

UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

**Agronomy Garden Food Literacy and Community Food System Engagement Strategy**

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## **Executive Summary**

The UBC Agronomy Garden is a small garden at the corner of Main Mall and Agronomy Road; it was established in Summer 2017 so community members could plant crops and harvest vegetables using the space. Furthermore, the Agronomy Garden helps promote awareness of UBC's diverse food system. For our research project, our team collaborated with the Agronomy Garden committee and UBC community to explore strategies to increase the garden's effectiveness in terms of community engagement.

Our overarching goal was to encourage increased community involvement in the Agronomy Garden. More specifically, our objective was to make the garden a more attractive, interactive, and welcoming space particularly using interactive signage. By increasing the garden's accessibility to people who do not have a background in gardening and food systems, we hope to maximize the benefits and opportunities of this garden. These benefits include an increased sense of community on the UBC campus, physical exercise, access to fresh produce, and a greater connection to food and urban agriculture. The more people who participate, the further the reach of the garden's benefits for the broader society.

In order to determine what people on the UBC campus are looking for in regard to increased activity in garden spaces, we conducted several research processes to ensure our final deliverables would be relevant to the Agronomy Garden and UBC community. Our team conducted a literature review to determine the best strategies to increase participant engagement and analyzed specific aspects of signage that attract people. Through this research we found that the installation of multilingual, informative, welcoming signage is key to help increase engagement around a garden space. Our group also conducted in-person interviews, using the Community-Based Action Research (CBAR) methodology. We spoke with representatives from the UBC Botanical Garden, Roots on the Roof, and the Geography Garden (Geo Garden) located on UBC Campus. From this research, we found that other gardens on campus seemed to receive positive responses from using visually attractive, educational, creative signs.

In addition, we created an online survey to distribute across UBC faculties to determine student preference on signage. The survey resulted in a 63% student preference towards handmade, creative, simple, and colourful welcoming signs. The survey also showed that students preferred images with bold, informative words to describe what plants are specifically growing in the garden. With these results, we decided to create a welcome sign including all these characteristics and several descriptive label signs within the garden. We hope through our research and the production of our final deliverables that the Agronomy Garden chooses to implement our signage strategy to help increase community engagement and awareness.

## **I. INTRODUCTION**

The Agronomy Garden is a small community garden, established in Summer 2017 at the University of British Columbia's (UBC) Vancouver campus. Community gardens such as the Agronomy Garden increase accessibility to fresh, healthy produce on campus and provide opportunities for community members to experience growing their own food (A. Therias<sup>1</sup>, personal communication, January 17, 2018). They foster a greater understanding of small-scale agricultural techniques and enhance people's sense of connectedness to local food production systems and the community (Poulsen et al. 75). Furthermore, community gardening can also initiate social change by opening discussion about environmental and social justice values (Nettle 83). There is a valuable opportunity to extend the reach of the UBC Agronomy Garden's benefits to the broader society by encouraging more people to participate in the garden. A significant limitation of community gardens, however, is that many people who would like to be a part of the gardens do not have the skills and knowledge to do so (Awija, n.p.). Furthermore, while many scholars have highlighted the benefits of community gardens (Awija, n.p.; Poulsen et al. 75; Nettle 83), there have been few research studies on the effectiveness of specific community engagement techniques such as educational signs.

Spaces like the Agronomy Garden play an instrumental role in transitioning towards greater sustainability. The Agronomy Garden is an avenue for community members to engage with the UBC food system, as well as foster social and environmental stewardship through food (A. Therias, personal communication, January 17, 2018). While its physical footprint may be small, the role of the space is significant in terms of facilitating relationships between people, community, and the environment (A.

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<sup>1</sup>Adèle Therias was the Community Engagement Lead for the Agronomy Garden

Therias, personal communication, January 17, 2018). In urban settings such as Vancouver, it is easy for people to feel disconnected from the origins of our food due to the extremely long food chains and complexity of food production, distribution, and consumption (Clapp 1) . As a result, the consequences of our current food system such as greenhouse gas emissions and poor nutrition can be pushed into the back of people’s minds and go unnoticed (Clapp 18). However, when people are able to experience tangible sustainability solutions such as gardening and local food production, it becomes easier to understand these concepts and relate them to everyday life (Poulsen et al. 80). Developing food literacy<sup>2</sup> and understanding the value of food sovereignty<sup>3</sup> are essential steps towards nurturing citizens who seek to actively work towards sustainability. The strategies that we have explored throughout the course of our research (i.e. educational signage) aim to help the Agronomy Garden become a space to for people to build an understanding of local food systems as well as an environment for community building and learning. Overall, the success of the Agronomy Garden supports UBC’s goal of creating a model for integrated food systems, social sustainability, and innovative engagement programs; it aligns with the strategic goals that UBC has set as it transitions into a more sustainability-focused institution. (UBC Sustainability, 2014).

For this project, we explored the local context of community gardens in Vancouver, BC, with a specific focus on community gardens within the UBC campus.

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<sup>2</sup> According to Healthy Schools BC, food literacy is “having the knowledge, skills and attitudes necessary to choose, grow, prepare and enjoy food to support one’s health, community, and the environment.” (n.p.)

<sup>3</sup> According to Food Secure Canada, food sovereignty is “the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems.” (n.p.)

The Agronomy Garden, with its central location on campus at the corner of Main Mall and Agronomy Road, has the potential to serve as an opportunity for community members to connect with UBC's diverse food system and participate in food production on campus (A. Therias, personal communication, January 17, 2018). Collaborating with the Agronomy Garden committee and other UBC garden organizations such as Roots on the Roof, UBC Botanical Garden, and Geo Garden, our team explored strategies for communicating with community members particularly through signage.

The objectives of this research project were to 1) investigate various community garden signage strategies, 2) collect survey data regarding UBC students' preferences for different sign designs, and 3) formulate design recommendations and an implementation plan to be submitted to the Agronomy Garden committee. We decided to focus on signs for our project because they had been highlighted during past Agronomy Garden community vision meetings as a potential way to draw people into the garden as well as provide easily accessible information, without the need for a presenter (A. Therias, personal communication, January 17, 2018). Currently, the Agronomy Garden has only one sign. The overarching goal of our research project was to develop strategies to enhance the community engagement aspect of the Agronomy Garden, making it a more interactive, attractive, and welcoming place where people can share ideas and experiences with each other while learning about food and agriculture.

## **II. METHODOLOGY**

Our research was conducted using the Community-Based Action Research (CBAR) methodology. CBAR has the goal of working towards an actionable solution to

problems; it requires researchers, clients, and stakeholders to actively participate in the research project to provide a more holistic perspective from which to take action (Nasrollahi 18664). Our role as researchers in this project involved collaborating with our clients, the Agronomy Garden committee, to better understand the problem space and make progress towards practical solutions that address current concerns (i.e. welcoming and educational garden sign design recommendations). Furthermore, we also engaged in a collaborative partnership with UBC community garden organizations and UBC students in order to ensure that the tools and deliverables we developed would effectively enhance community experiences with respect to the Agronomy Garden.

Adopting Stringer's 'Look, Think, Act' model, we conducted a literature review and mapped out relevant stakeholders ('look'), explored UBC community members' suggestions, concerns, and interests ('think'), and developed deliverables such as garden sign design recommendations ('act') (Nasrollahi 18665; Richer, n.p.).

Throughout our research, we consistently connected with the UBC community to learn from their perspectives and encourage them to be actively involved in the project's direction. The 'Look, Think, Act' process was truly iterative; after the completion of each milestone/task, our team continued reviewing literature, reflecting on the issues raised by the community, and modifying our recommendations and deliverables accordingly.

### **III. METHODS**

In order to effectively meet our objectives and project goals, we used three main strategies to collect information and data: (1) a literature review on existing community garden engagement issues and strategies both within and outside Vancouver (2)



interviews with UBC garden organization representatives (Roots on the Roof, Botanical Garden, and Geo Garden), and (3) online surveys sent to UBC graduate and undergraduate students.

### *1. Literature Review (Secondary Data Collection)*

We conducted a literature review, investigating secondary sources and exploring the current issues and best practices related to community garden engagement and signage strategies. We primarily used the UBC Library's Summon online search engine to find relevant articles, using keywords and phrases such as "community garden engagement", "community gardens Vancouver", "community garden signs". Articles that came up from our online search included Awija's "Efficacy of Community Gardens as a Tool to Enhance Food Security" (2017), Seto's *Diversity and Engagement in Alternative Food Practice: Community Gardens in Vancouver* (2011), and Eshelman's *The Social Ownership of Community Gardens: Implications for Environmental Justice, Food Access, and the Right to the City* (2016). We also analyzed successful Vancouver case studies that were mentioned in the literature such as the World in a Garden and Farmers on 57th. The criteria we used for selecting literature included relevance to our research topic (i.e. community garden engagement), recency of publication (not older than 10 years), and the reliability of the source. All of the sources we used as part of our literature review were all published dissertations, peer-reviewed articles, primary source food policies (e.g. Greenest City Action Plan), or organization websites (for the case studies).

### *2. Interviews with UBC Garden Organizations (Primary Data Collection)*

After our preliminary literature review, we conducted interviews with three UBC garden organizations: Roots on the Roof, Botanical Garden, and Geo Garden<sup>4</sup>. We selected these organizations based on the Agronomy Garden committee's recommendations and interest in how these particular groups have established and communicated with their respective networks. The selected organizations share a similar goal with the Agronomy Garden to promote community engagement with local food production. Furthermore, all representatives were able to meet on the UBC campus which was convenient for our group members. Our team decided to conduct interviews with these organizations to inquire about their community engagement strategies. Specifically, we wanted to learn about the effectiveness of their signage in terms of attracting and engaging visitors to the garden. We contacted each garden organization representative through email. All interviews were conducted in person at the garden locations; the audio of two of the interviews were recorded as per the interviewees' consent. The interviews took place over the span of the first two weeks in March. Prior to the interviews, we sent a list of questions to the interviewees to allow them the opportunity to prepare their answers and information beforehand (the full list of questions can be found in Appendix I). All participants were asked to sign consent forms and provided with background knowledge of the Agronomy Garden and our LFS 450 project prior to the interview.

We developed the interview script in collaboration with our Agronomy Garden clients; we sent them our draft interview script and requested their feedback before

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<sup>4</sup> We also contacted the UBC Farm for an interview, but they were unable to meet up due to scheduling conflicts.

conducting the interviews. In addition, we used the information that we gathered from our literature to narrow down and tailor the scope of questions for our interviews.

### *3. Online Surveys with UBC Students- Primary Data Collection*

We conducted online surveys with students from different faculties on campus (e.g. arts, applied sciences, and sciences) to gain insight on preference of specific categories of signage. The survey was sent to all of UBC's undergraduate faculties' newsletters because Agronomy Garden committee wishes to extend their presence and community interactions to beyond just the LFS faculty. In addition, it offers a wide range of perspective due to a multitude of interdisciplinary subjects. We have chosen online surveys because of its effectiveness in reaching as many people as possible within a short period of time. The objective of our survey is to obtain feedback on potential signage designs, which we have selected based on the information we gathered from our best practices review and interviews with UBC garden organizations. At the end of the survey, we also provided a link to the Agronomy Garden blog for students who wish to get involved. Through this process, we intend to better understand how UBC students interact with signage, their preferences for sign designs, and specific ways that we can utilize the signs to engage people as they pass by the Agronomy Garden.

We created a short 5-minute survey using Qualtrics, the UBC Survey Tool (the complete set of questions can be found in Appendix II). Our preferred sample size is 40-60 people across the selected faculties. We provided a raffle draw for a \$50 UBC Food Services or Bookstore gift card as an incentive to students who completed the survey. The surveys were open for two weeks from the beginning of March to mid-March; this gave us time to analyze the data and proceed with developing possible signage

designs. Survey responses were compiled in Excel, and the final analysis will show the most favoured and unfavoured results from the respondents and the total sample size. Through our surveys, we will have a general impression of what style of signs appeal the most to the general public.

The information gathered from our three-step methods will be used to design two sign templates that fulfill the objective and goal of this project: increase community and participant engagement in the Agronomy Garden.

#### **IV. Results**

##### *1. Literature Review*

Through our literature review, we found several key findings regarding community garden engagement and best practices. A key issue with existing community gardens is the low participation rates, particularly among vulnerable populations such as low-educational and low-income populations (Awija, n.p.; Seto 3). Another key finding is that cultural misunderstandings are a common occurrence in community gardens, especially among gardens that have only English signs (Seto 35). A potential barrier for people to get involved in community gardens is the lack of informational signs that provide the contact information of garden coordinators (Eshelman 117).

We found that several food policies highlight the importance of community engagement in local food initiatives, especially ensuring that there is equitable access and participation in these projects. These food policies include the Greenest City 2020 Action Plan, the Vancouver Food Strategy, the Park Board Urban Agriculture Policy, the UBC Food System Project's (UBCFSP) Framework for Food Action, A Food Policy for Canada, and the United Nations 2030 Sustainable Development Goals (SDGs) (City of

Vancouver, “Greenest City”, 46; City of Vancouver, “What Feeds Us: Vancouver Food Strategy”, 43; Vancouver Board of Parks and Recreation 2; UBC Food System Project 1; Government of Canada, “A Food Policy for Canada” 1; United Nations, n.p.).

Through our literature review, we identified several best practices such as implementing creative and multilingual signage, incorporating placemaking elements, and growing culturally-diverse plants. These practices are further discussed in the discussion and recommendations sections.

## *2. Interviews (Roots on the Roof, Geography Garden, and Botanical Garden)*

From our interviews, we analyzed each of the interviews that took place by coding for certain themes regarding signage. This was done to gain insight as to what is valued or not valued among the interviewed organizations. The signage themes that were represented in each of our interviews included: directional, descriptive, educational, place-based/cultural, creative, and visually attractive.

Directional signage was only mentioned by the Botanical Garden (Fig 6 in Appendix III). Themes of Place-based/cultural signage was expressed by both Roots on the Roof and the Geography Garden (Figure 6). Lastly, themes of description, education, creativity, and visual attraction were emphasized by all three organizations (Figure 6).

From interview answers themselves, we found that there all three organizations currently have existing signs. These signs are primarily designed with the intent of being descriptive or educational. Depending on the organization the make-up of this these types of signs consisted of maps and descriptions of the organization, but the large majority of signs were used to communicate information on plants. Varying from simple

descriptions and labelling done by Roots on the Roof or Geography Garden, to professionally designed long-form descriptions of UBC Botanical garden plants, all interviewees made it clear that an important aspect of their information-based signage was being able to package that information in a visually engaging way.

Because of this emphasis on having signs that engage people in some shape or form there is interest in exploring more creative forms of communicating with community members. Botanical Garden mentions having signs that not only engage a sense of vision, but a sense of touch. Roots on the Roof would like to explore having a treasure or scavenger hunt that brings people into the space. Geography Garden is interested in painting colorful garden beds that could act as a mural.

Overall the intention of the different organization's signage was clear from their responses. To engage either community or visitors with the space, to create a sense of welcoming to the space, and to educate people on what is happening within the garden or inform people on organizational goals.

### *3. Surveys*

Figures for the survey results can be found in Appendix IV. There were 40 respondents in total from the survey on the UBC Qualtrics tool and 26 of them were in LFS and Forestry faculties. Of these 40 students, 33 of them were undergraduate, as seen in Figure 7. Our next question on the survey was "have you heard of the Agronomy Garden before?" and 45% (Figure 8) of respondents said no, they had not. In addition, only 4 students stated that they knew about the garden from walking past it. The survey also asked if the current sign, as seen in Figure 9, would draw you into the garden and 63% said no, it would not.

The survey inquired about a series of signs from predetermined categories, as mentioned before. Then participants were asked to rank the signs with the characteristics of font, colour, overall appeal, encouragement to visit the garden and how attention grabbing the sign is. Using the Likert scale, the highest agreed and strongly agreed answered across several categories signs were signs 2, 5, 6, and 7 (Labeled signs can be found in Appendix II in the survey script). Signs 9 and 10 received the highest agreed and strongly agreed overall responses in each category. Using the Likert scale, the highest disagree and strongly disagreed answered across several categories signs were signs 1, 3, and 4.

To create a comprehensive percentage for peoples sign preferences, we averaged the results from each category of each sign and found that 63% of respondents strongly agreed that they would be encouraged to visit a garden from signs 2, 5, 6, and 7; the survey also showed that majority agreed that they liked the overall signs and the signs would catch their attention. Results also showed that 60% of people did not like the font, colour or overall signs in 1,3 and 4.

The survey had open-ended responses at the end for participants to tell us additional information and 7 responses stated that they would like to have a place to sit in the garden. People also said they wanted to see fresh thriving plants all throughout the garden. They also wanted other interactive elements in the garden to integrate all the senses such as smell, taste and touch. Last but not least, there were a multitude of suggestions inquiring about partnerships with other UBC organizations.

## **V. DISCUSSION**

### *1. Literature Review*

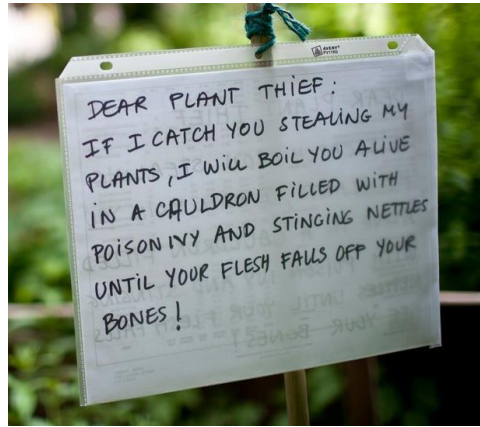
Considering the low participation rates of existing community gardens, particularly among low-income and low-educational individuals, efforts must be made to encourage the accessibility of food assets<sup>5</sup> to all citizens, particularly those most vulnerable to food insecurity (Awija, n.p.; Seto 3). In a study done by Seto, she highlights that a lack of multilingual signage may contribute to cultural misunderstandings in community gardens (35). For example, there have been cases where garden produce has been stolen due to miscommunications; individuals who were not garden members believed that the produce was available for free for the public, perhaps due to their inability to read the instructional signs. Community gardens are supposed to be welcoming, inclusive spaces, but these misunderstandings can create tension between gardeners and other community members. The continued occurrence of produce theft may reinforce negative stereotypes that target specific demographic groups. Furthermore, some gardeners place signs to deter theft of produce (see Fig 1 and 2 below); these signs may evoke negative feelings among community members instead of inviting them to participate in the gardens (Seto 35).

**Figure 1&2.** Examples of signs used to deter theft of produce. Most of the signs used in gardens are in English only. (Left image: Margaret Gallagher, CBC News) (Right image: Ty Cacek, The New York Times)

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<sup>5</sup> A food asset is a place where people can grow, prepare, share, buy, receive and/or learn about food. Vancouver food assets include community gardens, urban farms, community kitchens, and food banks. (Romses 1).





Several food policies such as the City of Vancouver's Greenest City 2020 Action Plan and the UBC Food System Project (UBCFSP) framework emphasize the importance of enhancing the access to and participation in community gardens by diverse groups of people. 'Local Food' is one of the ten sustainability goals of the Greenest City 2020 Action Plan; the City staff aim to make community gardens more engaging for diverse cultural groups by exploring various garden designs and creating engaging, welcoming spaces (City of Vancouver, "Greenest City", 46). At the university level, the UBC Food System Project (UBCFSP) has developed a Framework for Food Action (UBC Food System Project 1). The framework supports the development and usage of campus gardens (UBC Food System Project 1). In addition, it outlines plans to raise awareness of and attendance at events that promote socially- and ecologically-responsible food systems (e.g UBC Farm's annual FarmAde) (UBC Food System Project 2). Overall, food policies such as these highlight the need to ensure that all citizens are able to participate in and have equitable access to community food assets.

Through our literature review, we have explored various community engagement best practices that can be implemented to address the issues described in the literature review results section; these practices include improving the quality and accessibility of

community garden information, promoting community events and workshops, and increasing the cultural acceptability of the gardens.

Installing garden signs with clear instructions on how to get involved with the garden and who to contact in order to join can be useful in facilitating community participation in the garden (Eshelman 120; City of Vancouver, “What Feeds Us”, 56). Community events and workshops are additional ways to enhance neighbourhood knowledge transfer and resource sharing (Lowcock 10). As part of the Vancouver Food Strategy, the City recommends community development programs that encourage the participation of local schools, senior citizens, ethno-cultural groups and others interested in gardening activities (City of Vancouver, “What Feeds Us”, 54). Many garden organizations currently hold community events and programs in Vancouver. For example, Farmers on 57th has a garden-based program called “Growing Eden” which is geared towards refugees, low-income, or new immigrants interested in learning how to grow food (Farmers of 57th, “Growing Eden”, n.p.). Another example is Fresh Roots, a local organization that provides educational opportunities such as day camps and field trips for children as well as workshops for adults (Fresh Roots, n.p.).

Efforts must be made to reach out to underrepresented community members who come from diverse cultural backgrounds (Eshelman 120). One strategy to achieve this is to incorporate culturally diverse crops and indigenous plants in community gardens and include appropriate signage that explain the cultural aspects of the crops. In Vancouver, the World in a Garden is an example of an intercultural urban farm. This garden project provides a community space to grow traditional and culturally-appropriate foods from various ethnic backgrounds (The World in a Garden, n.p.).

Gardeners also hold cultural potlucks to engage the community in sharing and learning about different cultural foods and gardening techniques (The World in a Garden, n.p.).

In summary, to ensure equitable access to the benefits of community gardens such as the Agronomy Garden, greater efforts must be made to promote garden engagement particularly among underrepresented demographic groups and those most vulnerable to food security (Seto 35). Strategies to achieve this include the installation of multilingual, informative signage, promotion of various community events and workshops, and experimentation with culturally-diverse plants which encourage garden engagement among people from diverse backgrounds.

## *2. Interviews (Roots on the Roof, Geography Garden, and Botanical Garden)*

From our interviews it is clear that signage seems to serve a very concise purpose: to engage community members or visitors within the space, to create a sense of welcoming, and to educate. It is interesting to note that the intention of the UBC Botanical Garden is to engage visitors, but not necessarily push long-term involvement with the organization. Alternatively, community-focused organizations like UBC Geography Garden and Roots on the Roof would see their signs as ways of not only communicating a sense of place in the moment but entice visitors to continue to be involved with their community in the long-term.

In this way, the intent with Agronomy Garden's signs better aligns with these two organizations as opposed to that of the Botanical Garden. Agronomy Garden should be using signage as a way to welcome visitors to its community, communicate what is happening within the garden, and provide avenues for people to participate within their space. There also appears to be no need to pursue directional signage due to the

current small footprint of the garden. The UBC Botanical Garden is the only organization of the three interviewees that has directional signage due to its larger physical footprint.

Descriptive and educational signage is a central strategy employed by all interviewed organizations. This can be used to further introduce people to the community that is behind these spaces or provide information on what is happening within the respective spaces. However, the most critical aspect of this information is that it is presented in a visually attractive way. So much so, that the Botanical Garden hired a professional graphic designer to create their signs.

It is this desire to engage people within the space that has perhaps created a trend towards exploring more creative ways of communicating with community. Botanical Garden mentions having signs that not only engage a sense of vision, but a sense of touch. Roots on the Roof would like to explore having a treasure or scavenger hunt that brings people into the space. Geography Garden is interested in painting colorful garden beds that could act as a mural. It seems that it is not enough to just have text and pictures on a surface, but instead it is important to have fixtures within the garden that create experiences.

Having signs that encourage aspects of touch, taste, and smell; or even a scavenger hunt to find the next sign or plant hidden within the garden. These more creative forms of signage encourage people to physically interact with the garden and can help create a greater connection with community spaces. If we apply this idea to that of local food systems. Signs assist in facilitating interaction between people and food systems, which at some level can foster one's connection with the local food

system. This is one way that Agronomy Garden can to support their efforts in bringing people into the space and introducing them to the UBC food system.

### *3. Surveys*

Originally our group wanted to have an all-encompassing representative sample from all the faculties at UBC. Unfortunately, our survey was only passed through Kinesiology, LFS and Forestry newsletter channels, which is why the response rate from those faculties are so high. If we had more time, we would have been able to circle our survey around to more faculties and had a better sample of responses from different faculties around campus. We wanted a broad sample from a wide range of faculties because it would give us further information into what other faculties would want on their signs and what would draw them into the garden. That being said, we still had a couple respondents from faculties besides Kinesiology, LFS, and Forestry.

It is interesting that 45% of respondents said they have not heard of the Agronomy Garden before because the geographic location of the garden is right in the middle of the crossroads between LFS and Forestry faculty buildings. It seemed reasonable to assume prior to our survey that since the majority of the respondents were from LFS and Forestry, they would know the garden directly outside of their faculties; however the data shows that this is not the case. While the majority of the respondents walk by the garden everyday, only 4 students said that they knew about the garden. It seems as though the sign needs to be changed in order to draw more attention to this space, especially from the students that frequent the area.

When the results from the survey showed that the current Agronomy Garden sign would not draw 63% of people into the garden, this was not a shock. From the

beginning of the project, we already felt that there needed to be a change with this sign, which is why we narrowed the scope of our project down to just focus on signage.

Results showed us that respondents prefer signs such as sign 9 that are informative with little text, use natural elements, and seem to be creatively handmade. This sign has a couple simple images, so it is not cluttered and still easy to read. The respondents liked the colours and font, and in creating our sign we aimed to keep these elements constant throughout the design. The results from signs 1,3 and 4 showed us that students at UBC do not want a big sign with heavy text on it. This could result from the small and hard to read text, or simply because people on campus tend to be in a rush and do not have time to stop and read for extended periods.

Respondents thought that sign 10 would draw them into a garden because it is both descriptive/informational and creative. This sign combines natural shape of the crop into the simplicity of its word design, making it unique from the others.

Through our openended responses, many people stated that they wanted to see a welcome sign that was inviting and signs that show what is growing in the garden. Therefore, based on our survey results, we will be using signs 9 and 10 as the basic templates for our own designed deliverables to the Agronomy Garden committee.

## **VI. RECOMMENDATIONS**

### *1. Future Research*

For future research, an increased sample size for surveys would be ideal for a broader spectrum of responses. This can be achieved through methods such as reaching out to Facebook groups, UBC blogs, paper advertisements, in person sampling, etc. While our ideal sample size for the surveys was 40-60 and we received

40, the results are skewed since the respondents were mostly from Forestry, LFS, and Kinesiology faculties. From our interview and survey commentary responses, it is clear that there are more aspects in addition to signage that can be used to increase community engagement. The first one would be exploring online based strategies to increase participants. In our interviews and surveys, a large percentage of people were not aware of what agronomy garden was. This could be due to the recent establishment of the garden, or due to the fact that there is only an online blog that can provide information to the public. Further research on methods to increase awareness or participant numbers through a website or social media accounts would be beneficial to the garden. Lastly, since the spectrum of signage is so broad, a future research would be to study more interactive signage such as “Did you know?” or “Try touching/smelling me”. The reason that we did not provide design these signs as a deliverable to our clients was because we felt it was priority to have an appealing welcoming sign as well as simple descriptive labels for the plants first. While our proposed signs can draw attention to the garden, these interactive signs can keep people in the garden and encourage students to engage with the elements. However, more research is required for the most effective type of specific interactive signage, as well as how it can be tailored to the agronomy garden.

## *2. Action and Implementation*

From our results and discussion, we have summarized that the addition of a welcoming sign that is creative, warm and welcoming is necessary. Along with descriptive signs that are clean, informative without being too wordy, are priorities of the agronomy garden. From the surveys, we found that their current welcome sign would

not attract the majority of our respondents. In fact, the sign picture that they voted in favor the most was another welcoming sign, but with vastly different design (rock sign). Therefore, the sign template that we have designed for agronomy garden (Fig 2.) is based on that particular rock sign that is both inviting, simple and incorporative of nature.

**Figure 2.** Our design template of a welcome sign for the agronomy garden.



Furthermore, we found it necessary to include descriptive signs that label the crops growing, since visitors often wish to know what type of plant they are viewing. Survey respondents also agreed that they enjoyed the informative signs that are not too text-heavy. Therefore, our second template is unique because the spelling is formed into the shape of the crop (Fig 3-5). This sign is not only creative and interesting, but it is also effective to visitors who are not familiar with English, as they can just look at the image and still know what is growing. These are the final deliverables that we recommend for our clients, the agronomy garden, through information gathered from literature review, interviews, and surveys.



**Figures 3,4,5.** Our second descriptive sign template that can be used as labels in the agronomy garden.



Although this project only explored different types of signage, we are providing other recommendations to increase visitor engagement. These recommendations are based upon our interview and survey commentary results and are what people would like to see in the garden in the future. The first recommendation is to have a proper seating area such as benches or platforms within the garden, providing that there is enough space. This can encourage visitors to stay in the garden and spend more time looking at the different components and even taking pictures. Secondly, we recommend that informational signs be put in place when a plot is left fallow during off-season. This is to inform visitors who may not know the reason for the fallow that it is also an important aspect of sustainability. Lastly, our final recommendation is reaching out to other UBC garden organisations for a partnership or collaboration in order to increase the number of visitors and their engagement. This would be an effective way because people who are already familiar with the other gardens would be more likely to participate and interact with agronomy garden. This partnership could entail other organisations posting information about agronomy garden and its events and vice versa.

## **VII. CONCLUSION**

Overall, implementing a new creative signage strategy for the Agronomy Garden will hopefully build on the space's ability to attract and engage the general public. Our sign design recommendations include a colorful, handmade welcoming garden sign as well as smaller signs that creatively provide information on the current crops that are growing the garden plots. Through our research project, we have confirmed the importance of ensuring that garden signs are visually attractive, creative, and understandable by people who may not speak English (e.g. through the use of images). In the future, other community engagement strategies that may be implemented include community sign-making/designing workshops and events, placemaking elements such as benches, and partnerships with other UBC garden organizations (e.g. Roots on the Roof, UBC Botanical Garden). These strategies can ultimately help the Agronomy Garden advance its ability to increase community involvement and promote a greater sense of connectedness to our local food system among UBC community members.

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## **Appendix I- Interview Script**

### **1. Introductions**

- a. Introduce our group members and our project
- b. Describe our project / the Agronomy Garden
- c. Clarify purpose of conducting the interview
- d. Consent form
- e. Record interview?

## **2. Questions**

- a. Do you have an overall marketing strategy that you use to increase visitor rates or participation? (i.e. events, workshops, tours, social media, signage)
- b. What are the types of signs used at the UBC Botanical Garden?
- c. Have you experimented with different types of signs (e.g. multilingual signs)?
- d. Have you received any feedback on any specific signs (compliments/criticism)?
- e. Have you found the signs helpful in engaging and educating people who visit the garden space?
- f. What is the signs' role in the organization's community engagement strategy?
- g. What was the process of designing and making the signs? Were there any challenges?
- h. Would you change anything about the signs? (ways to improve them, replace signs from season to season?)
- i. What do you think about "interactive signage" (i.e. signs with questions, fun facts, games)?

## **3. Closing Comments/Questions**

- a. Do you have any questions or comments about our project?
- b. Do you have any other advice for increasing community engagement at the UBC Agronomy Garden?
- c. Are there any organizations/people you would recommend us to contact regarding signage strategies?
- d. Summary and next steps
- e. Can we take pictures of the signs and include them in our report?

## **Appendix II- Online Survey**

Attached below is the complete list of questions that were asked to students in the online survey. For all the pictures included, we have provided an image link on the actual survey.

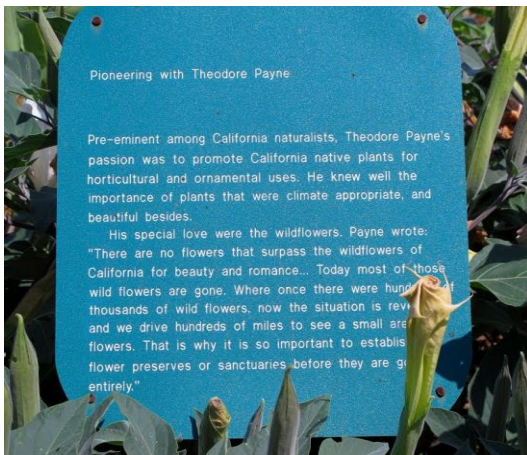
1. What faculty are you in?
2. Are you an undergraduate or graduate student?
3. Have you heard of the Agronomy Garden before?
  - if yes - how did you hear about it? (text-box)
4. Are you currently participating in any farm or garden related projects on or off campus?
5. The next set of questions will include images of potential sign designs to be used the Agronomy Garden. For each sign, we will ask a set of questions, using the Likert scale (strongly agree, agree, neutral, disagree, strongly disagree):



**Sign 1: INSTRUCTIONAL/DIRECTIONAL**



**Sign 2: EDUCATIONAL/FUN FACTS**



**Sign 3: CULTURAL HISTORY**



**Sign 4: FACTUAL/PLANT**





**Sign 5:** DESCRIPTIVE

**Sign 10:** DESCRIPTIVE



**Signs 6 and 9:** WELCOMING





## Sign 7: WELCOMING



Survey Questions (for each sign included above):

- This sign catches my attention (disagree, strongly disagree, neutral, agree, strongly agree)
  - This sign would encourage me to visit the garden (disagree, strongly disagree, neutral, agree, strongly agree)
  - I like this sign (disagree, strongly disagree, neutral, agree, strongly agree)
  - I like the color of this sign (disagree, strongly disagree, neutral, agree, strongly agree)
  - I like the font of this sign (disagree, strongly disagree, neutral, agree, strongly agree)
6. Which sign did you like the most and what aspects did you like about it? (text-box)
  7. Which sign was your least favourite and what aspects did you dislike? (text-box)
  8. What would draw you into a garden? (text-box)

9. What would you like to learn while you are in a garden space?

10. Would the current Agronomy Garden sign draw you in? (Yes, maybe, no)



11. What do you like or dislike about the Agronomy Garden sign? (text-box)

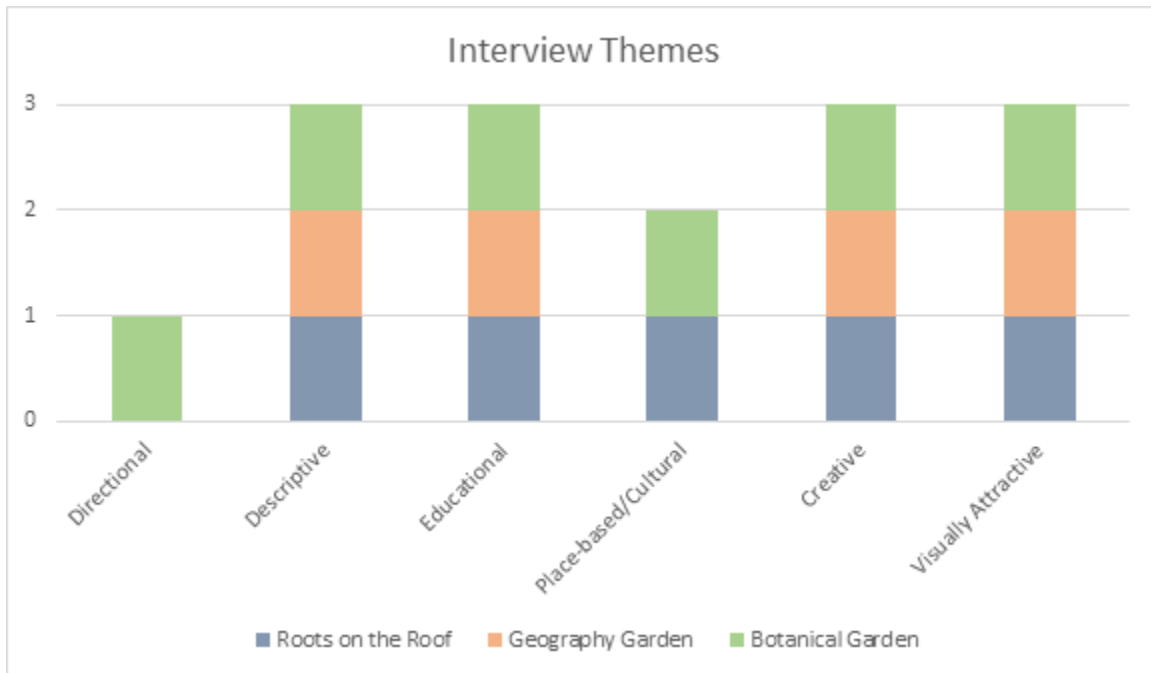
12. Is there anything else you would like to add? Any comments or suggestions are greatly appreciated. (text-box)

13. Would you be interested in getting involved with the Agronomy Garden? (yes, maybe, no)

14. If you would like to learn more about the Agronomy Garden, check out <https://blogs.ubc.ca/agronomygarden/>

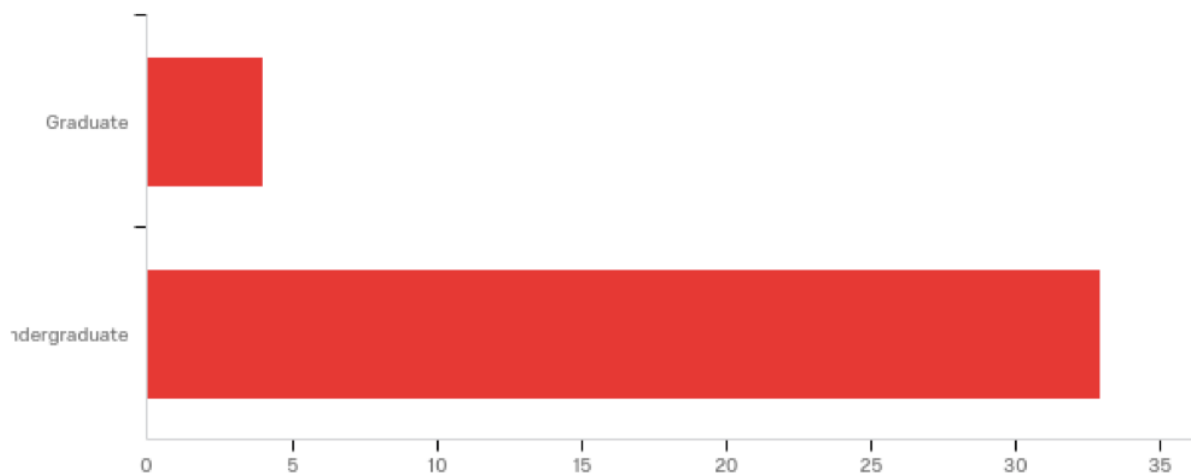
15. Please enter your email to be entered for your chance to win a \$50 UBC Bookstore gift card. (text-box)

### Appendix III- Interview Results Themes

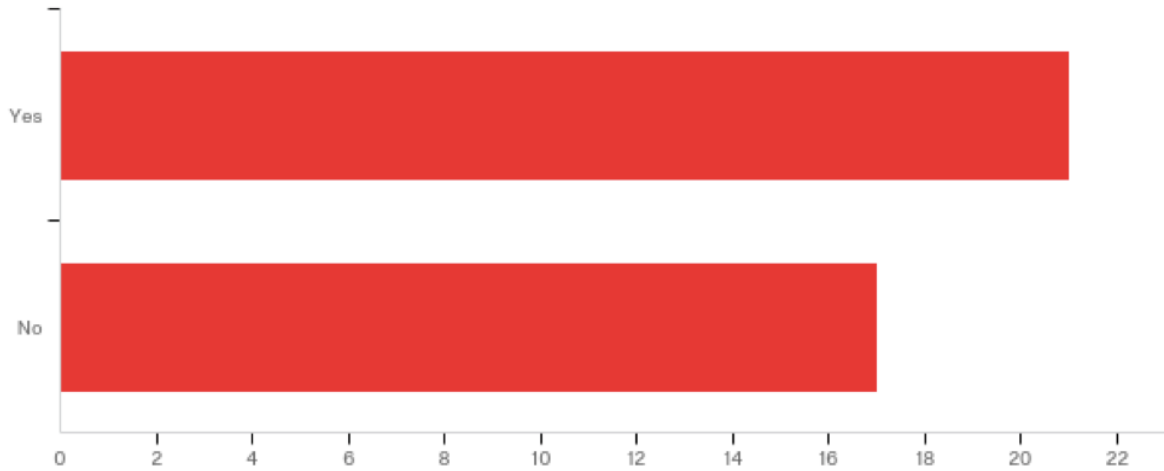


**Figure 6.** Interview themes represented in interviews conducted with Roots on the Roof, Geography Garden, and UBC Botanical Garden.

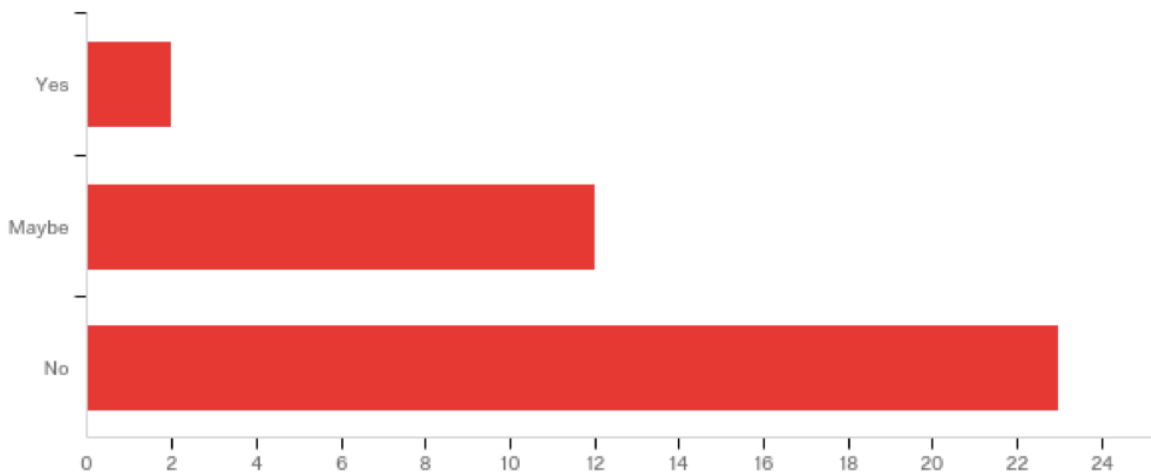
### Appendix IV- Survey Results



**Figure 7.** Question on online survey showing amount of undergraduate participants.



**Figure 8.** Question on online survey showing amount of respondents who have heard of the garden before.



**Figure 9.** Question results from online survey showing if respondents think the current Agronomy Garden sign would draw them in.