY FINDINGS

- Trust and transparency are key when looking at food certifications
- Food certifications are an effective way to address food system sustainability
- At the same time, no farmers should be excluded for not being certified

RESEARCH MODEL

Community-Based Action Research

- Community members are closely involved with the research process.
- The community benefits from the research
- Interviewees are able to share their opinions to inform the direction of our research

METHODS

Secondary Data:

- Analysis of UBCFS purchasing data
- Researching food certifications that are eligible for local use
- Conducting a literature review on STARS database for promising practices review

Primary Data

- Conduct 30-minute to 1-hour interviews with local food systems stakeholders
- Interviewees were chosen based on their location in relation to BC, their work in food justice or sustainable food procurement, or their affiliation with UBC or other academic institutions

EXECUTIVE SUMMARY

As the University of British Columbia's (UBC) food system emits over 29,000 tonnes of CO₂ every year, UBC's Climate Action Plan 2030 (CAP 2030) has set a goal of reducing campus food system greenhouse gas (GHG) emissions by 50% before 2030 to improve campus sustainability (Campus and Community Planning, 2021). UBC can pursue food system sustainability through the use of food certifications, which help to provide transparency of the sustainability of food items. On top of improving campus sustainability, UBC's interest in certifications may help influence other food suppliers and producers to look into food certifications as a method for sustainable food procurement due to their large purchasing power. The four core principles that this project aims to address are reducing GHGs, enhancing biodiversity, ensuring food justice, and promoting food sovereignty. Such principles can help UBC Food Services (UBCFS) further develop a Climate-Friendly Food System (CFFS) Procurement Strategy. The main objectives of this project were: (1) conducting a literature on different food certifications systems and their impacts on climate, biodiversity, food justice, and food sovereignty, (2) finding promising practices other institutions are including in their sustainable procurement policies that UBC can adopt and implement, (3) consulting local food system stakeholders to gain different viewpoints on food certifications, and (4) comparing and analyzing various food certifications to determine how each one could impact UBCFS's sustainable procurement strategy for five core food categories (coffee and tea, produce, protein, dairy, and bread and baked goods).

From our research, various stakeholders were in agreement that food certifications make positive strides in improving overall food system sustainability at institutions like UBC. While small-scale farms see the importance of food certifications, they also acknowledge that factors such as increased costs and commitments add hardship in engaging and implementing food certifications. Additionally, many small-scale farms are less likely to adopt food certifications as their clients are often familiar with their food production policies, so the clarity provided by food certifications are unnecessary. On the other hand, large-scale farms who regularly look to expand their clientele found value in becoming certified. However, it is important to note that greenwashing is one of the main drawbacks to food certifications and therefore, trust and transparency is needed when choosing which food certifications to adopt. With this, our interviewees recognized that having a large number of food certifications could be overwhelming for consumers and the specific details of each certification might be difficult to understand. Overall, we determined that food certifications are an effective way to promote sustainability within food procurement as long as certifications prove to be valid and trustable. The utilization of an increased amount of food certifications to UBC's food procurement strategy would therefore push the campus towards advancing their sustainability goals. One of the challenges of implementing sustainable food certifications at UBC is the potential for food prices to increase. Students are the main consumers of food products on campus and are the ones who will decide whether or not they can afford the increase in prices. Since students are known to typically have low income, affordability is a key concern.

Due to the complex production of certain food items, we gathered that certain food categories were much harder to find food certifications for. As an alternative to food certifications, UBCFS could look towards procuring food from local, non-certified suppliers who implement well established sustainability practices. UBCFS can work towards adding specific sustainability parameters to UBC food procurement guidelines to help advance CFFS goals. Next, UBCFS should consider submitting a Sustainability Tracking, Assessment & Rating System (STARS) report to establish their current relative placement amongst other institutions who strive to lower their environmental impacts. In addition, UBCFS can look into creating specific guidelines for sustainable, uncertified, local small-scale food producers to involve them with UBC's food procurement. Moreover, UBCFS should monitor food services consumers' perceptions of food certifications to understand influences of food purchasing decisions on campus. This could help consumers make more informed purchasing choices and could also be used as an educational tool for relevant food systems stakeholders to better understand our food certification. Furthermore, UBCFS can explore the LFS 450 project, Advancing Biodiversity Conservation & Eco-Human Health: Enhancing Food Diversity through Procurement at the University of British Columbia, which focuses on identifying frequently used ingredients in campus dining halls, their environmental impacts, and their local alternatives which can be informative on different local food options to consider when food certifications are not applicable.

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LIST OF ABBREVIATIONS

BC	British Columbia
CAP 2030	Climate Action Plan 2030
CBAR	Community-Based Action Research
CFFS	Climate-Friendly Food System
CO ₂	Carbon Dioxide
Co-op	Cooperative Program
CSA	Community Supported Agriculture
FS	Food Services
GHG	Greenhouse Gas
MB	Monterey Bay Aquarium Seafood Watch
OW	Ocean Wise
SEEDS	Social Ecological Economic Development Studies
SFU	Simon Fraser University
STARS	Sustainability Tracking, Assessment & Rating System
UBC	University of British Columbia
UBCFS	UBC Food Services

1. INTRODUCTION

1.1 RESEARCH TOPIC

Given the unforgiving effects of climate change that face our modern world, it is unsurprising that a multitude of food producers have been searching for ways to demonstrate their commitment to environmental concerns. Doing so is an effective method for promoting food system sustainability and to maintain market competition (Stranieri et al., 2022). In addition, institutional settings, such as UBC, have been surveying for effective methods to achieve their food system sustainability goals. However, many ways of demonstrating concern for the environment have entered the market and many of which are seen to be performative (de Freitas Netto et al., 2020). Greenwashing is a tactic employed to demonstrate activism, typically by producers or suppliers, whereby there is a disconnect between the perceived strategies employed to improve environmental damage and the actual strategies implemented (de Freitas Netto et al., 2020). This is also known as a type of performative activism, where concern for an issue is demonstrated without any actual action taken (de Freitas Netto et al., 2020). This is where environmentally focused food certifications become a necessary component of enhancing transparency in food system sustainability.

Environmentally-focused food certifications are a voluntary way for food producers to demonstrate their commitment to improving environmental issues (Stranieri et al., 2022). With proper authentication through third party verification processes, food certifications can be an effective and non-performative way of promoting food system sustainability. There are many well-known food certifications on the market, but this report focuses on identifying food certifications that address intersectional climate, biodiversity, food justice, and food sovereignty principles.

Our intent was that the certifications recommended by this project will be taken under consideration and hopefully used by UBCFS to make advancements towards UBC's CAP 2030. The UBC CAP 2030 outlines specific recommendations for campus food systems to employ to hit the target of a 50% decrease in food system GHGs by 2030 (Campus and Community Planning, 2021). More specifically, assessment and analysis of various locally available food certifications will aid in the development of a CFFS on campus. An index of trusted food certifications that has been developed through a comparative analysis strategy will be provided to UBCFS to aid in the betterment of these goals.

1.2 RESEARCH RELEVANCE

Climate change is a global issue that brings an array of challenges for biodiversity, food justice, and food sovereignty. In this project, we recognized working definitions of food justice and food sovereignty as eliminating social inequalities within the food system by ensuring fair distribution and access to food (Gottlieb & Joshi, 2010), and the right of people to define their own food and agriculture systems and policies (Patel, 2012) respectively. Food justice and food sovereignty share common values in that they strive for equal and just food systems and advocate for traditionally marginalized communities that are disproportionately affected by climate change. In the Canadian context, Desmarais & Wittman (2014) note the difficulties of achieving full agency over one's own food system, especially where there are a variety of perspectives associated with a large geographic distribution of communities as well as many regulations and policies at play. With this, it is essential that we integrate principles of food justice and food sovereignty into policies and practices to help facilitate community-based actions within the food system to tackle the climate crisis.

A key benefit of biodiversity and diversification is the range of ecosystem services that species are able to provide such as pollination, pest control, nutrient cycling, soil fertility, and water regulation (Tamburini et al., 2020). These ecosystem services not only serve to increase the health and function of the ecosystem, but can also provide benefits to humans through the production of nutrient-dense foods and mitigate climate change by enhancing carbon sequestration (Chen et al., 2017). However, we are experiencing a global biodiversity crisis, especially with rising temperatures increasing the ranges of invasive species, pests, and pathogens that threaten the ability of species to perform ecosystem services as well as decrease food quality and availability (Linders et al., 2019). As climate change continues to create conditions that promote biodiversity loss, there is a growing need for biodiversity conservation in our policies and practices.

At the local level, the City of Vancouver released the Vancouver Plan which is a high-level land use plan that seeks to guide the city's growth and development to 2050. One of the major challenges identified in the Vancouver Plan is addressing the climate emergency, and embedded within the plan are goals to maintain spaces to support and enhance biodiversity as well as manage food inequity (City of Vancouver, 2022). Similarly, UBC has created the CAP 2030 in order to decrease GHG emissions produced through their operations as well as other sources including commuting, food, business air travel, embodied carbon, waste and materials, and paper. The CAP

2030 recognizes that although its main purpose is to reduce GHG emissions, there must be the development of just, equitable, and accessible strategies for biodiversity and climate adaptation and resilience (Campus and Community Planning, 2021).

To address these issues, our project investigated how UBCFS can incorporate food certifications in their procurement strategy that advance intersectional climate, biodiversity, food justice, and food sovereignty principles. We evaluated the perspectives of various stakeholders working within the BC food system, assessed UBCFS's current procurement strategy, and researched locally available food certifications and sustainable food-related practices at other post secondary institutions. Following this, our findings were used to determine gaps and opportunities to increase the number of food certifications used by UBCFS as well as include local, non-certified producers in their procurement. Finally, this project could aid UBC in their commitment to transitioning towards a CFFS and contribute to CAP 2030 goals, as well as inform the creation of a framework for UBCFS to better include food certifications and sustainably grown food from local, non-certified producers at their locations.

1.3 PROJECT CONTEXT

The University of British Columbia understands and recognizes the role it holds as a public institution advancing the complex intersectional principles for a further sustainable campus food system. In turn, the university is required to maintain consistent updates on proposals of new plans and guidelines to be included within the operation of the entire campus to promote climate friendliness. However, this also provides UBC with an opportunity to lead research in sustainable development and instigate positive change among other global institutions.

Food production is responsible for 35% of global GHG emissions and produces approximately 17.3 billion metric tonnes of CO₂ every year (Xu et al., 2021). Our current campus food system still accounts for over 29,000 tonnes of CO₂ annually. With this, UBC took initiative to reduce their current GHG emissions by 85% before 2030 for campus operations and by 50% for campus food system related GHG emissions announced in the CAP 2030 (Campus and Community Planning, 2021).

Prior to our project, Nanayakkara et al. (2021) further developed the working definition of a CFFS and identified that “justice and accessibility are key factors to enact long-lasting and meaningful change.” With this, UBC's definition of a CFFS is now “ [operating] within a climate-friendly, just and accessible food system, which

means being committed to operating within planetary boundaries by reducing our GHG food system footprint and enhancing food system resiliency from production to end disposal and recovery, while producing positive outcomes for people, animals and planet” (Climate-Friendly Food System Action Team, 2023). Furthermore, the project recommended incorporating equity and accessibility into the conceptualization of a CFFS while also acknowledging that food is cultural, deeply connected to upbringings and holds tremendous life values (Nanayakkara et al., 2021). In addition to this, Buchheister et al. (2020) developed a series of recommendations on the next steps for UBC to further advance to a CFFS on campus. Some of these include but are not limited to increasing procurement of seasonal and/or local foods, and developing a labeling system for foods provided by UBCFS (Buchhesiter et al., 2020).

This project was initiated to help further the CFFS Procurement Strategy for UBCFS to address the four core principles of reducing GHGs, enhancing biodiversity, ensuring food justice, and promoting food sovereignty, all by means of utilizing food certifications. Previous projects constructed preliminary recommendations as CFFS Procurement Strategies, but this project differs as it aims to suggest different food certifications in the form of an index to inform new procurement strategies. Additionally, our project addressed equity as it relates to food justice and food sovereignty by exploring the diverse world of food certifications and being cognizant of local, non-certified food producers.

1.4 PROJECT PURPOSE, GOALS AND OBJECTIVES

Project Purpose:

The goal of this project is to advance climate action, biodiversity conservation, food justice and food sovereignty in UBC’s campus food procurement.

Goals:

To select food certifications that can advance intersectional principles on reducing GHG emissions, biodiversity enhancement, and promoting climate/food justice that can further help develop the UBC CFFS Procurement Strategies.

Objectives:

- 1.) Conduct a thorough literature review to identify intersectional climate, biodiversity, and food justice and sovereignty principles in food certifications systems.
- 2.) Define promising practices other institutions are including in their sustainable procurement policies that UBC can adopt and implement. (Appendix D)
- 3.) Consult local food system stakeholders and gain insights on different perspectives of food certifications. (Appendix E)
- 4.) Develop a robust assessment and comparative analysis of various food certifications. (Appendix A)

2. METHODOLOGY AND METHODS

2.1 RESEARCH METHODOLOGY

The research methodology used was Community-Based Action Research (CBAR), which takes a bottom-up approach to solve problems in the community by seeking to understand how community members experience such issues (Guillion & Tilton, 2020). In accordance with the criteria set by Mulrennan et al. (2012) for authentic CBAR, our research direction was defined and driven by the community, community members were involved in all stages of our research, and the outcomes of our research serve to benefit the community. We integrated the principles and processes of CBAR throughout our research stages. First, our research was collaborative in that our client is informed and involved in our research process. This is linked to the CBAR criteria that our research is based on community involvement throughout all research stages. This collaboration took place in the form of weekly progress updates sent to our clients so they are informed of our research direction and could provide feedback and advice when necessary. Second, our approach was participant-driven since we interviewed stakeholders who are involved in the UBC food system and the broader food system in BC as part of our research. Their responses guided the direction of our research in that they provided us with a better understanding of what should be the main focus of our assessment and recommendations for food procurement. Third, a democratic model was utilized as our interview questions allowed stakeholders to voice their concerns and share their unique experiences which are tied to the CBAR criteria of having our research direction be community-driven. We intentionally interviewed stakeholders in the BC food system as they hold information crucial in shaping our research's direction. Lastly, our research provided community-driven solutions as we informed the procurement strategy for UBCFS in a way that addresses their needs and those of other stakeholders in the food system. The

intent was that our assessment and recommendations to UBCFS elicit actions toward more sustainable procurement practices that will contribute to meeting the CAP 2030 targets while benefiting the broader community and ecosystem. By utilizing the principles of CBAR in our research approach, we were better able to gain a complete understanding of the values and perspectives of various stakeholders in the food system so we can propose solutions that directly suit the needs of the community at large.

2.1 RESEARCH METHODS

In this project, we used a mixed-method approach consisting of both primary and secondary methods outlined in the following subheadings.

2.2.1 SECONDARY DATA COLLECTION RESEARCH METHODS

The objective of our secondary research methods was to identify UBCFS's current procurement strategies and opportunities for enhancing the purchase of certified food products to best form a recommendation for food certifications in UBCFS. We conducted secondary research by completing a literature review about food certifications and sustainable procurement practices which allowed us to find a larger selection of certifications that we have missed during our interviews. Research surrounding food certifications was accomplished with an emphasis on the five food categories that were given to us by UBC Food Services as their largest portion of procurement, namely coffee and tea, produce, protein (pork, beef, and chicken), dairy (milk and cheese), and bread and baked goods.

To start, various third-party, locally available food certifications relating to the five core food categories were researched to identify ones that prioritized intersectional climate action, biodiversity, food justice, and food sovereignty principles. This was completed using resources such as food certification databases and individual certification websites such as Smithsonian Bird Friendly and Regenerative Agriculture Certified. Additionally, a literature review on sustainable procurement practices at other post-secondary institutions in North America was conducted using the STARS database to inform our promising practices review. The literature reviews helped to identify and fill knowledge gaps while deepening the team's understanding of food certifications and sustainable procurement practices, allowing us to formulate effective, realistic recommendations for UBCFS.

2.2.2 PRIMARY DATA COLLECTION RESEARCH METHODS

The objective of our primary research methods was to gather and synthesize opinions on food certifications from individuals who work with food and/or use food certifications in their operations such as farmers, chefs, and staff associated with UBCFS and the UBC Farm to inform our recommendations on food certifications to UBCFS. Primary methods include conducting interviews with key stakeholders in UBC's food system and professionals working within the broader food system in British Columbia through Zoom or in-person meetings. We believe that using interviews over another method such as focus groups or surveys provided an opportunity to elicit more in-depth conversation and knowledge transfer of existing certifications and priorities that our stakeholders have when considering using food certifications. We emailed various UBC Food Services staff, farmers, wholesalers, and businesses inviting them to interview (Appendix B). Potential interviewees were selected based on their (1) locality, specifically that they operate in BC, (2) association with food justice or sustainable food-related advocacy organizations or leadership in sustainable food procurement, and (3) relevance or affiliation to UBC or another academic institution. The sample size for the interviews was $n = 5$, and was representative of people associated with academic institutions and sustainable, small-scale, local farming organizations. Each interviewee was asked about their opinions on food certifications, their position in the food system, and any positive actions they or their organization has taken to enhance climate action, biodiversity, food justice, and food sovereignty (Appendix E).

2.3 METHODS OF ADMINISTRATION

To recruit participants for our interviews, we sent email invitations to a variety of known stakeholders in the BC food system as well as individuals that were recommended to us by our client. Contact was made on the week of March 6th, 2023 to various UBC faculty and staff, small-scale farmers, distributors, and other organizations working within the Greater Vancouver area (Appendix B). While one of our interviewees was connected with us using the snowball sampling method, all other interviewees were contacted directly by the research team. All interviewees received the option of an online or in-person interview; four interviews were conducted through Zoom and one was completed in person at the UBC Vancouver campus. Interview lengths ranged from 30 to 60 minutes and were conducted from March 10th to March 30th, 2023. Upon completion of each interview, an audio or video recording was used to create transcriptions that were made available to and used by the team for analysis. Interviews were chosen over surveys and focus groups to allow for personalized questions to be

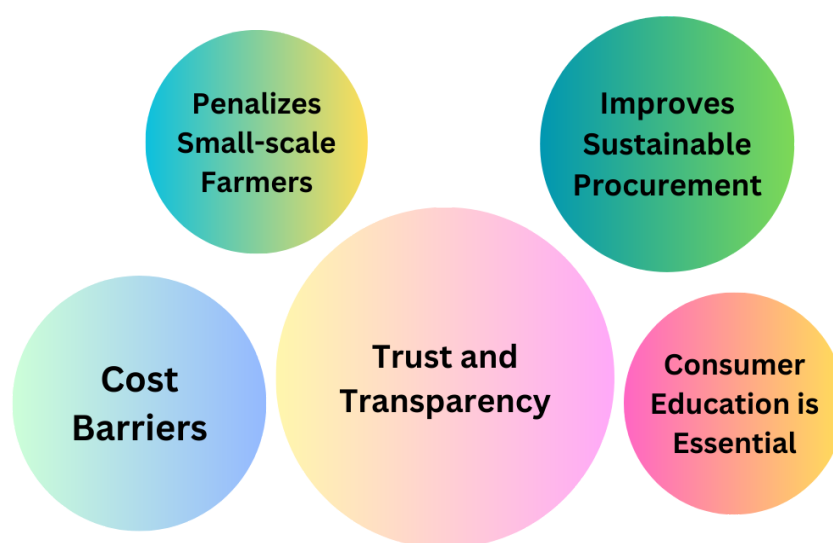
asked to each stakeholder and to facilitate a meaningful, in-depth conversation to provide a space for stakeholders to voice their opinions about food certifications and share their experiences in the food system.

3. RESULTS

3.1 PRIMARY RESEARCH

This section is a summary based on the stakeholder interview transcription. Trust and transparency is the most discussed theme seen in all interviews.

Figure 1: Overarching concepts seen throughout interviews, size depicting the frequency.



Based on our interviews we identified some common key themes that are most relevant to our project's objectives. Our findings have been separated based on the organizational standpoint of the interviewee, specifically if they represented an institutional, small-scale farm, or UBC farm perspective.

3.1.1 KEY FINDINGS FROM STAKEHOLDER INTERVIEWS (INSTITUTIONAL PERSPECTIVE)

Food Certifications are Significant but can be Confusing:

Stakeholders associated with institutional food procurement for both UBC and Simon Fraser University (SFU) agree that food certifications are useful and valid, regardless of the difference in campus food services model. At the same time, they recognize that food certifications can also be confusing and difficult for consumers.

"I think that while they are important, [food certifications] need to be understood, for them to be really effective"

“... we, the food industry need to understand what they mean and their authenticity, but it's also important for our guests to understand what they mean”

“I think [food certifications are] important, but I don't think a blanket statement of needing certifications is a good way to think”

“we believe in sustainability, and we have to take action for the climate. So we need these certifications [and it's] important that we choose the right ones”

Not all Certifications Address all Core Principles:

Fairtrade is one of the only food certifications that touches on all aspects of our core principles, whereas other certifications only touch on one or two principles. However, it should also be noted that even Fairtrade is not perfect.

“some... coffee chains... are a part of... the Rainforest Alliance. [Which] in a way is a good certification... but it really doesn't deal with empowering communities and co-op”

“Fairtrade... provides a premium to the co-op so they can put in schools or roads or things of that sort. Whereas, Rainforest Alliance is more focused on the environment... but not really about improving the quality of life.”

“Even Fairtrade isn't perfect, they're now worried about addressing climate change. [As it] is really impacting producers.”

“no rules developing around [Fairtrade Banana plantations] to help... migrant workers... [to] have certain rights and regulations, so no certification is perfect”

“Monterey Bay (MB) is similar to Ocean Wise (OW), just American based. It's interesting because something are certified one way with MB and differently than OW... These are both big certifications that are fact and research based that have been around for a long time and even they don't always align or agree.”

“Fairtrade USA left the Fairtrade international family... [as] a cost cutting move... because major corporations like Heinz and Kraft... couldn't buy Fairtrade (international) co-ops, so Fairtrade USA certifies... [with] rules more laxed [as] they don't do audits properly”

Importance of Trust:

Stakeholders from UBC and SFU highlight the importance of trust and transparency in a food certification, especially when choosing for an entire campus institution. At the same time, producers who are not certified should not be excluded from the campus food system and trust and transparency should be within the purchasing scope of the institution.

“[Food certifications] supports and helps bigger businesses and penalizes smaller businesses. So we [as an institution] try to consider that we wouldn’t exclude someone if they do not have a certification”

“We want to be cognizant that [food certifications can] eliminate smaller, local businesses that may be organic but don’t have the certification... so we do our own research, going to the location and visually inspect to see what’s happening on that farm, ... ask for references, ... traceability and make a decision based on that”

“if they don’t [have the food certification], it’s up to [the institution] to do [their] due diligence on their product”

“I think ones that are grounded in government, are more trustworthy sources.”

The discrepancy mentioned between the MB and OW led to:

“if the experts are not crystal clear, how can a consumer know?”

Greenwashing Tactics:

Stakeholders identify that greenwashing is a prominent issue seen in many food certifications.

“We try to avoid claims like 100% natural or things like that. Claims are very easy for greenwashing abuse, lots of them are paid for service [and] not ground in fact.”

“Anybody can put up a logo and[/or] create a logo”

Barriers:

Stakeholders mentioned the barriers they face as an institution for these food certifications. Every food item and product could be purchased with a criteria to be food certified but cost would be an issue.

“It is a barrier to do business with somebody, we can’t pass on additional cost to the consumers, predominantly students. [It’s] not an open market, in residence dining students have no choice”

“In some cases, the price can be too high, so we can’t purchase the product or supplier based on a certification. However, if the product truly aligns with our criteria and is really important we will use the product and take less profit to not pass the cost on to students”

3.1.2 KEY FINDINGS FROM STAKEHOLDER INTERVIEWS (SMALL-SCALE FARM PERSPECTIVE)

Barriers:

Many small-scale farmers mentioned that they face numerous barriers and acknowledge the demands of their respective audiences.

“[there] are lots of food certification systems, so we haven’t really even bothered trying to pursue getting an organic certifications”

“we can’t guarantee that the people in the next house over aren’t spraying something... so [we] can’t guarantee that they’re not contaminated with something”

“From a financial standpoint, like we’re not going to be able to sell our food for more money... Because we want people to be able to afford it”

“any of those certifications are just going to be more legwork and paperwork... we just don’t... really have the [labour] capacity to do so”

“I was also on rented land... I didn’t see myself just like putting my roots down and growing old on this piece of land... so with that timeframe in mind, the certification didn’t really make sense for me and I didn’t need it”

“A lot of young farmers that are going to start farming aren’t necessarily going to own the land, they’re going to be renting and leasing... [these] volatile arrangements, may leave the future a bit uncertain.”

“I do think that... can be a barrier for really awesome, small, diversified farms, which might be too bad, but I think every market... is going to get more and more competitive and specialized. You’ll have to kind of just go with those trends”

Lack of Need for Food Certifications:

Small scale farmers often felt that they do not require a certification considering the number of barriers there are to go through for minimal gain.

“[being food certified] really wouldn't increase the amount of food that we're selling”

“say that we're using organic techniques and that we're super local... those things are all true but doesn't require a label”

“we're not big enough to need it... it wouldn't benefit us really”

“never felt the need to certify myself”

“for those young farmers, maybe they want to be certified, but it doesn't make sense financially or long term... [as] they may not have the lease that they need”

“if you're in an area, with you know, folks that come from farming families, most of them don't care about organic”

3.1.3 KEY FINDINGS FROM STAKEHOLDER INTERVIEWS (UBC FARM PERSPECTIVE)

Unique Location and Affiliation:

The UBC Farm recognized the role it holds within the food system being both institutionally affiliated to academics while also being a small-scale urban farm. Stakeholders also described the drawbacks to such farms.

“I think as an university, and an institution that wants to lead by example, ...it's pretty important that this is a certified farm.”

“in an urban setting, like this is a market where organic certification does matter and the competition is certified.”

“from an educational standpoint combined with the unique location... the UBC Farm has to be one of the most local, like, focused farm as far as produce sales go”

“there is no other farm selling hundred thousand pound of produce... that close to home”

“[at the same time] this is a very unique setting, obviously, that isn’t representative of, you know, organic agriculture or Canadian agriculture.”

Direction of Future Small-Scale Farming Inclusion at UBC Food Services:

All stakeholders from various positions in the food system agree that certifications should not be a barrier for small-scale farmers. With this a few concepts on how institutions can address this idea. Succinctly, a.) community-based food accessibility, and b.) a platform for forming connections between local businesses to farmers and larger institutions to farmers.

“there’s a few organizations... that do food delivery programs and they’re like an aggregated Community Supported Agriculture (CSA) website that allows smaller farmers to reach larger audiences.”

“the only way that would make sense is to have... the small restaurants, or cafes or whatever... find a farmer [at] a farmer’s market that ties into their menu and work with them on a personal relationship”

“For an institution like UBC, an online form and sign up kind of thing. [Where vendors can] apply... CSA through the university or UBCFS”

“[but] then again... where would this form live? On what website for what? ...it’s not like these food services and UBC have that sort of landing page or looking for vendors like that. So that would be interesting.”

3.2 SECONDARY RESEARCH

3.2.1 LITERATURE REVIEW & FOOD CERTIFICATION ANALYSIS

From our literature review of available food certifications, we have constructed a pie chart to depict which of the core principles (reducing GHGs, enhancing biodiversity, ensuring food justice, and promoting food sovereignty) are addressed best from the top two food certifications we identified for each category.

Figure 2: Pie chart of the cumulative scores of the core principles from all certifications from Appendix A.

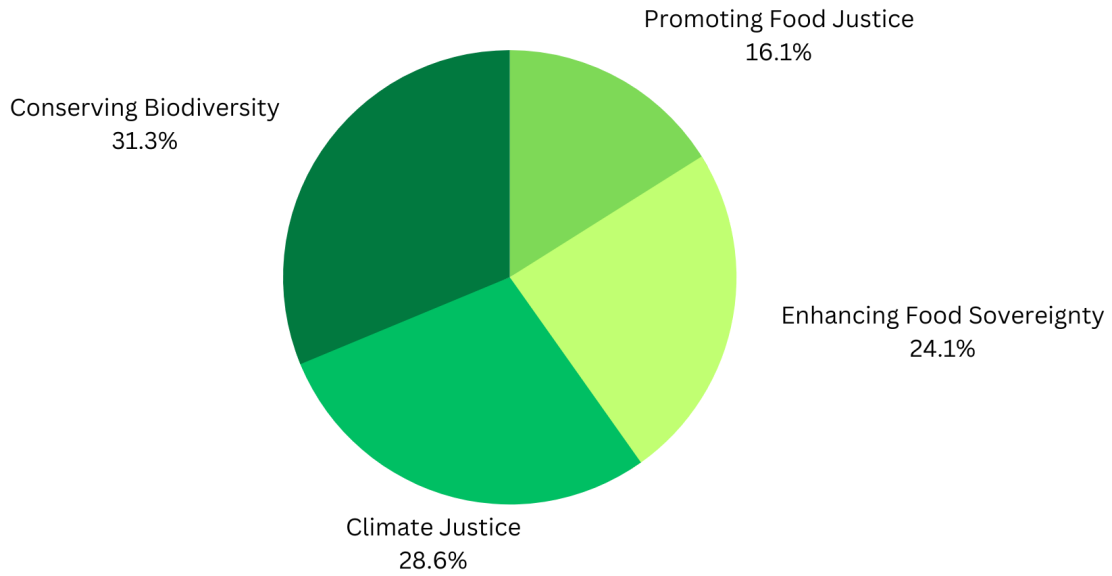


Figure 3: Ratio of which Core Principles Food Certifications in the Meat industry are Addressing based on the score given in our Index (Appendix A)

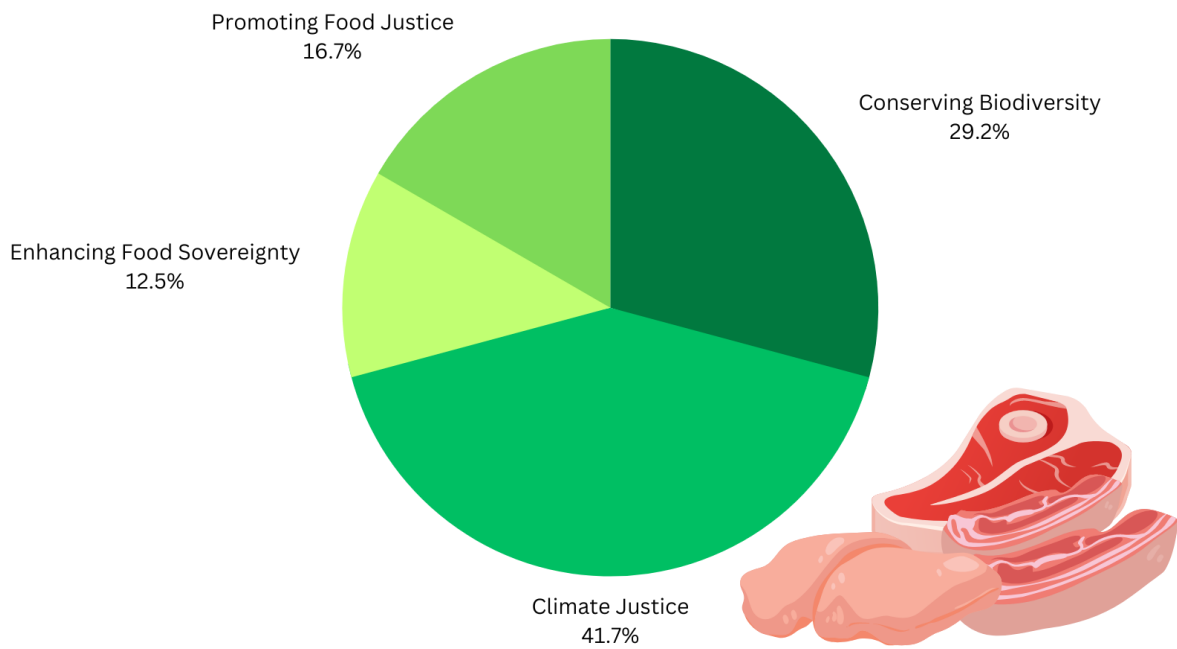


Figure 4: Ratio of which Core Principle Food Certifications in the Coffee and Tea industries are addressing based on score given in our Index (Appendix A)

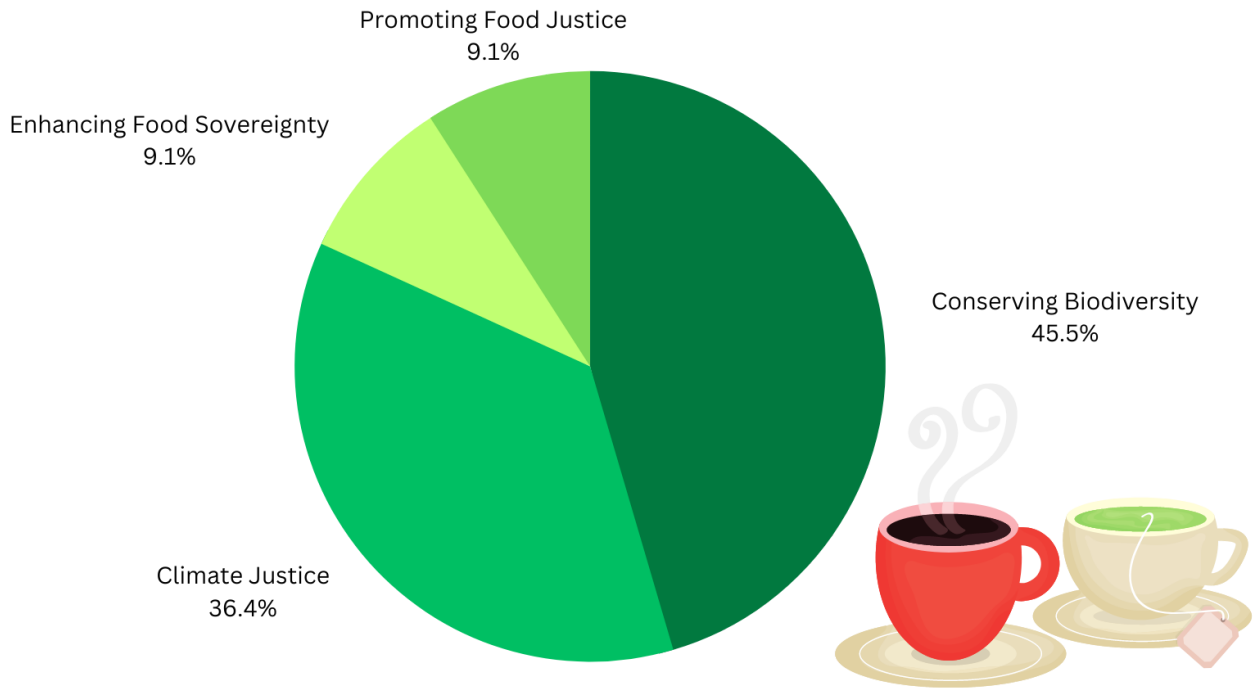


Figure 5: Ratio of which Core Principle Food Certifications in the Bread and Baked Goods industries are addressing based on our Index (Appendix A)

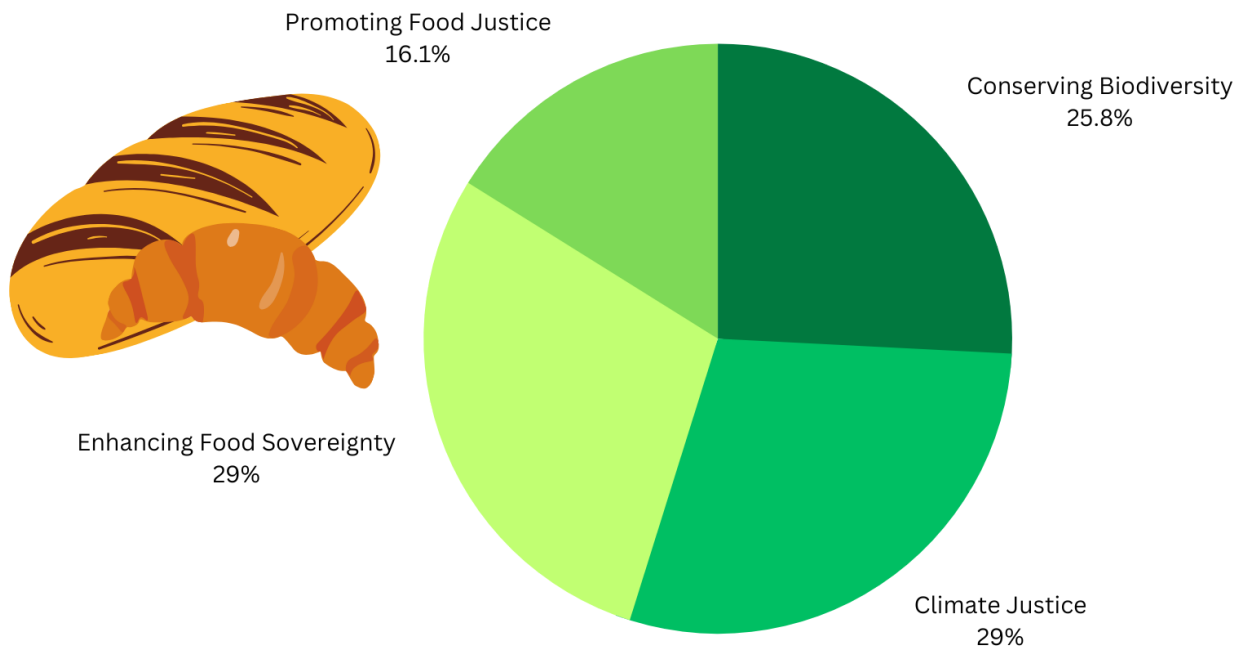


Figure 6: Ratio of which Core Principle Food Certifications in the Produce industries are addressing based on our Index (Appendix A)

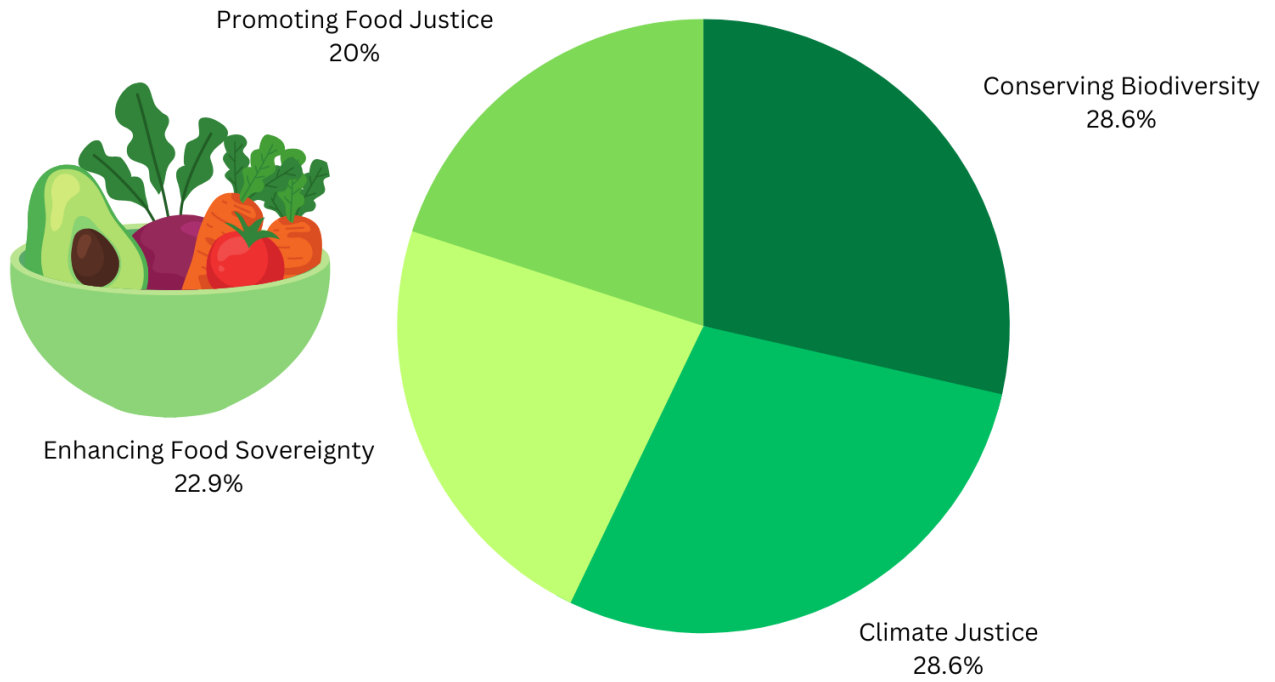
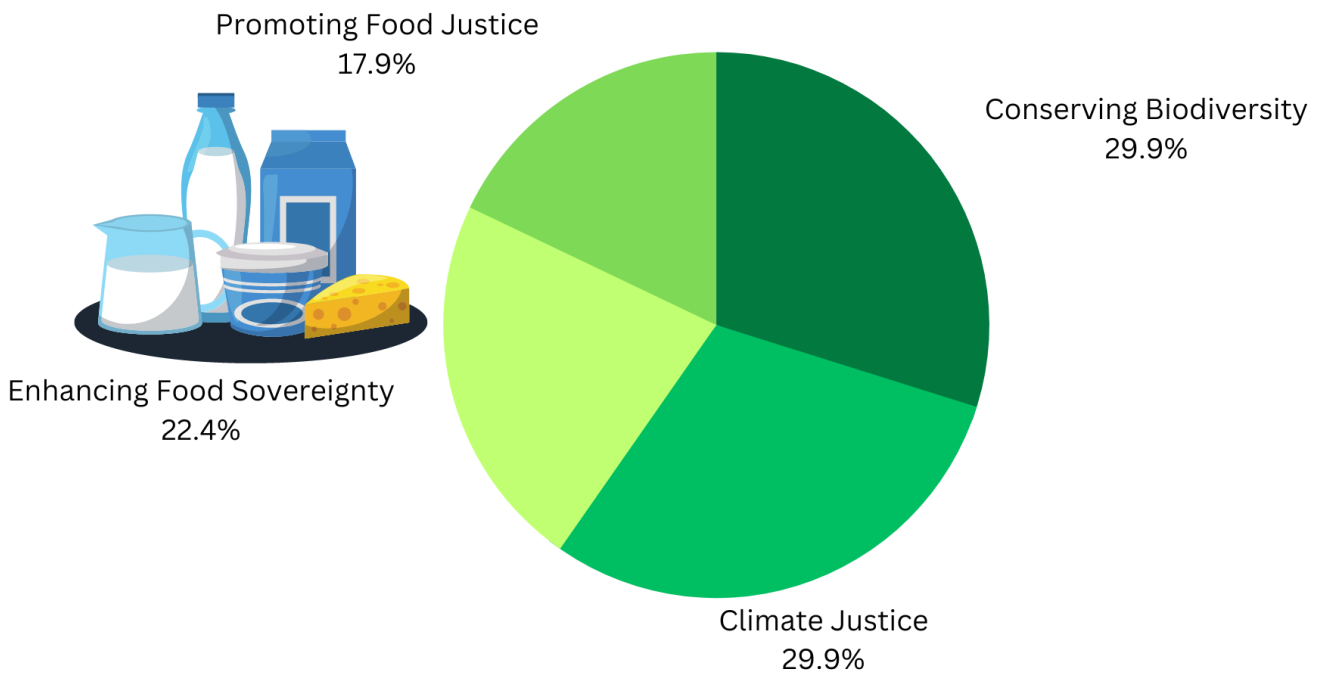


Figure 7: Ratio of which Core Principle Food Certifications in the Dairy Industries are addressing based on our Index (Appendix A)



4. DISCUSSION

4.1 SECONDARY RESEARCH ANALYSIS

Our team conducted secondary research methodologies for this project with the core purpose of determining meaningful and effective ways for UBCFS's purchasing strategy to advance CFFS development. Main developments of this secondary research identified gaps for further advancement of sustainable food procurement as well as found ways in which to address these gaps. It can be extracted from our secondary research that food certifications are an effective method to enhance institutional sustainability goals, so long as these certifications uphold a high standard of third party verification. At UBC, the incorporation of new food certifications, as outlined in this report, can yield opportunities for growth towards intersectional climate action principles. It should be emphasized that these individual certifications are for respective food categories. If implemented in combination with each other, compelling improvements and advancements for intersectional climate action, biodiversity, food justice, and food sovereignty can transpire.

Environmentally-focused food certifications have been established as a way that many individuals and institutions are demonstrating their commitment to mitigating climate change. UBC is no exception, as they currently utilize numerous environmentally focused food certifications in their food purchasing procurement. In fact, UBC is a Fairtrade campus, makes use of the Ocean Wise certification, and even strives to purchase local and or organic foods. Given the goal of this project, it is imperative to identify if employing more food certifications will aid in decreasing UBC's carbon footprint. Consumers as a whole widely accept the notion that purchasing foods with an ecolabel or environmental food certification ultimately is better for mitigating climate change than other conventional and non-certified competitors. However, it is important to establish if this notion is fact or fiction. Bellassen et al. (2022) identified that foods that are labeled with certification are not only more environmentally favourable, but also socially and economically favourable. Such results are aligned with our project's purpose and goals, and the implications of these findings provide reason for the adoption of certifications to be used as a method for mitigating climate change.

During our literature review, we determined numerous food certifications that would aid UBCFS in advancing the development of a CFFS. From our results, it can be identified overall that these certifications leaned towards having greater positive impacts on biodiversity enhancement rather than other intersectional principles of

climate change, such as food justice or food sovereignty. This finding is significant because it has the power to imply that food certification bodies are more concerned about promoting environmental sustainability without necessarily employing fair working conditions. This realization leads us to question whether many sustainable food certifications are actually attempting to use these certifications for moral purposes or just marketing advantages.

The implementation of environmentally friendly certifications on food products at a university such as UBC is costly. Through secondary research analysis, we found that certified foods can have as high as a 61% increase in price as compared to non-certified competitors (Bellassen et al., 2022). With inflation and soaring food prices already damaging the affordability of food in recent times, the addition of a certification cost stacked on top of already unaffordable food costs seems unreasonable. Therefore, it is crucial that the cost of certified foods is considered, especially when catering to a low income demographic such as students.

4.2 PRIMARY RESEARCH ANALYSIS

Our primary research defined many of the nuances associated within the use of food certifications as a means of sustainable food procurement. For example, interview consultations enlightened aspects of our project pertaining to practical applications of food certifications. In particular, they informed both when food certifications should be used by an institution such as UBC and for which types of food producers certifications benefit and exclude.

From an institutional standpoint, it was emphasized just how important it was to make use of food certifications that were clear and avoided consumer confusion. The primary reason for this is to increase consumer trust of a particular brand or certification. Truong et al. (2021) similarly noted how consumer trust is key for certification success, especially given that most people are very disconnected from our food systems. Of course, having a clear and reliable food certification on a product is also crucial for creating consumer awareness of our food systems impact on climate change. The authors noted just how important it is for eco-conscious people to be able to incorporate their morals into their food purchasing decisions in a clear way (Truong et al., 2021).

Greater importance of utilizing and becoming food certified was reported by stakeholders who worked in large-scale farming. This notion is likely because larger scale farms typically generate more revenue, can afford successful implementation of certification, and thus must maintain market competition with other large-scale

producers. Veldstra et al. (2014) found similar results in their research, whereby it was identified that a larger scale farm was more likely to find greater purpose associated with becoming certified. Moreover, the authors mention that the incentive to become food certified was much less likely to relate to moral or philosophical obligations and more so to increase overall farm revenue. It was also emphasized by Veldstra et al. (2014) that demonstrating commitment to environmental causes additionally increases consumer trust of a brand and increases the production transparency, which contributes to larger demand for their product. Our results additionally indicated that becoming certified was more or less important to a farm depending on their location. For example, a rural farm was less likely to become certified because the consumer base of these regions placed less importance on certifications so there was no threat of being outcompeted. However, a large-scale farm in a more urban environment found greater motivation to become certified to maintain their competition.

Small-scale farmers, especially those run by nonprofit organizations, were seen to be more likely to opt out of utilizing food certifications. Their reasons are numerous, but it was particularly identified that the use of food certifications as a means of a marketing tool was ineffective as their food production methods were already transparent to the community that supported them. Moreover, the strict regulations and costly upkeep of attaining and maintaining most recognized food certifications impose barriers for small-scale farms. This sentiment was shared in research conducted by Veldstra et al. (2014) who found that small-scale farms were less likely to become certified because the certification process imposed a wide array of limitations that are out of reach to many small farms. As previously noted, food certifications allow food products a greater advantage in market competition (Veldstra et al., 2014), so therefore, it can be inferred that small-scale farms are henceforth excluded from food purchasing frameworks that only employ certified farms. It was identified, however, that small scale farmers acknowledge the importance of utilizing certified food products when purchasing from large-scale farms because producer transparency is harder to attain. Interestingly, small-scale farms were also found to often employ the principles of a certain type of certification, such as Canada Organic, without following through with becoming certified simply due to various barriers. The literature shared similar findings, where it was identified that small scale farmers actually began to employ the benefits of a certification without the consequences of cost or maintenance of becoming certified (Veldstra et al., 2014).

In regards to the future of small-scale farming and identifying ways in which UBCFS can become more inclusive towards uncertified, small-scale farms, interviewees had a few ideas. Firstly, it was identified that CSA boxes that utilize a delivery management system are a great way for small scale farmers to reach a greater audience. Secondly, the sentiment of developing personal relationships between small scale producers and large scale suppliers was underscored. This concept of networking, while often relies on a level of privilege, is shared amongst authors Sutherland et al. (2017) who argue that networking is an effective tool for small-scale farmers to gain momentum and success in their business.

4.3 UNEXPECTED FINDINGS

The scope of this project allowed us to interview various food system stakeholders in BC who had experiences in multiple areas of food production and sustainable agriculture. Therefore, with such a wide array of personnel to interview, we anticipated to find a higher degree of divergence in opinions between these stakeholders than we did in actuality. For example, we were surprised that even though many small-scale farmers discouraged the use of certifications for their own farming systems, they still recognized the importance of them in larger food production. We were also surprised to find the vast amount of food certifications on the market. This led to our understanding of how confusion might prosper amongst consumers when attempting to make more eco-conscious food choices at the grocery store. A sea of unique certifications on similar foods poses a challenge for consumers to identify which choice is “best.”

4.4 DATA LIMITATIONS

There are extensive nuances when considering solutions to such a broad issue and, as such, this project was not conducted without limitations. First of all, given the location specificity of this research, it should be noted that the findings of our research cannot be extrapolated to explain circumstances outside of the BC region. Moreover, it should be noted that while certifications were chosen by our team with a high degree of scrutiny, to expect certifications to be an all-encompassing solution to advancing a campus Climate-Friendly Food System (CFFS) is shortsighted. It should also be noted that in order for sustainable food procurement to be effective, students must choose to consume the sustainable options presented to them.

When collecting our primary interview data, limitations and room for error are probable due to factors not limited to human error. For example, interviewer or interviewee biases are an important factor that can affect data collection. Moreover, while we ensured our best efforts were applied in creating clear and understandable interview questions, there is room for misinterpretation or a lack of clarification during the interview process, leading to skewed results. These considerations should be acknowledged when analyzing the results and implications of this project.

5. RECOMMENDATIONS

Below are actionable steps and recommendations for future research that UBCFS can implement and explore based on our findings. Our recommendations are intended to ensure long term campus sustainability and efficacy of initiatives to advance intersectional climate, biodiversity, food justice, and food sovereignty principles on the UBC's Vancouver campus. We hope that these actions and recommendations provide relevant and insightful information that will aid in the future development of a CFFS.

5.1 RECOMMENDATIONS FOR ACTION

The following recommended actions have been separated as short-term, within 1 to 2 years, and long-term, greater than 2 years.

Short-Term Actions	Long-Term Actions
Update UBCFS procurement guidelines to include specific sustainability parameters that advance CFFS goals.	Implement changes to UBCFS procurement based on updated sustainability food procurement guidelines.
Assist in submitting a renewed report to the Sustainability Tracking Assessment & Rating System (STARS) as UBC has not submitted a report since 2015 and that report was only valid through 2018.	Create a website or forum where local, small-scale farmers can apply to be a supplier for specific UBCFS locations.
Develop a framework of guidelines for UBCFS to include local, small-scale farmers that utilize sustainable practices but do not necessarily carry food certifications.	Research and reach out to 'local plus' suppliers that can further the impact of UBCFS initiatives and help UBC meet its CAP 2030 goals.
Define 'local plus' in the context of suppliers that UBCFS sources from, and define further values on what's the next step after sourcing locally.	

5.2 RECOMMENDATIONS FOR FUTURE RESEARCH

To ensure the efficacy of UBCFS initiatives and that UBC meets its CAP 2030 goals, there are a couple areas that require further research.

1. Raising awareness of food certifications among UBC students, faculty, and staff.

Many of our interviewees made note of food certifications from the consumer perspective, specifically that consumers may not understand what food certifications represent when purchasing food. Since UBCFS serves a large number of students, faculty, and staff on a daily basis, future research can explore the perception of food certifications from these consumer groups. This research could lead to the creation of an advocacy initiative to educate individuals on food certifications so they can better understand where their food comes from and make better informed purchasing decisions.

2. Explore local food options where food certification is not feasible.

From our research, we found that food certifications were difficult to find for all food categories and the products they encompass. To maintain our principles of intersectional climate action, biodiversity, food justice, and food sovereignty without relying on food certifications, UBCFS could look into local, non-certified options or alternatives for food they already purchase. We suggest UBCFS start by exploring the LFS 450 project, Advancing Biodiversity Conservation & Eco-Human Health: Enhancing Food Diversity through Procurement at the University of British Columbia, as it identified a diverse group of high-volume ingredients used in dining halls on campus as well as their local alternatives and availabilities and environmental impact. With this, there is an opportunity for further research to be conducted on sustainable produced, local, non-certified food options within other UBCFS locations.

6. CONCLUSION

The purpose of this project was to further UBCFS's Procurement Plan and advance the development of a CFPS by identifying food certifications for UBCFS to consider implementing. Moreover, adopting these food certifications or suggesting them to current suppliers can aid in addressing intersectional climate, biodiversity, food justice and sovereignty principles. As a globally recognized institution, UBC is required to maintain its lead in sustainable campus development and planning. The university has already made numerous commitments to

decrease GHG emissions and waste in other sectors of campus activity through its CAP 2030. Through our research, we determined that the implementation of food certifications is an effective tool to further indicate commitment to the next steps of campus sustainability and procurement. While interview responses from food system stakeholders varied on whether food certifications are necessary for smaller organizations, all stakeholders mutually agreed that they are significant in reducing the impacts of food production related to climate, justice and sovereignty. Stakeholders from larger operation systems found that food certifications were a necessary part of maintaining relevance and a competitive edge amongst other large scale producers. Given that larger scale producers typically generate greater revenue, they typically reported having an easier experience becoming food certified than smaller scale producers. Drawing on this idea, it was inferred from interview responses that food certifications can be a barrier for local, small-scale farmers and producers. This led to an understanding of how local farmers that implement sustainable production methods should also be included in UBCFS's procurement strategy without requiring the overcoming of such barriers. In the absence of aid in becoming certified, some small scale producers have experienced the notion of being penalized for their lack of resources to be certified, mostly taking shape as having a lack of competitive edge. Based on the interview responses, we scoped 11 food certifications UBCFS can look out for based on our 4 core intersectional principles. Further research should construct a framework or interface where the institution(s) or UBCFS can connect with local, small-scale, non-certified producers without having to exclude them to further promote a Climate-Friendly Food System on campus.

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APPENDICES

APPENDIX A - FOOD CERTIFICATION INDEX

LFS 450 FOOD CERTIFICATION INDEX

APRIL 2023

ADVANCING INTERSECTIONAL CLIMATE,
BIODIVERSITY, FOOD JUSTICE & SOVEREIGNTY
PRINCIPLES: EVALUATION & COMPARATIVE
ANALYSIS OF FOOD CERTIFICATIONS



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ABOUT THIS INDEX

Food certifications are difficult to navigate for consumers, due to a lack of transparency in the food industry. It can be hard to differentiate between valid food certifications and well-disguised attempts at greenwashing. This index will go over 11 certifications spanning 5 food categories and score them on a 5-point scale.

5-POINT SCALE

The 5-point scale was developed to give the reader a better understanding of where the certification stands in terms of furthering one of the five objectives;

- Intersectional Climate
- Biodiversity
- Food Justice
- Food Sovereignty
- Validity

The first 4 objectives were given to us in our project, and we chose validity as the fifth objective because we realized that the validity of a certification was as important as the others. Food certifications have to have scientific backing as well as be well regarded in both the consumer and producer communities to achieve their goals.

PROTEIN

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APRIL 2023

03**CRSB****CANADIAN ROUNDTABLE FOR SUSTAINABLE BEEF**

This certification is for producers of beef within Canada. It is based on five principles set by the Global Roundtable for sustainable beef. Each principle has indicators that are rated on a 3-point scale; Achievement, Innovation, and Excellence.

To meet the certification requirements, at a minimum, the "achievement level on every indicator must be awarded

INDICATORS

Natural Resources
 People and Community
 Animal Health and Welfare
 Food
 Efficiency and Innovation

Objective	1	2	3	4	5
Biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Climate Action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Food Sovereignty	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Food Justice	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Validity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PROTEIN

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APRIL 2023

04**PIGCARE & PIGSAFE****CANADIAN PORK EXCELLENCE CERTIFICATIONS**

Although we could not find any certifications that directly advance UBC's principles, the Canadian Pork Council offers certifications that verify the quality and pork through PigSAFE as well as the well-being of the pigs through PigCARE.

Producers must meet a variety of requirements to achieve these certifications based on the following factors.

PIGSAFE REQUIREMENTS

Water Quality
Bedding
Edible Residual material
Feed Delivery Slip
Outdoor Access Production
Vaccine and Drug Use Policy

PIGCARE REQUIREMENTS

Pig's Body Condition,
Injury Prevention
Size of Farrowing Crates
Space Allowance Nursery
Group Sow Housing Conversion
Lighting
Enrichment

Objective	1	2	3	4	5
Biodiversity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Climate Action	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Food Sovereignty	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Food Justice	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Validity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PROTEIN

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APRIL 2023

05

SUSTAINABILITY EXCELLENCE COMMITMENT

CHICKEN FARMERS OF CANADA

The Sustainability Excellence Commitment is a commitment made by the Chicken Farmers of Canada to further their sustainability goals as well as to further food justice. Their main principles are as follows:

Principles

Protecting Bird Health and Welfare - Mandatory Raised by a Canadian Farmer Program (Includes 3rd party audits)

Producing Safe Chicken for Canadians

Preserving the Health of the land - The carbon footprint of the sector was reduced by 37% and water consumption reduced by 45%

Objective	1	2	3	4	5
Biodiversity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Climate Action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Food Sovereignty	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Food Justice	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Validity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

COFFEE AND TEA

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APRIL 2023

06**RAINFOREST ALLIANCE**

The Rainforest Alliance advocates for environmental responsibility, social equity and economic viability for farm communities. This certification is available worldwide for farmers, processors, importers or exporters, brands and distributors of a variety of agricultural products including coffee and tea. There are 6 requirements for farm certification that must always be met. Along with these core requirements, there are a set of mandatory and self-selected improvement requirements that producers must include to advance their sustainability efforts.

Requirements

Management
Traceability
Income and Shared Responsibility
Farming
Social
Environment

Objective	1	2	3	4	5
Biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Climate Action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Food Sovereignty	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Food Justice	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Validity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

COFFEE AND TEA

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APRIL 2023

07 BIRD FRIENDLY

Bird friendly only allows USDA-accredited certifiers to issue the certification on 100% organic, shade-grown coffee. This certification can be used by farmers, importers, roasters, and distributors who produce or sell coffee beans grown according to a variety of criteria.

Biodiversity Indicators

- 40% Canopy Cover
- Minimum 12 metre tree canopy height
- Minimum 10 different species of native trees and shrubs
- 3 layers within the profile of the coffee farm
- Presence of Leaf litter
- Presence of weeds
- Presence of a living fence where possible
- Buffer zones along waterways using native species
- Polyculture
- USDA Organic Certification

Objective	1	2	3	4	5
Biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Climate Action	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Food Sovereignty	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Food Justice	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Validity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

BREAD AND BAKED
GOODS

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APRIL 2023

08

PALM DONE RIGHT

Palm oil is a common ingredient in many frozen baked goods.
Focuses on 5 core concepts;

Core Concepts

100% Organic - To further resilient ecosystems

Fully Traceable - Every step of the supply chain has full transparency to minimize the exploitation of workers and the environment

Deforestation Free - Prohibits conversion of primary and secondary forests into agricultural lands

Wildlife Friendly - Recognizes the importance of species diversity

Fair & Social - Ensuring that all people involved have their rights, wages, and well-being respected

Objective	1	2	3	4	5
Biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Climate Action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Food Sovereignty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Food Justice	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Validity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

BREAD AND BAKED
GOODS

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APRIL 2023

09**BONSUCRO**

Sugar is another very common ingredient in bread and baked goods regardless of whether they are frozen or not. Bonsucro is a UK-based sugarcane certification that focuses on environmental benefits and improving workers' conditions in all stages of sugarcane processing. Already 10,000 small-scale farmers are certified and provided with additional protective equipment for better working conditions. It also aims to be inclusive of seasonal workers and ensure their work has contracts and is at the very least being paid the national minimum wage of that country. Reducing agrochemical usage through education on more organic approaches.

Objective	1	2	3	4	5
Biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Climate Action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Food Sovereignty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Food Justice	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Validity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PRODUCE

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10**ROC****REGENERATIVE ORGANIC CERTIFIED**

This certification uses USDA Certified Organic standard as a baseline with three additional pillars. There are three levels, bronze, silver, and gold, and an organization's ROC level depends on the scope and number of regenerative practices used.

PILLARS

Soil Health & Land Management
Animal Welfare
Workers Fairness

Objective	1	2	3	4	5
Biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Climate Action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Food Sovereignty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Food Justice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Validity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PRODUCE

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APRIL 2023

11

DEMETER CERTIFIED BIODYNAMIC

This certification encourages the growth of natural environmental connections between systems to improve soil, worker, animal, and human health. A very holistic approach where not only is the balance of the material requirements of the food system concerned but also examined the depletion of all life forces involved. This *life force* is not only limited to the environment and the flora and fauna, but it addresses the farmers' and workers' well-being. One more unique part about this certification is that it puts an emphasis on soil as a part of the life force as soil health is an integral part of the earth.

Objective	1	2	3	4	5
Biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Climate Action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Food Sovereignty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Food Justice	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Validity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DAIRY

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APRIL 2023

12 CERTIFIED REGENERATIVE

This certification is focused on regenerating soil, water, air, and biodiversity. Genetically modified organisms, deforestation and agrochemical use are all prohibited and total emissions are required to be lowered. The welfare and health of animals are cared for with regulated antibiotic usage and feeding conditions. Workers are guaranteed a living wage and benefits. An assessment will be made by Certified Regenerative staff or agents to ensure standards are met.

Objective	1	2	3	4	5
Biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Climate Action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Food Sovereignty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Food Justice	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Validity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DAIRY

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APRIL 2023

13**ROC****REGENERATIVE ORGANIC CERTIFIED**

Regenerative Organic Certified focuses on regenerating soil health, reducing carbon emissions, improving animal welfare, and supporting farmers. The use of agrochemicals is not permitted on crops grown for consumption. Deforestation and extractive activities are also prohibited. Genetically modified organisms are not allowed to be grown. Cattle are grass-fed with a rotational grazing system giving the land and soil time to replenish. Concentrated animal feeding operations are also prohibited. Workers' wages meet social and living standards.

PILLARS

Soil Health & Land Management
Animal Welfare
Workers Fairness

Objective	1	2	3	4	5
Biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Climate Action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Food Sovereignty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Food Justice	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Validity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

APPENDIX B - EMAIL INVITATION TEMPLATE

Draft Email to send to Stakeholders:

Hello x or Dear X,

Are you interested in taking part in community-based research that focuses on improving procurement strategies for our local food system?

To introduce ourselves, our names are Clementine Nixon, Jennifer Lee, Natalie Tong, Masa Kono, and Jaewon Park. We are undergraduate students at the University of British Columbia in the Faculty of Land and Food Systems. We are currently working with UBC Food Services and a research coordinator from the SEEDS Sustainability Program to develop a case study investigating which areas are valued more or less by different food system stakeholders in BC. The aim of our study is to incorporate perspectives on topics such as biodiversity, food sovereignty and climate justice into the university's sustainable procurement strategy. After extensive research on different people that contribute to the local food system, we would love to have an interview with you and hear your opinions on intersectional climate, biodiversity, food justice and sovereignty principles.

We are hoping to schedule an interview with you (approximately 30 to 60 minutes) at your earliest convenience as the next step in our project. The interview process can be online or in person and we will send you the questions in advance. Additionally, we would love to send a gift card for your cooperation!

We are happy to answer any questions or address any concerns you may have and would greatly appreciate it if you could respond with some possible dates or times you may be available to meet in the next few weeks.

Thank you again for your time and we look forward to hearing back from you!

Masa K. on behalf of the Food Certifications and Procurement Strategies Project Team

A 4th-year undergraduate student, majoring in Sustainable Agriculture and Environments at the University of British Columbia

APPENDIX C - RECOMMENDED FOOD CERTIFICATIONS FOR EACH FOOD CATEGORY

<p>Protein</p>	      
<p>Coffee and Tea</p>	  
<p>Bread and Baked Goods</p>	  
<p>Produce</p>	  
<p>Dairy</p>	  

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APPENDIX D - PROMISING PRACTICES FROM OTHER INSTITUTIONS

Note: The institutions chosen are ordered from the highest to lowest Food & Dining score determined by the STARS. The STARS rating listed is based on the institution's overall campus sustainability.

Sterling College (VT)

STARS Rating: Gold

Total Food & Dining score: 7.95/8

Food and Beverage Purchasing score: 5.95/6

Sustainable Dining score: 2/2

- 88.99% of the food items procured for Sterling College dining services are either third party verified for sustainability standards or pass local and community-based sustainability requirements.
- A large amount of the food served at Sterling College dining services is either grown by Sterling College themselves or sourced from local food suppliers.
- Sterling College dining services does not rely on a food-service company, instead employing chefs and students in their kitchens.
- The chefs and Sterling College students work together to produce meals that are both healthy and tasty.

University of Pennsylvania

STARS Rating: Gold

Total Food & Dining score: 6.63/8

Food and Beverage Purchasing score: 4.63/6

Sustainable Dining score: 2/2

- 61.94% of the food purchased by the University of Pennsylvania satisfies sustainability and ethical goals outlined by the school.
- The University of Pennsylvania also requires that 30.51% of their food budget go towards plant-based foods.
- The university uses Bon Appétit, a food management company, to run their dining services.
 - Bon Appétit supports local farms, sustainable seafood, animal welfare, workers rights, and climate change action.

Southwestern University

STARS Rating: Gold

Total Food & Dining score: 5.78/8

Food and Beverage Purchasing score: 3.9/6

Sustainable Dining score: 1.88/2

- 42.50% of the food and beverages purchased by Southwestern University satisfies sustainability and ethical goals outlined by the school.
- Around 45% of Southwestern University's food and beverage budget goes towards plant-based foods.
- Southwestern University uses Sodexo, a catering company to help run their dining services.
 - Sodexo works closely with the World Wildlife Fund to ensure their products have been sourced sustainably and ethically.
 - Around 75% of produce procured by Sodexo is either organic or are bought from local farms which practice sustainability.

Emory University

STARS Rating: Gold

Total Food & Dining score: 5.26/8

Food and Beverage Purchasing score: 3.26/6

Sustainable Dining score: 2/2

- 26.68% of the food and beverages purchased by Emory University satisfies sustainability and ethical goals outlined by the school.
- Around 51.41% of Emory University's food and beverage budget goes towards plant-based foods.
- Emory University has created goals that emphasize that 75% of the food served is sustainably and locally grown.
 - To meet their requirements for sustainably grown food, items must contain one of the following certifications: USDA Organic, AGA-Certified Grassfed, Certified Humane, Animal Welfare Approved, Food Alliance, LEO-4000 American National Sustainable Agriculture Standard, Fairtrade. Seafood must be approved by the Marine Stewardship Council or be rated "Best Choice" or "Good Alternative" on the Seafood Watch Approved List.

Stanford University

STARS Rating: Platinum

Total Food & Dining score: 5.28/8

Food and Beverage Purchasing score: 3.28/6

Sustainable Dining score: 2/2

- 34.87% of the food and beverages purchased by Stanford University satisfies sustainability and ethical goals outlined by the school.
- Around 39.61% of Stanford University's food and beverage budget goes towards plant-based foods.
- Stanford R&DE (Residential & Dining Enterprise) is guided by 6 main principles: climate-smart dining, racial equity with an emphasis on supporting Black businesses, deforestation reduction, thriving oceans, circular economy, and systems thinking.
- The university tries to purchase food that is agroecological, direct, fair, humane, local, organic, and free of antibiotics and hormones.
- All the seafood purchased by Stanford University is either a Seafood Watch best choice or an alternative with similar standards.
- Stanford launched a Scope 3 Emissions Program and has already made large strides in reducing its scope 1 and 2 emissions and will achieve its goal of 80% emissions reductions by the end of the year.

College of the Atlantic

STARS Rating: Gold

Total Food & Dining score: 5.05/8

Food and Beverage Purchasing score: 3.25/6

Sustainable Dining score: 1.8/2

- 25.24% of the food and beverages purchased by College of the Atlantic satisfies sustainability and ethical goals outlined by the school.
- Around 57.70% of College of the Atlantic's food and beverage budget goes towards plant-based foods.
- College of the Atlantic has signed the Real Food Campus Commitment which requires that at least 20% of the food they purchase are organic, Fairtrade, and locally sourced.
 - Since 2018, around 30% of the food purchased by College of the Atlantic has met those requirements listed.
- College of the Atlantic runs its own dining services

Université de Sherbrooke

STARS Rating: Platinum

Total Food and Dining score: 4.19/8

Food and Beverage Purchasing score: 2.19/6

Sustainable Dining score: 2/2

- 25.98% of the food and beverages purchased by Université de Sherbrooke satisfies sustainability and ethical goals outlined by the school.
- Around 20.97% of Université de Sherbrooke's food and beverage budget goes towards plant-based foods.
- Main food and beverage is supplied by Cafe-Caus, an independent cooperative that prioritizes purchase of local products from the immediate Estrie region and has several partnerships with local food companies.
- Food offered to the university community by Cafe-Caus is mainly sourced from Quebec suppliers, ensuring content from Quebec origin
- All coffee is Fairtrade

University of California, Irvine

STARS Rating: Platinum

Total Food & Dining score: 3.64/8

Food and Beverage Purchasing score: 1.64/6

Sustainable Dining score: 2/2

- 11.01% of the food purchased by the University of California, Irvine satisfies sustainability and ethical goals outlined by the school.
- The University of California, Irvine also requires that 32.71% of their food budget go towards plant-based foods.
- The University of California, Irvine work with produce vendors to procure local foods within 250 miles of the university
- All seafood meets Monterey Bay Aquarium guidelines
- 51st Fairtrade university in the US all coffee products are Fairtrade, Rainforest Alliance, organic or combination
- All eggs are cage free since 2010

Thompson Rivers University

STARS Rating: Platinum

Total Food & Dining score: 3.63/8

Food and Beverage Purchasing score: 1.63/6

Sustainable Dining score: 2/2

- 12.31% of the food and beverages purchased by Thompson Rivers University (TRU) satisfies sustainability and ethical goals outlined by the school.
- Around 29.66% of TRU's food and beverage budget goes towards plant-based foods.
- TRU's food and beverages operations are run by TRU Culinary Arts Program and Aramark.
- The TRU Culinary Arts Program purchases from local and community-based suppliers when possible.
- All the coffee used by TRU Culinary Arts Program is fair trade and organic.
- Around 70% of the food and beverages are procured by Aramark, who within budget and contractual limitations, buys products that are local, community-based, or third-party verified

Cornell University

STARS Rating: Platinum

Total Food & Dining score: 2.67/8

Food and Beverage Purchasing score: 0.67/6

Sustainable Dining score: 2/2

- 1% of the food and beverages purchased by Cornell University satisfies sustainability and ethical goals outlined by the school.
- Around 20.47% of Cornell University's food and beverage budget goes towards plant-based foods.
- The university receives fresh potatoes, winter squash, and in-season corn from Cornell Orchards and Performance Food Group.
- Cornell University purchases produce from local and regional suppliers and 90% of the dairy served is supplied by local producers.
- Two of the university's main dining units serve fish that is Marine Stewardship Council certified.
- Ithaca Baker, a local producing company, provides the campus with local and community based baked goods.

APPENDIX E - INTERVIEW QUESTIONS

Stakeholder 1:

- What is your overall opinion of food certifications?
- What food certifications do you prefer?
- What qualities do you look for on food certifications?
- What are your goals for UBC's food certification procurement?
- What are UBC's (or their) view on balancing between the commitments we have made to create a more sustainable food system and still having to keep our bottom line in mind when making purchasing decisions?
 - I.e Most (I think except Tim Horton's) coffee on campus is Fairtrade, what were the financial implications? (Did they lose a lot of money but still willing to do so? Or was it a win win situation somehow with their producers)

Stakeholder 2:

- What is your overall opinion of food certifications?
- What food certifications do you prefer?
- What qualities do you look for on food certifications?
- What are your goals for SFU's food certification procurement?
- What are SFU's (or their) view on balancing between the commitments we have made to create a more sustainable food system and still having to keep our bottom line in mind when making purchasing decisions?
- Does SFU use any certifications when purchasing products?
- UBC has moved for all the coffee on campus to be Fairtrade, does SFU have any policies like this?

Stakeholder 3:

- What do you do in your position in the food system as an experiential learning director?
- What does [your small-scale urban farm] do to support and achieve its goal of good food for all?
- How does [your small-scale urban farm] take action to advance climate change mitigation and/or biodiversity?
- What is your overall view of food certifications such as certified organic and their role in food system sustainability?
- Have you/will you consider food certifications as a portion of [your small-scale urban farm] goals/morals to achieve a further sustainable business system?
- Does [your small-scale urban farm] face barriers in (not) being food certified?

Stakeholder 4:

- What is your overall opinion on food certification
- What are the goals of the UBC farm?
- What made the farm want to be certified organic?
- What barriers/challenges do you face as the farm is certified organic? Added expense, labour, etc.
- Have you considered other food certifications to apply to the farm?
- What are some actions that UBC Farm takes to advance UBC's sustainability goals in regards to UBC CFFS (climate friendly food system)
 - Specifically the 3 areas we are looking at being;
 - Food Justice
 - Climate
 - Biodiversity

Stakeholder 5:

- What are your overall views on food certifications?
- Did you encounter any barriers as a small-scale farmer? If so, what were they?
- How can we include farmers that are sustainable but are not certified in the Campus Food System?
- Do you think that UBC could develop some sort of way to make it easier for small-scale farmers, non certified, but still make efforts for sustainable farming to be able to sell to larger institutions?