

A Rooted University: Growing Resiliency, Community, and Engaged Food Citizens at the UM Campus Farm

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Grow Blue!

2013-2014 SNRE Master's Project Team

Mariel Borgman, Dana Burnette, Sara Cole, Ryan Gourley, Meaghan Guckian, Meghan Jacokes, and Stephanie Smith

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Introduction and Purpose

In response to the recommendation from the Campus Sustainability Integrated Assessment of University of Michigan (2009), and the long-time vision of a core group of faculty and staff representing the Sustainable Food Initiative at the University of Michigan, the School of Natural Resources and Environment's Sustainable Food Program 2012-2013 Master's Project Team established the University of Michigan Sustainable Food Program (UMSFP) and the University of Michigan Campus Farm. Since its inception, UMSFP has remained an entirely student-driven initiative. A leadership team of four graduate students and four undergraduate students is responsible for program oversight and makes all of the core decisions surrounding its administration. In January 2013, UMSFP Program Manager, Emily Canosa, was hired to provide mentorship and support to the student leaders and to aid in the continuity to the program, as student leadership turns over each year. Emily is the only non-student member involved in the UMSFP leadership meetings. UMSFP also has an advisory board comprised of the students on the UMSFP leadership team, faculty, and staff. The program has since blossomed into a community of 10 active member groups, each representing unique interests in sustainable food. One of these member groups, Friends of the Campus Farm, along with student interns hired by the Matthaei Botanical Gardens, are responsible for directing and managing the Campus Farm, located at the Matthaei Botanical Gardens. The Farm began as a pilot program in May 2012, and it grew to its full production space of two acres, with a quarter acre cultivated, in Summer 2013.

The Campus Farm was founded with this threefold mission (Dengate et. al, 2013):

1. *Develop responsible citizens and leaders* by facilitating formal and informal education on sustainable food topics.
2. *Strengthen communities* through collaborative programming and outreach
3. *Grow sustainable food* that supports the well-being of people and the environmental at the University of Michigan and beyond

In line with this mission, programming at the farm has flourished since the planting of the pilot plot in May 2012:

- Students can buy produce on campus in the fall at MFarmers' Markets and at UMSFP's member group Student Food Co.'s bi-weekly produce table
- University courses incorporate the farm into their curriculum and projects, racking up more than 600 hours of course contact annually
- Friends of the Campus Farm schedules regular workdays and volunteer opportunities for upwards of forty loyal volunteers who donate over 1900 hours of their time to the Farm each year.
- New students get acquainted with the farm during Welcome Week and orientations
- Three hundred community members celebrate each year at the Harvest Festival

- Symposiums and conferences such as the Ann Arbor Sharing Summit are held in the Farm space.

Our Master's Project team was tasked with further developing the first two mission statements of the Farm. Our charge was to situate the Campus Farm as a premier experiential learning platform and to enhance the Farm's connections with the community both on and off campus. Specifically, the goals of the project were to create educational signage and physical materials for the space, establish opportunities for education and collaboration for students, faculty and the greater community, and to assess the motivations behind student engagement.

We approached this project with a vision of the Campus Farm as a community information resource hub. Deliverables of the project took many forms, including:

- Creating the Campus Farm Living Learning Laboratory program with an internet-based platform
- A survey instrument for Campus Farm users to assess user experiences and guide future education program development
- A logo and branding strategy that serves to represent and advertise the Campus Farm mission, physical installation of interpretive and directional signage
- Educational materials
- Hosting and planning events to engage different audiences of the community
- Sharing our approach at leading higher education sustainability conferences

Creation of Task Forces

In order to most efficiently fulfill the varied and numerous project goals, our seven-person group divided into three task forces. Each task force was charged with a single component of the project: branding and signage, living learning laboratory, or assessment and evaluation.

Branding and Signage

To facilitate user engagement with the Campus Farm, we designed and installed interpretive signage for key elements of the farm space, installed a central message center, and created directional signage. We developed maps of the Campus Farm space, its location relative to Matthaei Botanical Gardens, and the campus satellite garden network to orient visitors to the food growing around them. The farm lacked a unified representation, so we created a logo and a branding strategy to define a cohesive Campus Farm image.

Living Learning Laboratory

We aim to position the Campus Farm as a community hub and premier educational space for sustainable food and beyond. As part of that mission, we sought to develop the Campus Farm Living Learning Laboratory Program, designating the space as a testing ground for innovation, behavioral entrepreneurship, and interactive place-based learning. An online interface was developed to facilitate and streamline interest in the program. Accessible from the UMSFP website, the interface offers students, faculty, staff, and community members opportunities to apply for projects, suggest ideas, and learn about potential funding. In addition to traditional programs such as research

and course collaborations, the web interface was also designed to organize volunteer groups and events, streamlining communications with group and event programmers for UMSFP.

Evaluation

We also developed an assessment instrument and conducted a survey that explored individual motivations for and impacts of volunteering at the Campus Farm. The purpose of these evaluative tools was to garner a better understanding of our participant base and guide Campus Farm programming in the future.

Future Directions

Our project provided the first steps in positioning the Campus Farm as a community resource for education about and interaction with the many dimensions of sustainable agriculture. In the coming years, we hope to see work building upon these efforts, including the creation and installation of additional interpretive signage, the expansion of Campus Farm Living Learning Laboratory Program collaborations, a continuation of research on the motivations and objectives of farm users, and implementation of a plan to distribute more food from the farm to students.

The farm as an outdoor classroom offers experiential education that grows not only food, but also a resilient community of engaged food citizens. Most students at our non-land grant university will never become farmers or agronomists, but all benefit from the farm's green infrastructure, experiential learning opportunities, and community connections. Although our university may not graduate the future farmers of America, it will most definitely place people in leadership positions informing policy, drafting business plans, and crafting new designs of our landscapes and the built environment. These leaders will shape food policy, the agricultural industry, and the very face of the planet for the foreseeable future. With that goal, our project serves as a platform for future growth of the Farm in serving the needs of students, faculty, and the greater community.

1. Signage and Branding

1.1 Introduction

The Campus Farm was established as a means to provide experiential education about sustainable food systems and to address student interest in gaining practical experience in growing food. One of the goals of the farm is to be an educational tool for users to develop the requisite skills needed to meet today's sustainability challenges. However, the space previously lacked the necessary interpretive components to orient new users to the purpose of various structures and growing practices at the farm. The Signage and Branding task force worked to support this mission by:

- Building the physical infrastructure necessary to orient and educate farm visitors,
- Designing maps for wayfinding into and within the farm space, and
- Forming a cohesive message through a logo design and branding strategy.

Accomplishing these goals would further integrate the Campus Farm with Matthaei Botanical Gardens.

Prior to the inception of this project, the site completely lacked interpretive signage and only informal directional signs were available for guidance. Unaccompanied visitors to Matthaei Botanical Gardens would wander in, unsure if they were welcome and unable to learn about the project if there were no veteran users of the farm present. In addition, no logo or formal branding strategy existed that could distinguish the Campus Farm from UMSFP. Through the duration of this project, our task force sought to remedy these issues by:

- Managing the creation of a logo,
- Using this logo as the basis for a Campus Farm branding strategy,
- Designing and installing interpretive signage at the farm site,
- Purchasing a welcome kiosk for the farm entryway, and
- Designing maps to direct visitors to the farm space and orient them once they arrived.

These efforts lay the foundation for future initiatives to expand the suite of interpretive signage and solidify the message of the Campus Farm brand. The following expands on the theoretical framework that informed our work, the results of our efforts, and our vision for the future of the Campus Farm.

1.2 Theoretical Framework

This section summarizes the research that we drew from to inform different aspects of the project. We acknowledge that the environment can have a profound effect on human cognition, action, and well-being. The following section elaborates on the following topics: the Reasonable

Person Model, the evolution of learning, coherence, legibility, complexity, and mystery, clarity, preferred environments, content and process fascination, way finding, the cognitive map, the importance of feedback, the small experiment framework, and variables for motivation.

The Reasonable Person Model and the evolution of learning

The process of creating representations of the Campus Farm was fundamentally rooted from the perspective that humans have informational needs, much of which is based on Kaplan and Kaplan's innovative framework, The Reasonable Person Model (Kaplan & Kaplan, 2009). The Kaplan's Reasonable Person Model is a framework that theoretically unravels the conditions of environments under which people can thrive. The perspective suggests that environments strongly influence individual behavior in their ability to help people build models of spatial environments, feel effective, and participate in meaningful action. Moreover, those environments which are easier to understand, interpret, and invite discovery of additional understanding are more likely to be congruent with people's informational needs, thus enabling them to thrive (Kaplan & Kaplan, 2009). The human drive to understand evolved to enable people to deal more effectively with the physical and social world thus ensuring human survival and success (Baumeister, 2005). In order for users of the farm to succeed at gaining understanding and skills for resilient and adaptive local food production, the site must be understandable, suggest guidelines for appropriate behavior, and allow people to build and test their mental models of food systems. People must feel that they are contributing to something larger than themselves and are successfully making a difference.

Fostering a Preferred Environment: Enhancing Coherence, Legibility, Complexity, Mystery, and Clarity

Preferred environments are spaces in which human interactions are more likely to be effective. For example, human needs like making sense and feeling involved are more likely to be met in preferred environments (Kaplan, Kaplan & Ryan, 1978). Our goal was to make the Campus Farm a preferred environment by creating signage to help users make sense of the space as well as use prompts to challenge visitors to explore and be more mindful of their own sustainable food choices. The extent that environments have both content and process fascination, and facilitate and encourage entry and exploration the more preferred they are. Content fascination comes from the involuntary fascination of objects that are innately interesting, such as the plants growing around them. Process fascination relates to the interestingness of way finding and allowing visitors to self-tour around the Farm.

Our research review confirms that how information is presented and organized is central to our effectiveness at helping farm users learn sustainable food practices and change their own attitudes and behaviors. People desire to make sense of their world. Even small improvements in the coherence, legibility, complexity, and mystery of a site can make a substantial difference in how comfortable people feel in that environment (Kaplan, Kaplan & Ryan, 1998).

- **Coherence:** How easy it is to organize and structure the environment. Increased with redundancy, identifiable elements, using a limited number of types of objects, and using elements that hang together well.

- **Legibility:** How easy it is to explore and navigate without getting lost. Increased with openness, distinctive elements, and landmarks for way finding.
- **Complexity:** The number of elements and diversity of objects in the scene. Increased by including enough elements to keep one occupied and make it worth exploring.
- **Mystery:** The promise of more information in the future. Increased by being able to gain more information and showing partial information of what may lie ahead.

We strived to consider coherence, legibility, complexity, and mystery in the design and installation of all parts of the project. Humans tend to avoid situations where the information is beyond their comprehension because a failure of clarity can cause distress, ultimately leading to a negative experience. By creating signage that has short, concise bullet-pointed sentences with simple language and presenting no more than five pieces of information at time, we hope to help visitors achieve cognitive clarity, a state of mind characterized by a strong focus and suppression of distraction (Cantril, 1966). The installation of the message center that includes site maps sought to support visitors' navigation and help farm users make sense of and easily move throughout the environment of the Campus Farm.

Way finding

Way finding is closely tied to basic human concerns. One of our top priorities was to aid in the visitors positive experience by providing a map of the Campus Farm, a map that highlights all of the campus gardens, and directional signs that direct people to the farm. (See following section on Maps & Directional Signage for examples of the maps). Since the location of Campus Farm is off the service entrance to the Matthaei Botanical Gardens, it is not easily identifiable from the Gardens' main entrance and is not printed on their site maps. In addition, the Campus Farm is approximately 6 miles from central campus and inaccessible by public transportation. This poses a challenge for first time farm visitors and increased the need to tangibly link students to the Campus Farm through maps and directional signage. In addition, permanent features of the farm were transcribed into a farm map that is placed in the message center, such as the herb spiral, cultivation beds, compost, and fruit trees.

The Cognitive Map

Another type of map that our project wanted to support is the cognitive map. The cognitive map is the mental structure that holds the information a person has about the environment. The experience of the environment is a construction based on memories of prior encounters, and provides a link between the human thought process and the physical environment (Kaplan, 1973). Any space a person visits is organized as a network of neurons in the brain, and is tested and updated with new information upon each new experience of the space. People use their cognitive maps to know where one is, but also to see where one is going. We are able to predict from the knowledge of present objects or events to what the likely future objects or events might be (Stea, 1969). Creating landmarks and all types of signage would help farm users develop a stronger cognitive map of the site and feel more confident in their way finding abilities. In addition, we hope

that all activities at the Campus Farm would build users cognitive maps of how to grow food, what sustainable agriculture is, and why it is important. The development of this cognitive map could then be translated into future behaviors that are more exemplary of the engaged food citizen.

The Importance of Feedback

The Campus Farm is unique in that it is entirely student run and many different parties have influenced its formation. As just one member of those parties, it was difficult for us to make decisions for all users of the farm, such as what the logo should look like and the design of the signage. To overcome potential push back or resistance to change we chose to include Campus Farm stakeholders in a feedback process to design the logo. Similar to increasing the effectiveness of changing behavior through environmental education by including ownership variables (Hungerford & Volk, 1990), we were trying to give Campus Farm stakeholders the opportunity to develop a sense of ownership and empowerment so that when the final logo was created, they were more likely to accept it. Another one of many reasons for requesting feedback was that there were many possible forms the logo could take and we wanted several opinions on what was legible, coherent, and best reflected the mission of the farm. We hoped to use an approach for achieving environmental sustainability that makes stakeholder participation an integral part of the process.

The Small Experiment

The signage design and placement process is an example of using the small experiment framework. The small experiment framework provides a strategy for meeting the challenges of change. It encourages participation, limits the scale of initial change, and incorporates aspects of the familiar (Irvine & Kaplan, 2001). Designing solution for how to best present all there is possible to learn at the farm or how to get people to make better sustainable food choices is a complex problem. A single, large investment carries many risks because we do not know what is the most useful presentation and combination of programs will be. The small experiment uses incremental steps and celebrates small wins (De Young, 2011). By starting with more short term and less permanent signage, we are using our Master's Project as a potential learning period, thus allowing the signage to be easily improved and expanded in the future. We acknowledge that the farm will change both with seasons and events, and therefore the message to its users should also be able to change and evolve as the farm evolves.

Variables for Motivation

The overarching goal of our involvement at the campus is to help others become interdisciplinary leaders around food sustainability issues. According to Hines, Hungerford, and Tomera, the variables that are the most influential in motivating individuals to take responsible environmental action include their knowledge of the issues, knowledge of action strategies, locus of control, attitudes, verbal commitment, social norms, personal efficacy, and individual sense of responsibility (Hines, Hungerford & Tomera, 1987). The overarching goal was to utilize and exploit these variables through the creation of a framework for representing the Campus Farm. The installment of signage will increase variables such as knowledge of issues, knowledge of action

strategies, attitudes, and individual sense of responsibility. In addition, signage has the ability to change the individuals' perception of whether or not they have the ability to bring about change through their own behavior. While installing informational signage is a step in this direction, we recognize that different forms of knowledge must work together in a convergent manner if they are to cause a change in behavior. Knowledge alone is necessary but is not solely sufficient for choosing pro-environmental behaviors (Kaiser & Fuhrer, 2003). We hope that learning declarative knowledge will encourage individual involvement to gain procedural knowledge and social support networks. Our combined efforts will help build the agricultural capacity of the community by encouraging responsible citizens and leaders through informal education.

1.3 Logo Process

Incorporating the Campus Farm Mission

Coming into the design process, our main goal was to speak to the three-fold mission of Campus Farm: community, education, and production. Each of these components is equally important, and thus we wanted each to have equal representation in the logo we chose to characterize the Farm. The use of each shape, color, illustration, and font in the final Campus Farm logo was carefully chosen to best represent the farm's multi-faceted mission.

Research on Other Campus Farm Logos

The first step in creating a logo to represent the Campus Farm was to research how other, well-established university farms chose to represent themselves. Through this research we were able to see how each farm mission was illustrated in a unique manner, visualize what concepts worked better than others, and focus on details that would work best for the Farm. Three of the main farm logos most congruent with the Farm's mission and needs were from Duke University, University of Manitoba, and University of Massachusetts.



Figure 1.1. Duke Campus Farm logo.

As one of the most well-established campus farms in the country, the Duke Campus Farm was one of the first farms whose branding strategy we researched. The Duke Campus Farm logo, shown in Figure 1.1, appealed to us because of its simplicity and streamlined look. While the "student to student" tagline implies the aspect of community, all other components of the logo are focused on food production. Our vision for a logo focused on including and balancing all aspects of the Campus Farm's mission (i.e., community, education, production), not just production.



Figure 1.2. University of Manitoba Student Community Farm logo.

The University of Manitoba Student Community Farm logo, shown in Figure 1.2, appealed to us because the hand-drawn look underlined the feel of community that is so integral to the UM Campus Farm. However, we wanted two to three main colors to accompany our branding strategy and preferred not to use a black-and-white logo. This logo also alerted us to the importance of including the farm’s full name - University of Michigan Campus Farm - on the logo, so there would be no confusion as to which university was represented by “U of M”.



Figure 1.3. University of Massachusetts Student Farm logo.

UMass Student Farm’s logo, shown in Figure 1.3, provided yet another, different feel. The hand-drawn radishes and background offer the feeling of community, while the typed text surrounding it creates more of the streamlined look present in Duke Campus Farm’s logo. We were drawn to the eye-catching colors used in this logo, as well as the overall circular boundary. Again, we felt this logo too heavily emphasized the production aspect of the farm.

Logo Design Iterations

In our first meeting with Rachel Visscher, the University of Michigan M.L.A student who worked with us to create the logo, we showed her the other logos we found in our research and explained our likes and dislikes of each. We also emphasized the importance of including each element of the farm’s mission in the final logo design. Rachel worked with us through five iterations. The evolution of our final design is shown in Figure 1.4, and alternate logo designs can be found in Appendix A.

After receiving the second iteration (i.e., Round 2 in Figure 1.4), we sent the logo designs out to members of the community who had close ties to the Campus Farm, including the UMSFP

leadership and advisory boards, Friends of the Campus Farm, and other student groups that work for and within the farm space. Included in the email was a survey asking for feedback on the logo ideas, including which logo idea the respondents preferred and what changes they would make, if any. With seventy-seven responses in total, the two leaders were the designs of a shovel with a boot and without a boot. After further deliberation within our project team and with others involved in the leadership of the farm, we chose to pursue the “shovel without boot” option. Additionally, we were interested in having a boundary for the logo, as well as comparing how handwritten text and typed text would alter the feel and message of the logo. We asked Rachel to use the “shovel without boot” design as a baseline for a handful of different logo options: square, circular, handwritten, and typed.

After receiving the four different alternatives of the “shovel without boot” design in Round 3, we sent out another, smaller survey to gauge opinions. The majority of responses favored the circular design with handwritten font, although there were still a few minor tweaks that needed to be made before the logo was finalized, including shortening the shovel handle so it was more balanced within the edges of the circle. The fourth iteration of the logo design process gave us a logo that was nearly complete. A shortened shovel handle helped balance the elements within the circular boundary, and the text was made larger to fill up as much of the circle as possible. To reduce the whitespace at the bottom of the logo and to emphasize the idea of community and education, we asked Rachel to include roots from the plant growing deep into the soil.

The final logo design, as shown in Figure 1.4, incorporated the ideas and feedback we received from each round of surveys. Each element of the logo brings to mind a different element of the Campus Farm’s mission. The plant and shovel represent food production, while the shovel also represents the idea of community – of many hands coming together to work toward something larger. A circular boundary and the handwritten text likewise support the idea of community. The plant’s roots bring to mind the growth of education, of delving deeper into in one’s knowledge of sustainable food practices. In addition, the use of color is eye-catching and visually appealing, and allows for a basis off of which a branding strategy can be built.

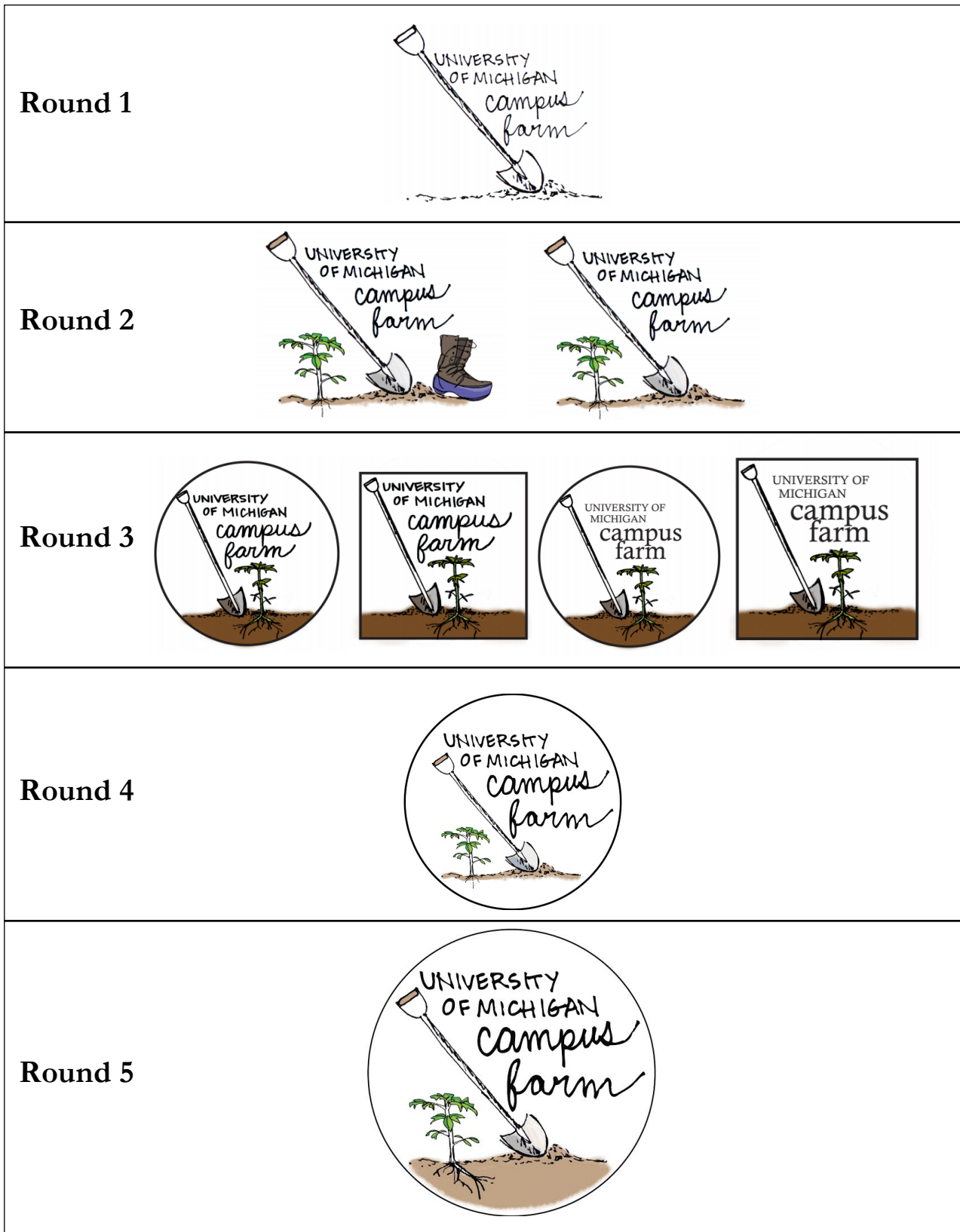


Figure 1.4. The evolution of the Campus Farm logo design, through five iterations.

1.4 Branding Strategy

Establishing the logo played a major role in creating an identity for the Campus Farm. It was, however, only the first step in building a larger brand. Having a branding strategy allows for a cohesive message to be expressed by any materials created by or pertaining to the farm. A branding strategy dictates rules on the use of the logo, capitalization and punctuation standards when using the Campus Farm name, and primary and secondary colors to be used in conjunction with the logo. With so many groups invested in the farm and eager to communicate its message, it was important to compile these guidelines in an easily-referenced handbook.

The basic framework of the Campus Farm branding strategy was based on the style guide utilized by Planet Blue at the University of Michigan, an established university organization with a professional and detailed brand. While the Planet Blue style book was, at times, more specific than the Campus Farm branding strategy needed to be, the main elements remained the same: size and spacing of the logo, conventions regarding the organization name, and appropriate colors to use. These elements will help established the identity of Campus Farm as separate from UMSFP and its member groups. See Appendix B for a copy of the Campus Farm Branding Strategy.

1.5 Interpretative Signage

In order to integrate the Campus Farm with Matthaei Botanical Gardens, we wanted to enable all visitors of the farm to be their own guides and explore their interests with sustainable farming without needing an interpreter. During the Summer of 2013, we observed many new visitors curiously enter the farm. Without signage or direction, many possible educational opportunities were lost. We envisioned the Campus Farm as an additional stop on the tour of the Matthaei Botanical Gardens, to capture the exploring audience already attracted to the site. The Campus Farm has hosted several large events in which it would have been impossible to speak individually with all of attendees about the different sustainable practices at the farm. For these reasons we felt it was necessary to design and install interpretive signage for key elements of the farm space.

This process required many different decisions such as what materials to use, what would be the correct message to present on the signs, which aspects of the farm to cover, and how to present the information in a succinct and clear way. The small experiment framework guided our decision making process. Our criteria for selecting a sign started with that it would be not too expensive, lasting at least 3 years, and in an easy format that could be changed. The process began with consultations with signage staff at the Botanical Gardens to learn from their experience of designing and buying signage from businesses in the area. We also wanted our signage to be similar to what was currently at the site, to meet the approval of the Botanical Gardens' staff and to allow the signs to be easily recognizable by all visitors. The contractor selected was Signs by Tomorrow in Ann Arbor, MI. After examining the cost benefit analysis of different sizes, materials, and costs, we chose to use 10 by 14 inch Dibond signs on foam cord. We also purchased a sign mount and a weather resistant backing made in house by Matthaei Botanical Gardens. Dibond foam cord, when protected by a weather resistant backing, can last more than 4 years. Figure 1.5 below is an example of the design of the chosen interpretative signs.

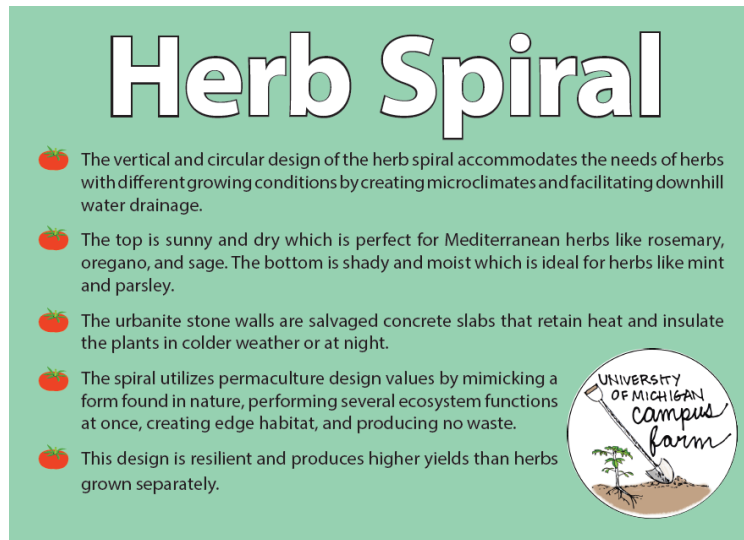


Figure 1.5. Interpretative sign of the herb spiral

To choose which elements of the Farm to interpret and develop a cohesive message we interviewed the 2013 farm interns to determine what were the things that they would include in a tour of the Farm, what the content of their message would be, and what were common questions that visitors would ask. We also talked with the newly hired UMSFP Program Coordinator who would have a major influence on maintaining current signage and installing new signage. After analyzing the interview data, we drafted text for eight signs that would present information about sustainable farming practices, permaculture principles, the materials and rationale for the farm component and how to take farming skills home. Follow up meetings, more feedback, and budget constraints revealed that only five signs would be possible and necessary. Several individuals read the signs such as our Master’s Project advisor and Matthaei Botanical Gardens’ staff so that we could get opinions as to whether the signs were inviting and easy to read. This feedback helped to improve our design and edit the language to be succinct, yet rich with important information. See Appendix C for a copy of all of the interpretative signs.

1.6 Maps & Directional Signage

As mentioned early, finding the Campus Farm was challenging for new visitors as it was set back from the service entrance and not yet included in maps of Matthaei Botanical Gardens. To overcome this barrier to engagement, we decided that directional signage was necessary. Such signs would help integrate the farm as a stop on the Matthaei Botanical Gardens tour and help new visitors to locate the farm.

The process for choosing the directional sign materials and locations included consulting with the signage experts at Matthaei Botanical Gardens and walking and driving the site to see where signs would be the most appropriate and useful. We decided to create four, double sided 22 x 14 inch weatherproof cardstock signs hung on a U-wire as shown in Figure 1.6. These signs have a short-term life expectancy, but are ideal for testing sign location and message clarity because they are

inexpensive to change and moveable. As part of a small experiment, these four signs were placed where we believe they are the most appropriate. However, only with use and feedback will the Campus Farm leadership be able to determine that they are successful and doing their job.



Figure 1.6. Campus Farm directional signage design.

One challenge we experienced during the summer of 2013 was that without directional signage visitors would go to the Matthaei Botanical Gardens' visitor center seeking directions. The staff indicated that it was difficult for them to communicate how to get to the Farm. Based on these experiences we created a small map shown in Figure 1.7 that shows the path between the Botanical Gardens' buildings and the Campus Farm. This map will be available to visitors and reduce some of the confusion and frustration over locating the Farm. At the Campus Farm site, we developed maps both of the campus satellite garden network, Figure 1.8, and of the space itself, Figure 1.9, to orient visitors to the food growing around them. These maps allow visitors to see all the farm elements at once and plan a visit that would be the most beneficial to them.

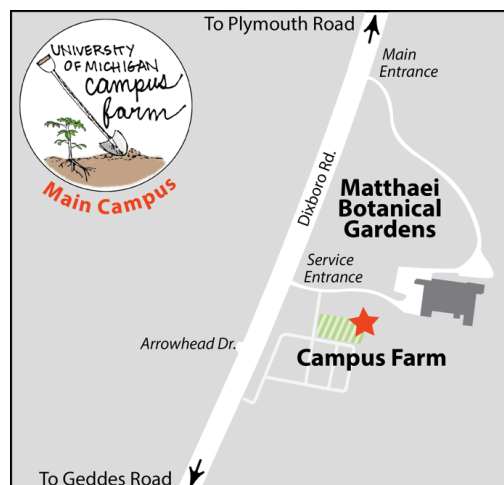


Figure 1.7 Map Campus Farm in relation to Matthaei Botanical Gardens

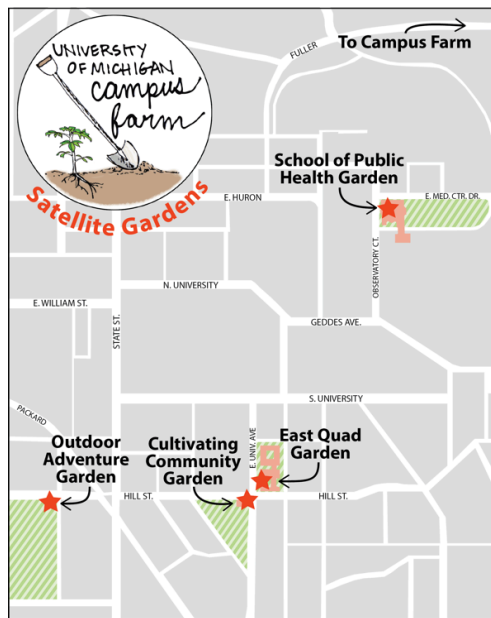


Figure 1.8 Map of Campus Farm Satellite Gardens

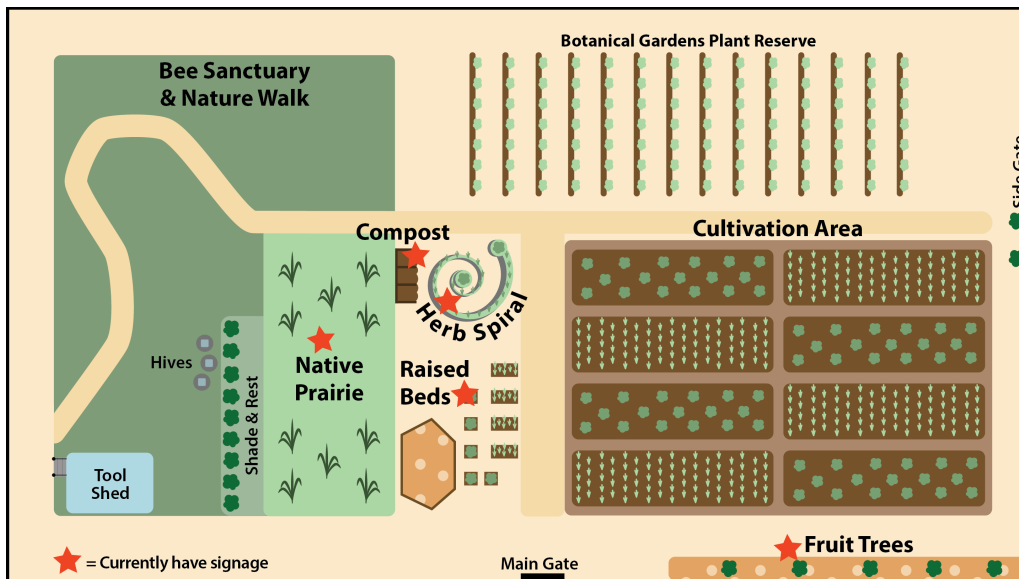


Figure 1.9 Map of Campus Farm Space with stars to designate features with signage

1.7 Kiosk

While the interpretive and directional signage helped visitors navigate to and within the Campus Farm, the space still lacked a display welcoming visitors and acting as a visual threshold to the site. Inspired by the wooden kiosks at each of the entrances to Nichols Arboretum, we wanted to install a similar structure near the entrance to the farm. We wanted a structure that would help visitors to feel welcome to enter and explore the space, even if there are no farm volunteers or employees present. We envisioned the kiosk as a simple, two-sided bulletin board containing

information on the mission and history of the farm, covered by a glass door that could be locked, and mounted on posts.

The process of choosing a kiosk began with the hope that we could involve university students in the design and construction of the structure. We reached out to several student groups to gauge interest and availability; however, our tight schedule did not allow for much collaboration. We decided that having a complete kiosk installed by the time our project deadline approached was more important than trying to involve other student groups in the process. Time constraints also led to our decision to purchase a kiosk rather than build one. Since we were unable to use salvaged materials to build it ourselves, we compromised by purchasing the kiosk from Max-R, a Wisconsin-based company that uses recycled milk bottles to build their products. Budget constraints required us to purchase a single-sided, 46" x 36" message center. See Appendix D for copy of the budget.

With a limited amount of space available on the bulletin board, we had to decide which information would be most useful to visitors of the Farm. The original plan was to include information on the mission and history of the Farm, issues related to conventional farming, sustainable growing practices used at the Farm, the principles of permaculture, advice for supporting sustainable food systems, and a map of the farm layout. Each of these would allow a visitor to understand the basic tenets underlying the Farm's operation and to create a mental map of the space before exploring the Farm. However, after making the decision to purchase a kiosk instead of building it, our budget only allowed for us to get a one-sided message center, rather than a two-sided structure. This meant that the bulletin board space on which all of this information would hang was more limited than we previously expected. Due to this, we cut down the amount of text included in many of the sections and decided to completely delete the information on the history of the farm. All of the information that is currently included in the kiosk was chosen to provide the most pertinent information necessary for new users of the farm

1.8 Future Directions

The effectiveness of the steps we have taken to facilitate user engagement with the Campus Farm relies on how well these tools are used in the future. An assessment of the existing signage installments will be necessary. Furthermore, we were limited by our budget as to the number of interpretative signs we could create. Yet there is a need for more signs to introduce additional key elements of the farm. The apiary is an important element that did not receive attention. In addition, we intentionally chose materials whose longevity matched the period of time we needed the signs to last. The directional signs will need to be replaced with permanent signs based on an assessment of where the signs work best. In addition there should be an assessment of how much the signage is used, how well the diverse Farm participants understand the text, and how well it translates into a change in knowledge about sustainable food topics. Since the Farm is a dynamic space, all signage should be evaluated every year to see how well it meets the need of the Farm visitors. The more long-term interpretive signage should be updated when there are major changes in Farm structure.

Before this project, the farm lacked a unified representation, so we created a logo and branding strategy to define a cohesive image for the Campus Farm. The prevalence of the logo and how well it connects the Farm to the community at large depends on how much it is used and how

well the branding strategy is followed. We suggest incorporating the logo into all farm related materials and events to help solidify the Farm as a recognizable entity. It is our hope that any educational or promotional materials that center around the Farm will go through an individual or small group of people who can assess how the materials adhere to the branding strategy. In the future, we envision the logo to be the center of a marketing program to advertise where the Campus Farm produce is being sold or used, especially within the freshman dorm kitchens.

Finally, the satellite farm network at the university has grown rapidly over the past several years to include the Cultivating Community garden, Outdoor Adventure garden, a garden at the School of Public Health, and a garden in the courtyard of the university's East Quad. In the coming years, we envision these gardens will form a tighter network under the umbrella of the Campus Farm. Creating a University of Michigan Campus Farm Satellite Garden Network would allow visitors at any of the gardens to understand that garden's place in the larger system of sustainable food at the University, as well as facilitate the sharing of resources between each garden.

2. Living Learning Laboratory

2.1 Identifying the Need for Experiences:

Concurrent with the first and second mission statement for UMSFP and the Campus Farm, educational programming and community collaboration were prioritized by the 2012-2013 Master's Project. UMSFP further identified a list of educational objectives to serve as the backdrop for future programming opportunities (Dengate et. al, 2013):

1. Building **living laboratories** on campus that create diverse, interdisciplinary opportunities for faculty to engage students on sustainable food
2. Encouraging the addition of sustainable food and agriculture material to the wealth of **formal education options** available to University of Michigan students
3. Providing **experiential education and service-learning opportunities** that promote teamwork, commitment, accountability, pride in hard work, and leadership potential
4. **Mentoring** volunteers and interns to promote personal and professional growth

Transforming these objectives into tangible and accessible learning opportunities for UM students and community members has been the focus of our 2013-2014 Master's Project. Bringing the educational and community collaboration objectives to fruition has been rooted in an exploration of holistic learning theories, experiential learning programming. Participating in workshops and conferences sponsored by the Association for the Advancement of Sustainability in Higher Education has provided our team with an applied perspective in linking campus sustainability with student learning.

2.2 The Learner's Perspective: Enhancing the Role for Experiential Learning:

“(There is a) need of forming a theory of experience in order that education may be intelligently conducted upon the basis of experience.”

- John Dewey, 1938

For over a century theorists, psychologists and educators have tried to answer the question of what pedagogical approaches are most effective in facilitating student learning. Critical analysis of traditional approaches, namely delivery-based content curricula, recommends that more impact can be achieved using a more holistic, hands-on approach. Enabling students to capture the full breadth of the learning cycle by engaging, exploring, explaining, extending and evaluating the material presented (Brown, 2003). Noted theorists like John Dewey, Kurt Lewin, Jean Piaget, William James, and others have long suggested adding experience to the learning equation. All have highlighted the central role of experience in their theories of human learning (Kolb & Kolb, 2005). Seeking to enhance the learning process in education, many educators and institutions are beginning to

complement content with direct experience, leading to a "new science of learning" (Branford, Brown & Cocking, 2000).

This emerging holistic approach includes the experiential learning theory, which defines learning as "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience" (Kolb, 1984). Kolb built the theory on six propositions (1984):

1. Learning is best conceived as a process, not in terms of outcomes.
2. All learning is relearning.
3. Learning requires the resolution of conflicts between dialectically opposed modes of adaptation of the world.
4. Learning is a holistic process of adaptation to the world. Not just the result of cognition.
5. Learning results from synergetic transactions between the person and the environment.
6. Learning is the process of creating knowledge and is rooted in a constructivist theory of learning whereby social knowledge is created and re-created in the personal knowledge of the learner.

The propositions of experiential learning theory supports the notion that knowledge is not built solely on connecting learners to content. Instead, knowledge is based on a confluence of variables and grows out of the synergy of content and an individual's applied experience. The underlying goals of experiential learning and education go beyond the traditional sense of understanding. Rather, this approach imparts tangible and applicable skills that link students to their everyday experience. Taking the hands-on constructivist learning theory forward, Kolb and Kolb (2005) summarized a set of educational principles for experiential learning:

- 1. Respect for Learners and Their Experience**

Create a learning space in which learners feel part of a learning community, where they are known and respected and their learning experience is taken seriously.

- 2. Begin Learning with the Learner's Experience of the Subject Matter**

Build on an exploration of what students already know and believe to allow them to re-examine and modify their previous knowledge.

3. Creating and Holding a Hospitable Space for Learning

Create a learning space that encourages the expression of difference and offers the safety to support learners in facing these differences.

4. Making Space for Conversational Learning

Make space for good conversation as part of the educational process to provide the opportunity for critical reflection on and meaning making about experiences.

5. Making Space for Development of Expertise

Facilitate deliberate, recursive practices of the learner in areas that are related to the learner's goals to develop the ability to retrieve knowledge for application and transfer to different contexts.

6. Making Spaces for Acting and Reflecting

Create a learning space in which action and reflection are integral parts of the learning process.

7. Making Spaces for Feeling and Thinking

Create a learning space in which positive feelings of attraction and interest are essential parts and fear and anxiety are avoided.

8. Making Space for Inside-Out Learning

Link students' educational experiences to their interests to foster intrinsic motivation and increase learning effectiveness.

9. Making Space for Learners to Take Charge of Their Own Learning

Support students in taking control of and responsibility for their learning to develop meta-cognitive learning skills.

For the Campus Farm, adhering to and embodying the principles of experiential learning will be essential to students' understanding of the forces and implications of a sustainable food system. When faced with issues as severe as feeding the world's population while simultaneously reducing environmental impact, understanding the content of sustainable agriculture is incontrovertibly important. Providing students with concrete experiences in which they can act in accordance with their newly acquired knowledge regarding the food system is of the utmost importance as it raises the probability of students taking meaningful action in the future (Hines, Hungerford & Tomera, 1987).

While there is a well-developed theoretical basis for experiential learning, the transition to practice has only recently begun. This transition comes at a time in which students have expressed a strong desire to engage in solution- and action-based opportunities to help mitigate environmental problems (Breiting & Mogenson, 1999). Across the country, institutions of higher education are

restructuring their approach to teaching and moving toward a more applied, experiential-based pedagogy. Here at the University of Michigan, the emergence of the Campus Farm as a platform for experiential learning has been a student-led initiative. Expanding the reach of the Campus Farm into student and community service, inquiry, hands-on research, and experiential learning opportunities led our project to define the space as a *living learning laboratory*. By creating the optimal conditions under which learning comes full circle, we hope to foster a unique and experience-based lens through which students view the complexity of sustainable agriculture.

2.3 Defining the Living Learning Laboratory:

Since conception, the vision for the Campus Farm has been to position the space as a living learning laboratory; built to foster experiential learning opportunities for students, faculty and community members alike. This project has aimed to streamline and situate the Campus Farm as an ideal educational platform—fitted to meet the potential and need of the greater university community. Through interdisciplinary course collaborations, service, hands-on research and events, the space will enable students and the community to creatively address and speak to food sustainability challenges facing society.

Living learning laboratories are broadly defined as a place where problem-based teaching, research, and applied work combine to develop actionable solutions that make the local community more sustainable (Portland State University, 2014). The framework rests on the ideation of facilitating connections between operations and academic curricula (McMillan & Dyball, 2009). Living learning laboratories are the emerging attempt to tangibly transition experiential learning theory into practice at higher education institutions. At Portland State University, living learning laboratory projects operate under these criteria:

1. **Sustainability** – aligns with university’s vision for sustainability to implement lasting change to make a given place more resource-efficient, equitable and ecologically balanced, while acknowledging a resource-finite world.
2. **Fit:** Supports and advances the campus’ and community’s sustainability vision and priorities.
3. **Place** – Reflects an awareness of history, context and commitment to campus and surrounding community.
4. **Scale:** Project outcomes are designed in a manner that would be useful and applicable to other contexts and locations.
5. **Collaborative Action:** Fosters deep engagement with on-campus and off-campus partners, focusing on establishing an environment of co-learning.
6. **Teaching:** Provide results-oriented learning opportunities for students.

7. **Monitoring, evaluation and continuous improvement:** Mechanisms are established to monitor progress and evaluate impact overtime.
8. **Educational design:** The project is designed with clear learning outcomes for students in mind.
9. **Real-world learning** – links knowledge to action with problem-based, results-oriented learning opportunities
10. **Adaptive:** takes an open-ended approach where ongoing assessment, capturing and reporting contributes to the collective knowledge base and improves future projects.

Adapted from Portland State University, 2014 and AASHE Conference, 2013

For the Campus Farm the fundamental goal is to build students capacity around food through hands-on interaction; along with discussion and research that bridges multiple disciplines across campus.

Institutions of higher education are uniquely situated to play a significant role in cultivating citizenship for a more sustainable and equitable future. In the 2005 “Update in Support of Campus Sustainability Day III,” authors Calhoun and Cortese stated that:

The educational experience of students is a function of what they are taught, how they are taught, and to some extent by the way in which the university manages, conducts research, operates, purchases, designs facilities, invests, and interacts with local communities. . . . All parts of the university are critical in helping to create transformative change in the individual and collective mindset. Everything that happens at a university and every impact, positive or negative, of university activities, shapes the knowledge, skills, and values of students (pg. 7).

Yet, addressing sustainability and environmental issues has traditionally been rooted in single disciplinary explorations, narrowly bound in concept and theory (McMillan & Dyball, 2009). As it stands, the university campus is the most readily available space for students to engage in powerful hands-on learning experiences and action-oriented environmental initiatives (Carpenter & Dyball, 2006). Furthermore, a plethora of research exists that student learning and behavioral change is enhanced when it is integrated into campus environmental initiatives and are place-based (Bauer & Lewis, 2000; Brunettia et al., 2003; Delind & Link, 2004).

Given the complexity of sustainable food issues, pursuing an integrative approach to learning outside the walls of the traditional classroom is the core function for positioning the Campus Farm as a center for experiential learning. Fostering a generation of future food stewards can and should be nurtured by educational experiences that tangibly link campus operations, curriculum and academic research (McMillan & Dyball, 2009). Engaging students in meaningful and active applications of knowledge and understanding rather than confining their education to the

classroom, can serve to further the learners’ experience and the university’s mission of campus sustainability (Kaplan & Kaplan, 2009).

The integrative framework juxtaposing curriculum, practice and sustainability is further highlighted by the “whole-of-university” approach. The “whole-of-university” approach seeks to link the functions of the university to students with real-world applications of sustainability, while also highlighting the role of campus operations (McMillan & Dyball, 2009). Figure 2.1 details the connections between campus operations, curriculum and research, all poised to further institutional sustainability.

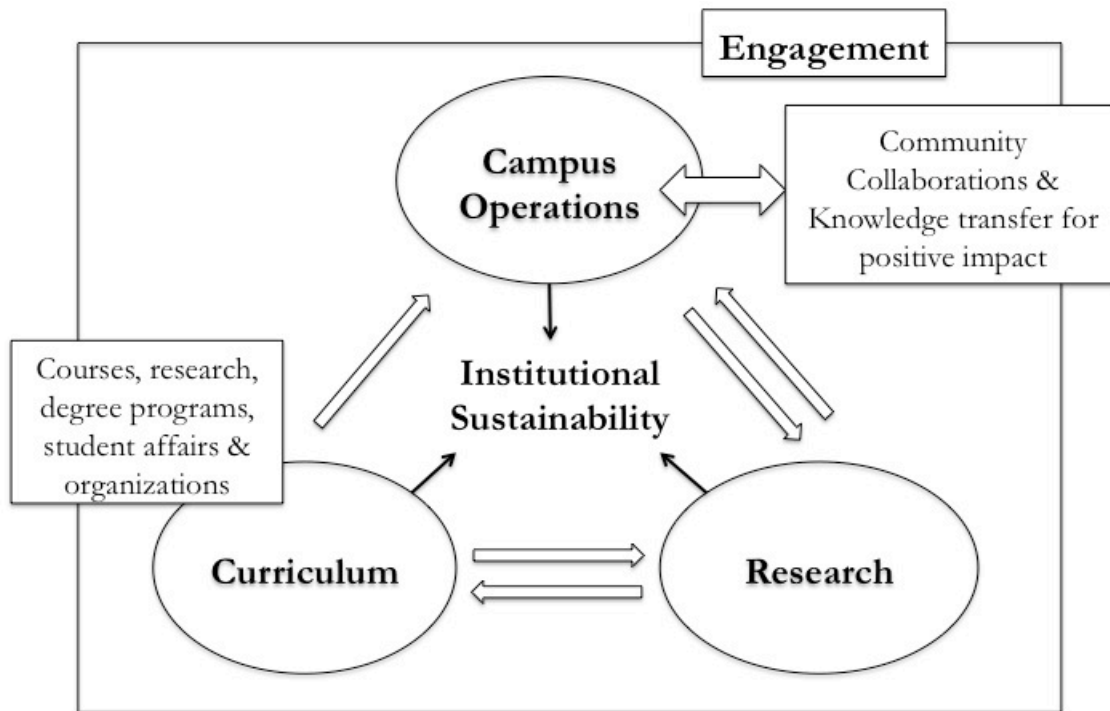


Figure 2.1 Magic Triangle–CORE: Curriculum, Operations, Research and Engagement adopted from McMillan and Dyball, 2009 and AASHE, 2013.

Most powerfully, the systems approach recognizes the inherent complexity and breadth of university campuses, and the extent to which each can influence student learning. All parts of the university, from educational disciplines to physical operations to management can benefit from cross-collaboration. The breakdown the disciplinary barriers between the disparate units of the university is the core function of the “Whole-of-University” approach (McMillan & Dyball, 2009). Sharing knowledge, between units, can further the impact of campus sustainability initiatives while enhancing student learning and competence (Kaplan & Kaplan, 2009).

McMillan and Dyball (2009) state that the benefit of pursuing a whole-systems approach is three-fold: pedagogical, operational/reputational and capacity building. Pedagogically, interdisciplinary knowledge is encouraged and fostered through a systems perspective, ultimately enabling students to translate knowledge into action. Such holistic insight is essential in cultivating a generation of agriculturally literate students, understanding that food touches upon more than just

the soil it was grown in. Operationally, student involvement can improve the university's environmental performance; providing insight and support through feedback and illuminating the need for newer and more innovative designs. Student led initiatives, such as the Campus Farm, require institutional backing if they are to be effective as learning tools and cultural levers.

2.4 Crafting the Campus Farm Living Learning Laboratory

Orr (1992) stresses “the importance of creating learning environments in which students can develop meaningful relationships with their immediate environment, as well as the skills to design and implement solutions to the problems they may encounter there.” Bringing out the best in people, according to Kaplan and Kaplan (2009), is ultimately fostered by creating environments in which people, as innate information processors built to problem-solve, can thrive. Although the university is charged with enhancing student learning by cultivating academic environments that foster more applied and solution-based approaches, student-led initiatives are often found to be more powerful and meaningful to the learner. Such uniqueness is the strength of the Campus Farm in that it is an independent student-run organization operating within the University of Michigan's centrally managed academic system.

For the Campus Farm, the goal is to design both a physical and conceptual environment while leveraging student leadership, insight and initiative to foster a more applied understanding of agricultural issues broadly across the greater UM community. Defining the Campus Farm's programming draws from the aforementioned frameworks of the experiential learning theory, living learning laboratory and the whole-of-university approach. Through conversation, course collaboration, community involvement and research, these extraordinary experiences will ultimately build students' capacity around food. Scaling to fit the educational and community needs of UM, a non-land grant University, engaging students from ranging disciplines and backgrounds spreads awareness of sustainability initiatives amongst a broader audience. Like many sustainable campus initiatives, the Campus Farm Living Learning Laboratory Program will ultimately promote environmentally responsible behavior, empowering students to become catalysts for food awareness—the underlying mission of UMSFP and the Campus Farm.

Based heavily on the living learning laboratory theoretical framework, we aimed to develop the Campus Farm as a collaborative space for students, faculty, staff and the greater community to explore adaptive local solutions to global food issues. Our first step involved researching how other universities have interpreted and implemented the living learning laboratory concept.

Peer Institution Research

Living Learning Laboratory programs are a growing trend among colleges and universities in the United States, Canada, and Europe. We found eight universities with established living learning laboratory programs. A profile of each university's program is detailed in Appendix E. To shape the Campus Farm Living Learning Laboratory Program, we extracted and modified the best ideas from existing programs.

- Online application
- A variety of activity types, including activities that offer academic credit

- Profiles of past activities available online
- Eligibility open to students, faculty, staff, and local community members
- A single point-person to coordinate the program, supported by an advisory group

Living Learning Laboratory Workshop

Our initial ideas from the peer institution research were cemented into an action plan at the AASHE Living Learning Laboratory Workshop at Portland State University. Our team worked side-by-side with a consultant, who provided guidance and assisted us in defining our value proposition and navigating the next steps in the creation of the Campus Farm Living Learning Laboratory Program. We later presented the outcomes of our project at AASHE's Annual Conference in Nashville, Tennessee (See Appendix F).

In defining our value proposition, we drew on the following principles for experiential learning from Kolb and Kolb's (2005):

- Creating and holding a hospitable space for learning
- Making space for:
 - Conversational learning
 - Learners to take charge of their own learning
 - Development of expertise
 - Acting and reflecting
 - Feeling and thinking
 - Inside-out learning

With these principles in mind, we framed our value proposition around each potential the Campus Farm Living Learning Laboratory Program user group, and for University administrators, as they are key stakeholders of the program.

- **For students** the Campus Farm Living Learning Laboratory Program provides practical, hands-on education, research opportunities, a means to initiate their own learning experiences, and marketable skills such as leadership and volunteerism.
- **For faculty** the Campus Farm Living Learning Laboratory Program provides options for extending the value of coursework beyond the classroom, the opportunity to add a service learning component, a new avenue for research, and supportive environment for experimentation.
- **For staff** the Campus Farm Living Learning Laboratory Program provides an opportunity to connect with students, faculty, and the community and a change of pace from day-to-day office work.

- **For the community** the Campus Farm Living Learning Laboratory Program provides access to University resources including research, interns, students eager to take on real-world projects, and a venue for events.
- **For administrators** the Campus Farm Living Learning Laboratory Program provides innovation, reputation building, and recruitment opportunities.

The action plan for institutionalizing the Campus Farm Living Learning Laboratory Program involved:

1. Developing objectives for the program
2. Consulting with the UMSFP leadership team to establish the administrative process for managing the program
3. Developing a section of the UMSFP website to house the program details and application process

The outcomes of these steps are detailed in the following three sections.

2.5 Education and Community Objectives

Our objectives for the Campus Farm Living Learning Laboratory Program build on the Campus Farm-specific objectives established in the University of Michigan Sustainable Food Program Business Plan (2013). With the Living Learning Laboratory Program in place, we expect that UMSFP will meet or exceed all of the existing educational objectives for the Campus Farm:

| Goal Areas and Objectives | Baseline Numbers (April 2012 to April 2013) | 1-Year Goals (April 2014) | 1-Year Updates (through March 2014) | 2-Year Goals (April 2015) | 5-Year Goals (April 2018) |
|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------|--------------------------------------------|----------------------------------|----------------------------------|
| <u>Education</u> - Volunteer hours logged at Farm site* | 700 hours | 1,000 hours/yr | 1600 (as of Dec. 2013) | 1,500 hours/yr | 3,000 hours/yr |
| <u>Education</u> - Independent Projects Using Farm | 9 projects | 20 projects/yr | 30 projects | 30 projects/yr | 40 projects/yr |
| <u>Education</u> - Number of Course-Related Contact Hours with the UMSFP Leadership Team or at the Campus Farm* | 200 hours | 600 hours/yr | 743 hours | 800 hours/yr | >1,000 hours/yr |

Figure 2.2 Educational objectives for the Campus Farm Living Learning Laboratory Program

Additional objectives we established for the Campus Farm Living Learning Laboratory Program are:

| Goal Areas and Objectives | 2-Year Goals (April 2015) | 5-Year Goals (April 2018) |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------|
| <u>Education</u> – Activities initiated through the Living Learning Laboratory program website | 45 activities/yr | 100 activities/yr |
| <u>Education</u> – Scholarly publications involving the Campus Farm | 1 manuscript submitted/yr | 3 manuscripts submitted/yr |
| <u>Community</u> - Number of UM community events at the Campus Farm initiated through the Living Learning Laboratory Program | 5 events/yr | 10 events/yr |
| <u>Community</u> - Number of non-UM community events at the Campus Farm initiated through the Living Learning Laboratory Program | 2 events/yr | 5 events/yr |

Figure 2.3 Educational and community objective for the Campus Farm Living Learning Laboratory Program

2.6 Program Administrative Process

Living laboratory projects will be initiated through an online mechanism detailed in the next section. Applications are accepted on a rolling basis. When a new application is received, an alert will be sent via email to the UMSFP Program Manager. The Program Manager was determined to be the ideal point-person for the program, as this staff position provides continuity that will ensure all applications receive proper attention, particularly during leadership transitions or semester breaks.

The Program Manager will check the application for completeness and follow up with the applying party with any questions or clarifications. The Program Manager will then forward the application to the UMSFP Academic Ambassadors for initial review of the proposed activity. Many activities are approved at this level, such as group volunteer events, farm and garden tours. Many course collaborations and research proposals will be approved as well, if they are non-controversial, simple to implement and/or similar to other projects done in the past. If needed, the project will go to entire UMSFP Leadership Team for further review. Should additional review be needed, the proposal will go to the UMSFP board and/or Facilities and Operations, External Elements Design Review. This extensive review will be reserved for projects that have potential to significantly alter the space, impede upon events or current activities in the space, are long-term or permanent in nature.

Activities must support the mission of the Campus Farm or satellite garden, as well as the mission of the University of Michigan Sustainable Food Program. Activities will be evaluated as to the extent of their impacts on student learning and contributions to the University’s research reputation. Novelty and originality of the proposed activity will be considered. Proposals will be evaluated based on the feasibility of implementing the activity as well as the likelihood of success.

The sustainability and ecological impacts of the proposed activity will be taken into consideration, and projects taking place at the Campus Farm must abide by the Farm's organic practices. Activities must align with all applicable University policies. For example if the project entails building a structure on the site, proper site and safety protocols must be observed. A first come/first served policy will apply for projects that overlap require the same resources during the same time frame.

Any student, faculty, staff, or community member may propose an activity. A letter of support from a faculty member, staff, or student organization is required with the application for students and non-UM affiliated applicants. The Campus Farm and its satellite gardens, with permission of their overseeing parties, are eligible spaces within the program. At this time, the Campus Farm, Cultivating Community Garden, School of Public Health Garden, and Outdoor Adventure Garden are all eligible spaces within the program. Details about each of these spaces can be found in Appendix G.

Activities that fall under the scope of the UM Campus Farm Living Learning Laboratory Program include:

- Course collaborations (ex. presentations, tours, project collaboration)
- Academic research
- Individual or group projects
- Farm and garden tours
- Group volunteering events
- Student organization events or projects
- Art, engineering, or architectural installations
- Community events

Other activities will be evaluated for inclusion on a case-by-case basis.

Although funding need not be secured prior to submitting an application, a budget must be submitted detailing potential and secured funding sources. A list of potential funding resources is provided on the UM Campus Farm Living Learning Laboratory Program website. All funding for the activity must be arranged by the applying party. A student materials fund is available to provide small grants for student-led projects, and details about applying for these funds are available on the website.

2.7 The Website

The idea to develop a web interface for the Living Learning Laboratory Program came out of our peer institution research. We followed the observed best practices of an online application process and records of past activities.

Users of the website can:

- Access information about eligible activities and evaluation criteria

- View an archive of past activities (see Appendix H)
- Find a project, teammates, or post an idea using the Project Matching Tool
- Learn about funding resources
- Submit an application



Figure 2.5 Landing page of the Campus Farm Living Learning Laboratory Website

The Project Matching Tool is an innovative feature unique to the Campus Farm Living Learning Laboratory Program. This tool, inspired by Craig’s List, is a classified advertisement style webpage that facilitates collaboration and selection of projects that meet University and community needs. The Project Matching tool has four sections:

- **Project Ideas:** A wish list of potential projects for the participating spaces
- **Collaborators Wanted:** Postings by those with activity ideas who need assistance
- **Sponsors Needed:** Postings from students and community members with activity ideas that need faculty, staff, or student organization support

- **Off-campus Opportunities:** Postings from community members and organizations offering service learning opportunities for students

The UMSFP Program Manager and Academic Ambassadors will regularly monitor the Project Matching Tool site in order to assist in facilitating connections, particularly in the “Collaborators Wanted” and “Sponsors Needed” areas.

2.8 Future Directions

Building off the goals of the previous master’s project, our project has established the framework via the online portal to leverage the Campus Farm as a living learning laboratory space. Our goal is that in the development of the structural support, the space will support experiential learning opportunities for students, staff, faculty, and the greater University community. With these small scaled experiments and opportunities located at the Campus Farm and three additional garden spaces, the Campus Farm Living Learning Laboratory Program will begin to build the much needed food and mitigation capacity to address current and future environmental issues. Since the Campus Farm’s inception, it has been a student-led initiative, and as such should continue in this same vein for future educational directions in order to support ownership and attributed meaningful action. To further sustain and enhance the educational mission and objectives of the Campus Farm and the living learning laboratory framework our project suggest these educational focus areas to be addressed in the future by UMSFP:

1. Educational Programming

- a. Evaluation of Campus Farm Living Learning Laboratory Program Objectives: With the establishment of the Campus Farm Living Learning Laboratory Program as a program and application process, assessment needs to occur as to whether the program is meeting its’ established objectives and fulfilling the theoretical framework and expressed need of experiential learning practice. Additional evaluation needs to occur to determine if the online portal is reaching intended audience, user-friendly, and efficient in streamlining the application process.
- b. General Audience: A foundational lesson tailored to all age levels should be developed to support awareness of sustainable agriculture and orientation to the Campus Farm.
 - i. Higher Education Audience: Additional lessons that foster food capacity, experiential and action based learning, by building off of the base orientation lesson should be planned, developed, implemented and evaluated due to current expressed need (Appendix I).
 - ii. Elementary and Secondary Audience: Sustainable and place-based agriculture curricula exists within the greater Ann Arbor community (Appendix J), however, with proposed Next Generation Science Standards, an anticipated

need will be connecting students to current science research, a component of the standards (Appendix K). Prior to any future secondary education curricula for the Campus Farm, the implementation and evaluation of the previous Master's project informal science, nature, and food unit should be conducted.

- c. Campus Farm Docent Program
 - i. Our group has taken steps to make the Campus Farm more interactive by constructing interpretative signage and an informational center. However, due to the capacity of the farm interns, program manager, and UMSFP to orient individuals to the farm, a docent program needs to be developed and evaluated (Appendix L).

- d. Educational Funding
 - i. In order to develop, implement, evaluate and support sustainable educational initiatives at the Campus Farm current and future funding needs to be secured.

- e. Educational Coordinator Position
 - i. Due to the capacity of UMSFP, an educator coordinator position is need to facilitate and support educational planning, development and implementation of education based initiatives and activities at the Campus Farm.

- f. Sustainable Food Graduate Certificate: With past and current efforts pushing for the establishment of a formal sustainable food program in the University of Michigan resulting in the sustainable food minor in the Program in the Environment, due to expressed interest future initiatives need to focus on a graduate level equivalent sustainable food program recognized by Rackham Graduate School.

By defining and crafting the living learning laboratory program objectives and criteria for UMSFP, establishing eligible physical spaces for projects, streamlining the online project application portal, and increasing visibility of this effort (Appendix F) our team built the foundation for experiential learning and small experimentation to occur. However, this foundation needs continued and sustained support in a range of capacities i.e. funding, personnel, curricula, materials, etc. in the future. By our project developing these building blocks, we hope this structure provides a supportive environment, the Campus Farm, in which experiential, applied, small scale learning continues to build greater food capacity among students, faculty, staff and the greater UM community.

3. Assessment & Evaluation

3.1 Introduction

Inherent in the notion of a living learning laboratory is the idea that the space itself is very much alive – quite literally, of course, but also in the figurative sense. Indeed, the Campus Farm is always growing – even when the ground lies fallow – for as an entity – as the idea and the larger project that the physical space represents – it is a perpetual work in progress. As such, it's prudent for periodic check-ins to be made in order to optimize that progress and ensure that things are growing in the right direction. The tools of assessment and evaluation are essential in this regard as they can be used to 1) determine the degree to which the Campus Farm has achieved its past stated goals and objectives, 2) paint a “portrait in time” of the Campus Farm’s current state of affairs, and 3) produce a rich set of information to help determine future directions of the Campus Farm.

Of particular relevance to the project team was setting up the means by which future stewards of the Farm could measure collective impact. By developing a method that can be easily deployed from one season to the next, one by which baseline data could be collected now and readily compared against future samples, it will be possible to draw meaningful conclusions about the outcomes of current and future efforts. These conclusions, in turn, can make the case for either further refinement, or a redirection, of those efforts. Such information is essential in garnering and maintaining community, administrative, and fiscal support, especially for novel small experiments such as ours.

3.2 Research Process

Considering the scope of the project we wished to carry out and the desire to cultivate interest in conducting Campus Farm research among students, in the beginning of the Fall 2013 semester we connected with the University of Michigan Undergraduate Research Opportunity Program (UROP). UROP matches first- and second-year students seeking research experience with sponsors in the UM community that have similar interests. We submitted a project proposal to UROP and received three inquiries from students. We interviewed each of these candidates and

ultimately selected Emily Laske, an accomplished LS&A sophomore with concentrations in the Environment and Organizational Studies.¹

Together in weekly meetings over the course of the first month, we reviewed the literature, further scoped out the project, and completed the University of Michigan Institutional Review Board process for human subjects research (#HUM00082550). Next, we applied for a small grant through UROP to cover research expenses, which we were successful in securing.

In the following months, our team continued the literature review to help us refine the questions we sought to answer, and we met weekly to discuss our ideas and conclusions. One of our early realizations was that the extant research on the experiential aspects and educational outcomes of small campus farms is sparse. As such, the studies we reviewed typically pertained to school gardens, and the psychological antecedents and outcomes of participation in environmental stewardship activities more broadly. Ms. Laske compiled an annotated bibliography of the studies she reviewed, which was instrumental in informing the direction of our research.

With research questions in hand, we endeavored to determine the best way to answer them. Because we are primarily concerned with the educational and community aspects of the Campus Farm – that is, those aspects that directly relate to the experiences of its visitors – it made sense to select a research method that captures that experience – and furthermore, one that does it authentically, and efficiently: by going straight to the source. This particular focus on the individual's experience immediately narrows the range of methods from which to choose from, and in the final stages, we considered three: observation, interview, and survey. Ultimately, for the advantages it confers in terms of efficiently capturing both attitudes and behavior, as well as the ease with which it can be replicated in future studies, we chose to conduct a survey questionnaire. While selecting just one method was largely done for pragmatic purposes given our timeframe and resources, we hope that future research efforts at the Campus Farm will continue to branch out and utilize a mixed-methods approach.

Having determined that we would be conducting a survey, we then set about exploring its design. Design of survey questions is widely regarded to be the biggest source of error in survey estimates (Sudman & Bradburn, 1982). Compared to the costs involved with increasing sample size or improving response rates, investing in the design and evaluation of survey questions is a cost-effective way to yield better results in the form of more error-free data (Fowler, 1998). As such, a significant amount of attention was paid to question design – striving to make sure our items 1) fit criteria for best practices (Fowler, 1998; Babbie, 1973) and 2) had high construct validity (Cronbach & Meehl, 1955).

With these initial considerations in mind, we began the survey development process, in consultation with various researchers on campus (namely, Drs. Raymond De Young, John Callewaert, Ethan Schoolman, and Avik Basu). We sought these individuals for their input and

¹ Of note, in December 2013 we were invited by Dr. Mike Shriberg to submit a proposal for his course, ENVIRON 391: *Sustainability and the Campus*. This project-based course matches UM sponsors with a team of students in the class interested in working on the project over the duration of the semester. Our proposal was accepted and we pitched the project to the class in January 2014 (Appendix M). The students had many great projects from which to choose, and unfortunately ours was not among one of the six projects ultimately selected.

expertise on both survey design and topics germane to campus sustainability and sustainable behavior change. At the recommendation of Dr. Callewaert, we organized two small focus groups to provide detailed feedback on a draft of the survey. These focus groups were comprised of undergraduate and graduate students interested in the Campus Farm and/or survey methodology. The survey was continuously revised based on the findings from our focus groups and in consultation with advisors, until the present version was reached (Appendix N). In its final form, the survey questionnaire consists of 15 items focusing on six key theme areas: awareness, interest, participation, motivation, satisfaction, and vision. Each of these themes will be discussed with their component items in greater detail below in section 3.3 Results. An additional five items collected demographic information, including gender, age, ethnicity, university affiliation, and if applicable, the student's area(s) of study.

For the sake of ease in distribution and data management, we hosted our survey questionnaire online rather than distributing paper-and-pencil forms. After considering various online survey software (namely, Google Forms, Qualtrics, and Survey Monkey), we opted to use Qualtrics based on its robust features, our relative familiarity with it, and its integration with UM IT Services. A link to the survey was sent out to the 902-member UMSFP newsletter listserv on Sunday, March 30, 2014 and again one week later on April 6th. In this time, followers of the Campus Farm were also invited to take the survey via UMSFP Twitter and Facebook posts, as well as a link on the home page of the UMSFP website (Appendix O). As an incentive to participate, those who responded by April 10th were entered into a random drawing for a UMSFP “Kale to the Victors” T-shirt. Finally, attendees of our team’s presentation at SNRE’s Capstone Conference on Friday, April 11th were also provided the link and encouraged to take the survey (Appendix P).

3.3 Results

Demographics

We received 118 responses to our survey, 91 of which provided demographic information. As Table 3.1 documents, most of the respondents were female white students. Most students identified the natural sciences as their area of study, followed by the social sciences (respondents could select more than one area of study). The mean age was 23.24 years (trimmed mean=21.0; *min*=18, *max*=66).

Table 3.1. Demographic information

Gender:

| # | Answer | Response | % |
|---|------------------------|----------|-----|
| 1 | Male | 12 | 13% |
| 2 | Female | 79 | 87% |
| 3 | Other | 0 | 0% |
| 4 | Choose not to identify | 0 | 0% |

Ethnicity:

| # | Answer | Response | % |
|---|------------------------------------|----------|-----|
| 1 | White | 82 | 91% |
| 2 | Hispanic or Latino | 2 | 2% |
| 3 | Black or African American | 0 | 0% |
| 4 | Native American or American Indian | 0 | 0% |
| 5 | Asian / Pacific Islander | 5 | 6% |
| 6 | Other | 2 | 2% |

University Affiliation:

| # | Answer | Response | % |
|---|------------------|----------|-----|
| 1 | Undergraduate | 59 | 65% |
| 2 | Graduate student | 16 | 18% |
| 3 | Staff | 1 | 1% |
| 4 | Faculty | 1 | 1% |
| 5 | Alumni | 10 | 11% |
| 6 | Other | 4 | 4% |
| 7 | Not Affiliated | 0 | 0% |

Area of Study:

| # | Answer | Response | % |
|---|------------------|----------|-----|
| 1 | Humanities | 9 | 12% |
| 2 | Social Sciences | 32 | 43% |
| 3 | Natural Sciences | 40 | 53% |
| 4 | Health Sciences | 12 | 16% |
| 5 | Business | 0 | 0% |
| 6 | Engineering | 6 | 8% |
| 7 | Other | 4 | 5% |
| 8 | Undecided | 4 | 5% |

Summary of Responses to Survey Items

The following pages include a description of each item and key findings. For an overview, see Table 3.2 below. For the full report, see Appendix Q.

Table 3.2. Guide to Survey Items

| Item | Description | Format | Valid Responses |
|------|--------------------------------------------------------------|----------------------|-----------------|
| 1 | Familiarity with Campus Farm & sustainable food systems | 5-point Likert scale | 118 |
| 2 | Interest in sustainable food systems | 5-point Likert scale | 117 |
| 3 | Types and frequency of events attended | 4-point Likert scale | 117 |
| 4 | Most recent event attended | Free response | 62 |
| 5 | Effect of attendance on interest in sustainable food systems | 5-point Likert scale | 62 |
| 6 | Motivation to attend events at Campus Farm | 5-point Likert scale | 63 |
| 7 | Satisfaction with Campus Farm | 5-point Likert scale | 58 |
| 8 | Quality of most recent experience at Campus Farm | 5-point Likert scale | 59 |
| 9 | Priority of food-related sustainable behaviors | 5-point Likert scale | 102 |
| 10 | Likelihood of participating in UM sustainable food groups | 7-point Likert scale | 89 |
| 11 | Likelihood of enrolling in educational offerings | 7-point Likert scale | 89 |
| 12 | Evaluation of Campus Farm's fulfillment of mission | 6-point Likert scale | 89 |
| 13 | Desires for future programming | 5-point Likert scale | 89 |
| 14 | Suggestions for Campus Farm | Free response | 19 |
| 15 | Preferred forms of communication with Campus Farm | Multiple Choice | 90 |

We were interested in measuring how familiar people were with different aspects of the Campus Farm and sustainable food in part because we wanted to be able to explore relationships

between familiarity and other variables such as motivation for attending events, desires for future programming, and ratings of satisfaction. Of 118 respondents, 38% reported being either fairly or extremely familiar with the Campus Farm purpose/mission; 17% reported being not at all familiar (see Figure 3.1). Forty-two percent reported being either fairly or extremely familiar with the farm’s activities and projects; 16% reported being not at all familiar. Sixty-eight percent of respondents reported being fairly or extremely familiar with sustainable food systems, and 66% of respondents reported being fairly or extremely familiar with ways a person can participate in sustainable food systems.

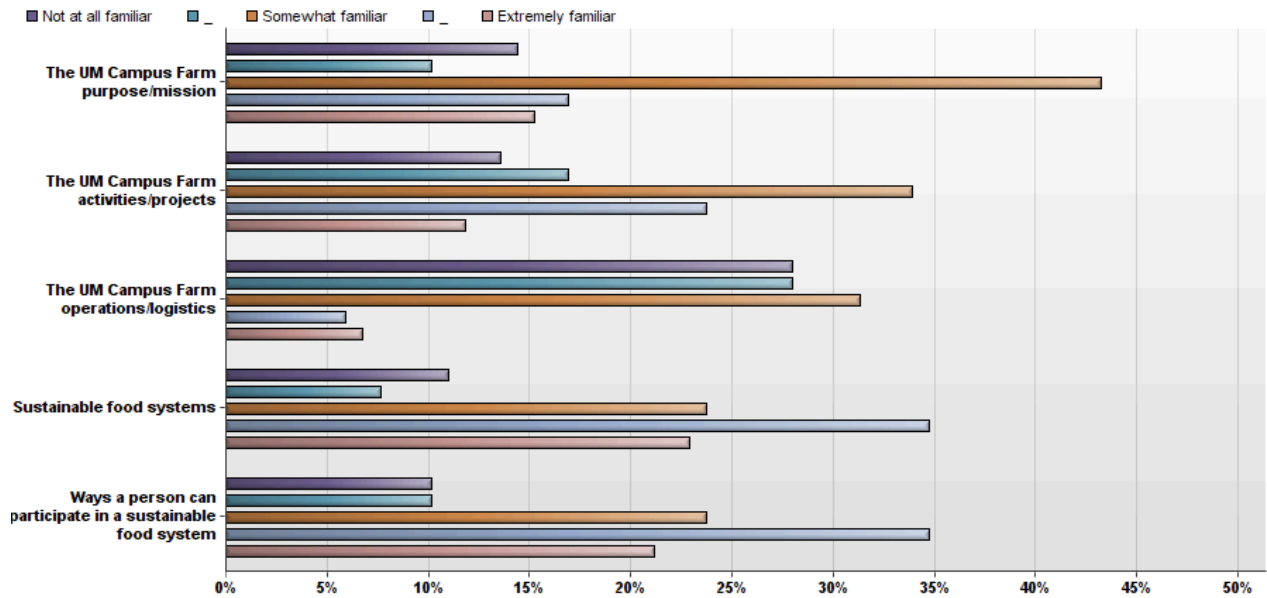


Figure 3.1. Item 1: Familiarity with Campus Farm and sustainable food systems

The respondents reported a high level of interest in issues pertaining to sustainable food systems (Figure 3.2). Fifty-seven percent of respondents reported being extremely interested in sustainable food issues. Twenty-nine percent reported being fairly interested, and 14% reported being somewhat interested.

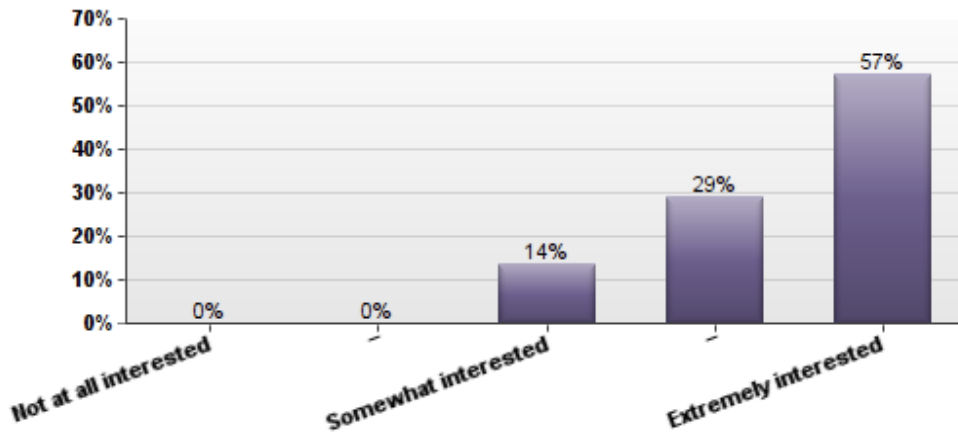


Figure 3.2. Item 2: Interest in sustainable food systems

The most frequently attended type of event was the volunteer work day, with 31% of the 117 respondents attending “often” or “2-5 times” (Figure 3.3). Second to work days were community gatherings, although many respondents indicated that they had participated in only one. The least attended types of events were the skill-building workshops, with 88% of the respondents having never attended one. Text entries entered for the *other* category included meetings, class projects, and “just visiting.”

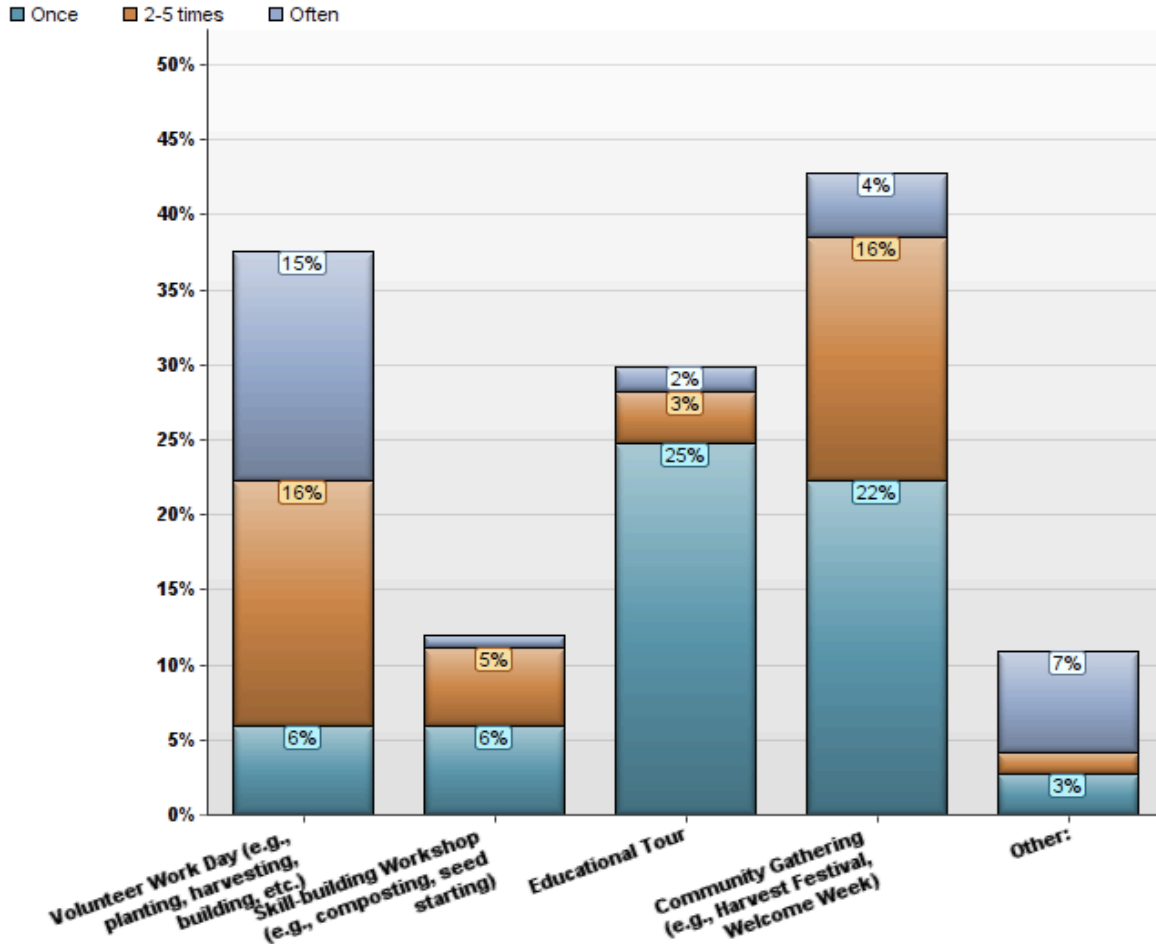


Figure 3.3. Item 3: Types and frequency of events attended

Item 4 asked participants to indicate the most recent Campus Farm event they attended. Item 5 in turn asked participants the effect this most recent experience had on their interest in sustainable food systems. Of the 62 respondents to these items, 81% reported that the most recent event they attended increased their interest in sustainable food systems (with 29% reporting that it increased their interest “quite a bit”). Nineteen percent reported that the most recent event they attended had no effect on their level of interest (Figure 3.4).

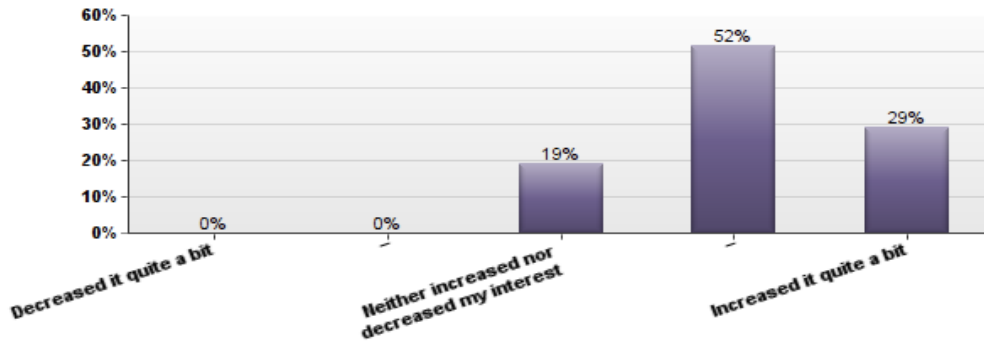


Figure 3.4. Item 5: Effect of attendance on interest in sustainable food systems

For item 6, respondents were invited to rate nine different motivations (as well as provide their own with an *Other* free response choice) on a five-point Likert scale indicating the degree to which they viewed each as a personal motivator (Figure 3.5). Having the chance to “do something meaningful that is in line with my values” emerged as the highest motivator, followed by the opportunity to “spend time working outdoors” and “supporting the Campus Farm.” The lowest-rated motivator was “acquiring new skills.”

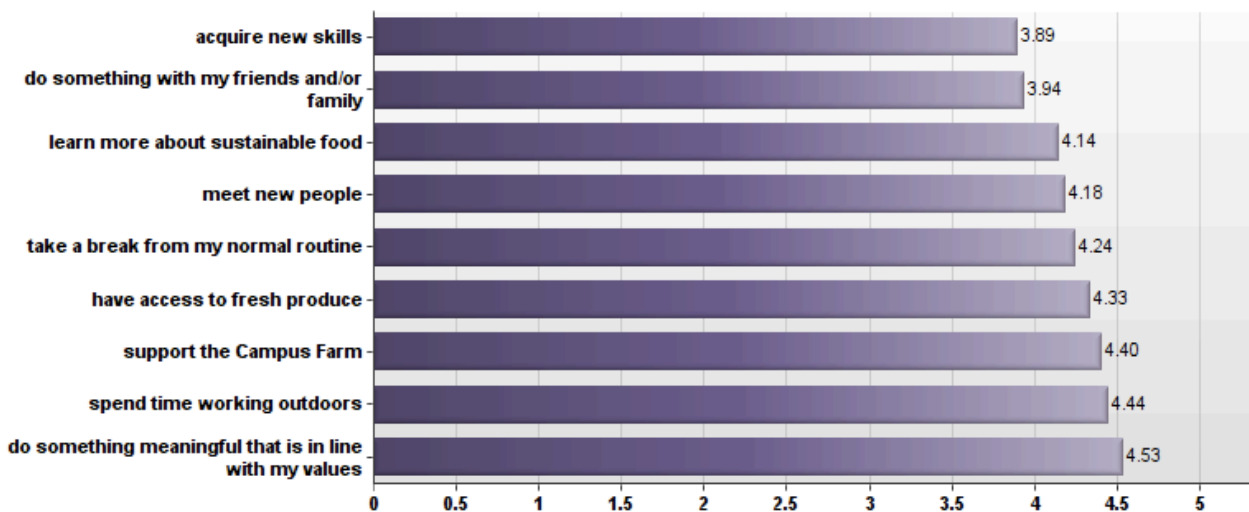


Figure 3.5. Item 6: Motivation to attend events at Campus Farm

Item 7 presented respondents with the same 9 “motivations” and asked them to indicate the degree to which they felt satisfied with their ability to do those things at the Campus Farm. Respondents reported being most satisfied with their ability to “do something meaningful,” followed by their ability to “spend time working outdoors” (Figure 3.6). They reported being least satisfied with their ability to “learn more about sustainable food” and “acquire new skills.”

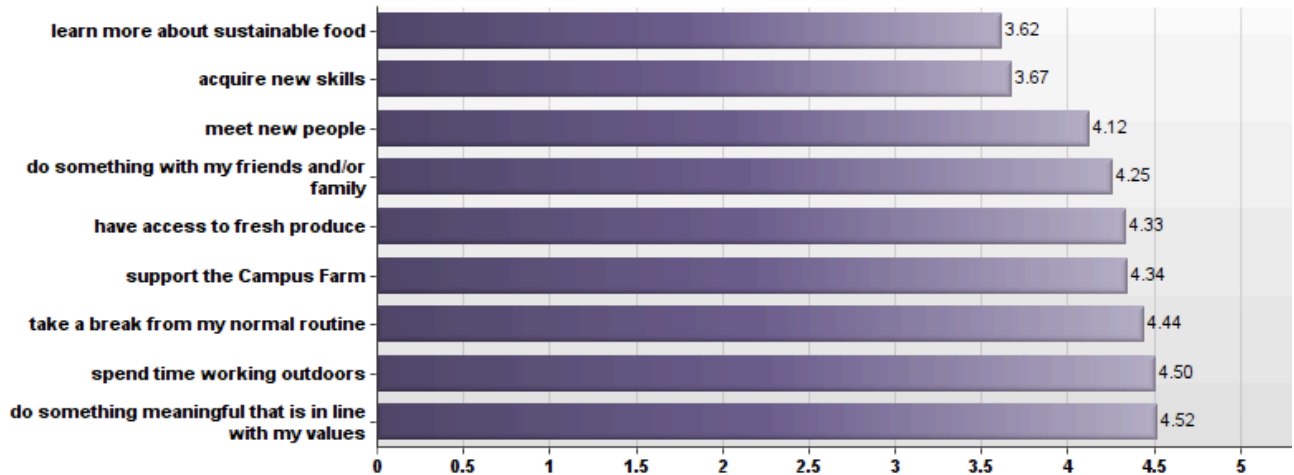


Figure 3.6. Item 7: Satisfaction with Campus Farm

As another measure of satisfaction, we asked respondents to rate the overall quality of their most recent experience at the Campus Farm. Forty-six percent of respondents rated their most recent experience as “very good” (Figure 3.7).

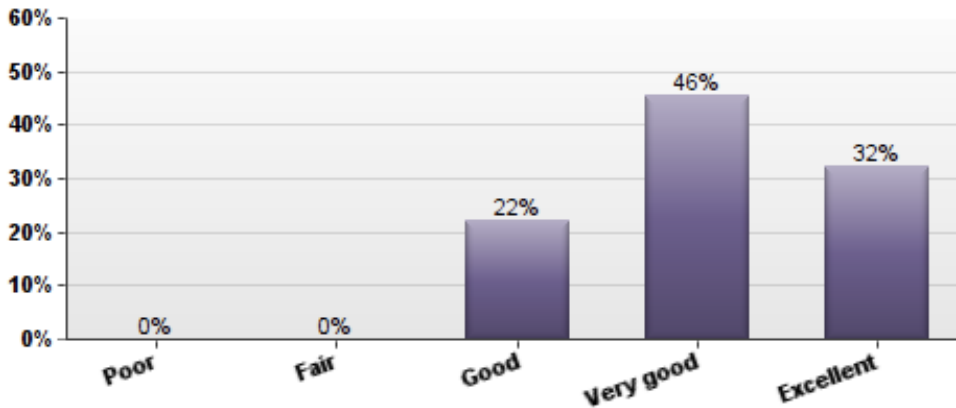


Figure 3.7. Item 8: Quality of most recent experience at Campus Farm

Item 9 presented the following prompt to participants: “Think about what you would like your life to be like in the future. Which of the following will be important to you?” along with 11 sustainable food-related behaviors. “Buying food from a local farmer’s market,” “buying sustainable food,” and “selecting food products with minimal packaging to limit waste” emerged as the top three priorities (Figure 3.8). “Financially contributing to sustainable food organizations or sustainable farming operations” was rated as the lowest priority.

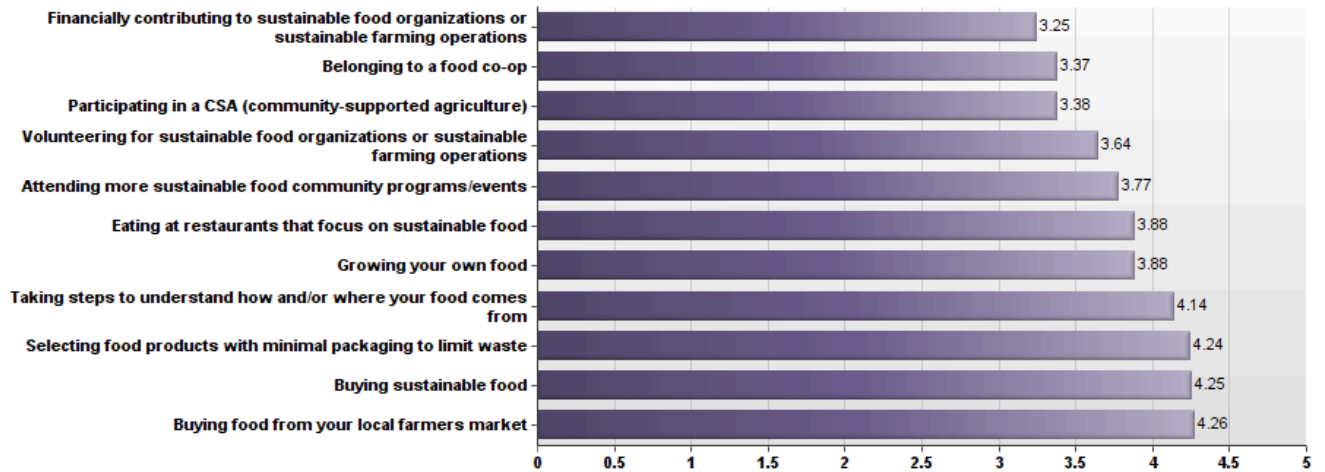


Figure 3.8. Item 9: Priority of food-related sustainable behaviors

When asked about which sustainable food groups they would be most likely to participate in, respondents reported being most likely to participate in Friends of the Campus Farm, UMSFP, and Cultivating Community (Figure 3.9).

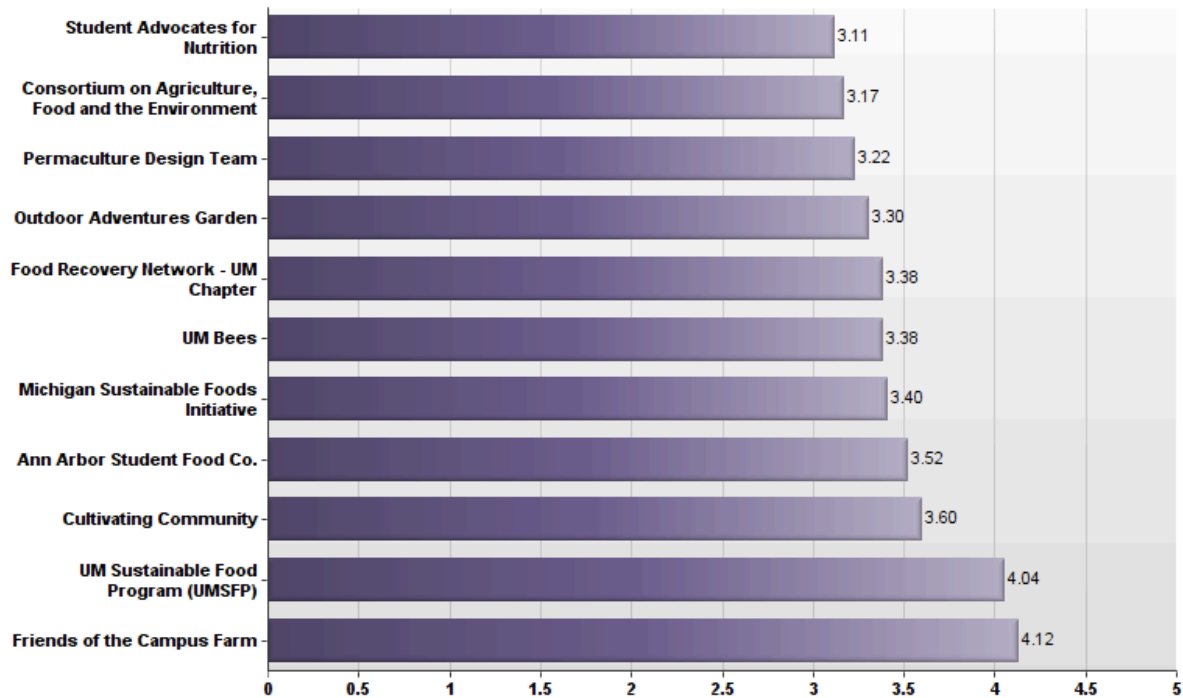


Figure 3.9. Item 10: Likelihood of participating in UM sustainable food groups

When asked which type of educational offerings they would be most likely to enroll in, respondents rated “workshop or seminar held at the Campus Farm” most highly (Figure 3.10). Twenty-nine percent of respondents reported being “extremely likely” to enroll in a course held at

the Campus Farm; 17% reported being “extremely likely” to enroll in a semester-long course on sustainable food. Finally, eleven percent of respondents indicated that they “already have” enrolled in a semester-long course on sustainable food.

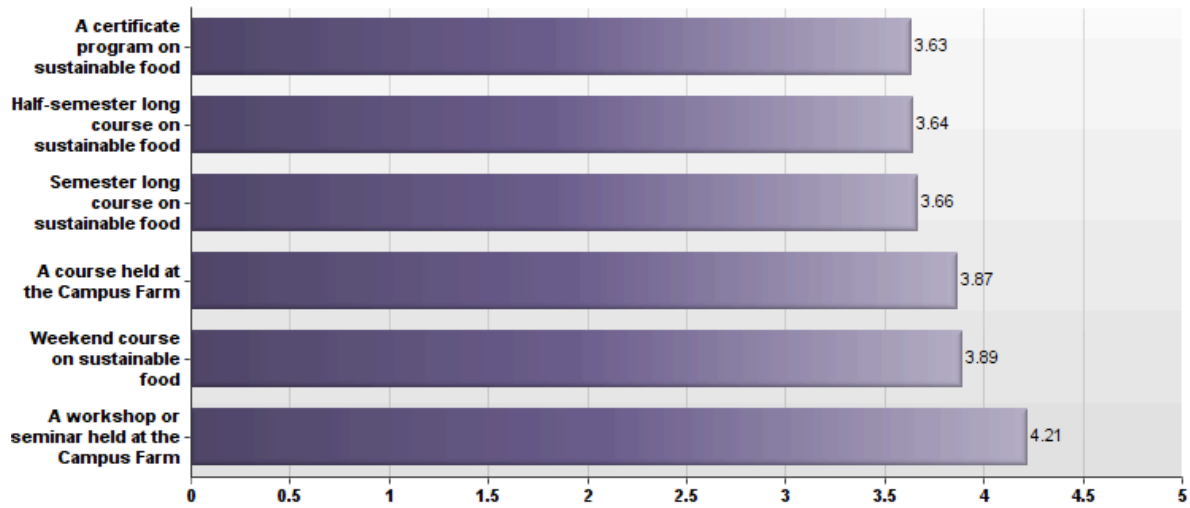


Figure 3.10. Item 11: Likelihood of enrolling in educational offerings

The next item presented the various sub-goals outlined within the Campus Farm’s mission, and asked participants to rate the Campus Farm’s efforts towards achieving them. Asking this question is useful for honing in on areas where the Campus Farm is excelling as well as those areas where there is room for improvement. Respondents ranked highest the Campus Farm’s efforts to “grow sustainable food that supports the well-being of people and the environment at UM and beyond” (Figure 3.11). Respondents gave the lowest rating to the Campus Farm’s efforts to “build ‘living laboratories’ on campus that create diverse, interdisciplinary opportunities for research and course projects.” This finding provides further validation of the need to focus on that aspect of the mission.

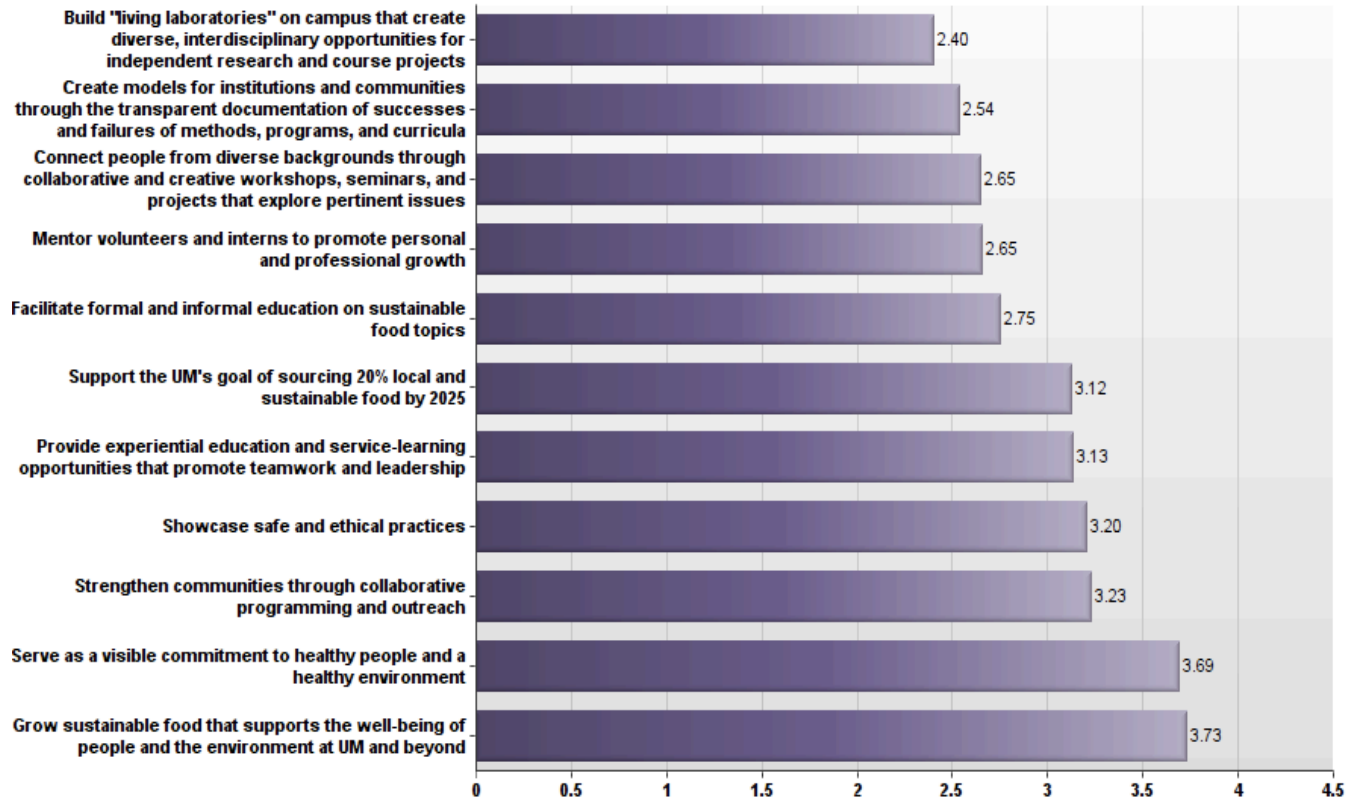


Figure 3.11. Item 12: Evaluation of Campus Farm’s fulfillment of mission

Item 13 asked participants what they would like to see the Campus Farm focus on going forward, to help shape future programming. Among all respondents, the highest rated item was “Focus on outreach across the University to increase the number of students at the Campus Farm from different backgrounds and concentrations” (Figure 3.12). The lowest rated item was “Sell food baskets to be bought for students from family or friends.”

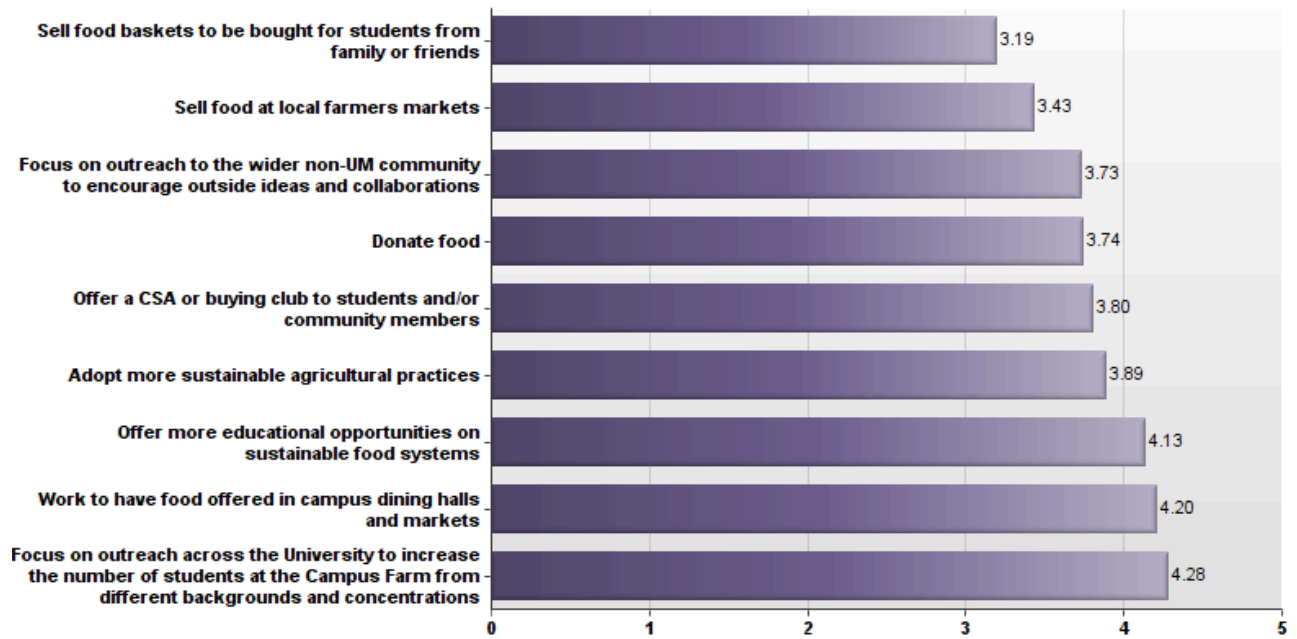


Figure 3.12. Item 13: Desires for future programming

For the purposes of meeting the needs of a diverse range of students, it seemed worthwhile to more closely examine what different audiences wanted from the Campus Farm. Respondents from all disciplines reported being most interested in greater outreach across the university, though their order of priorities differed beyond that. (See, for example, Figures 3.13-3.16).

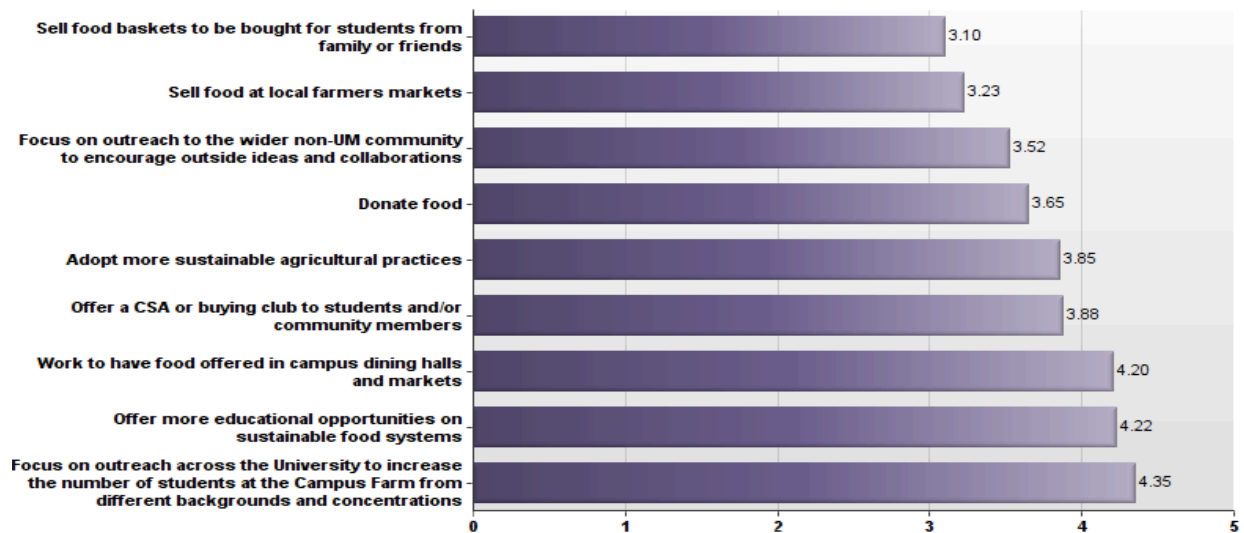


Figure 3.13. What natural science students prioritize

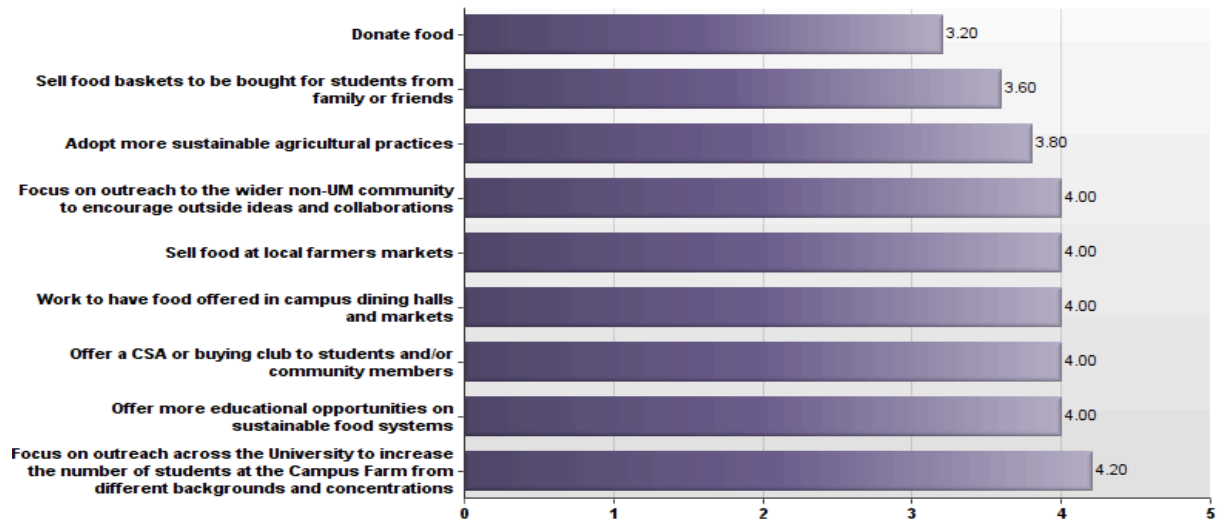


Figure 3.14. What engineering students prioritize

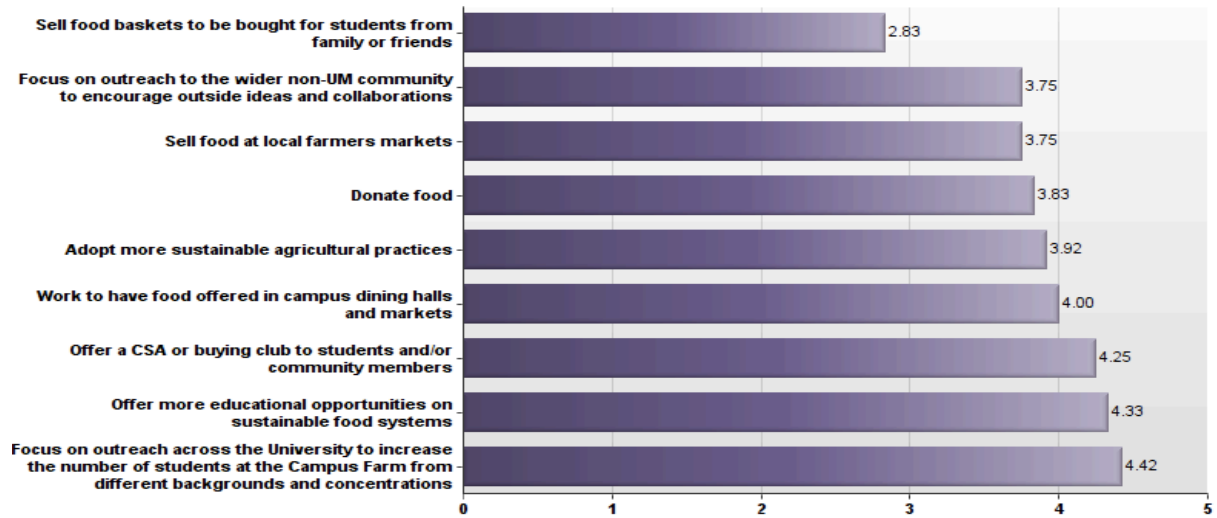


Figure 3.15. What health science students prioritize

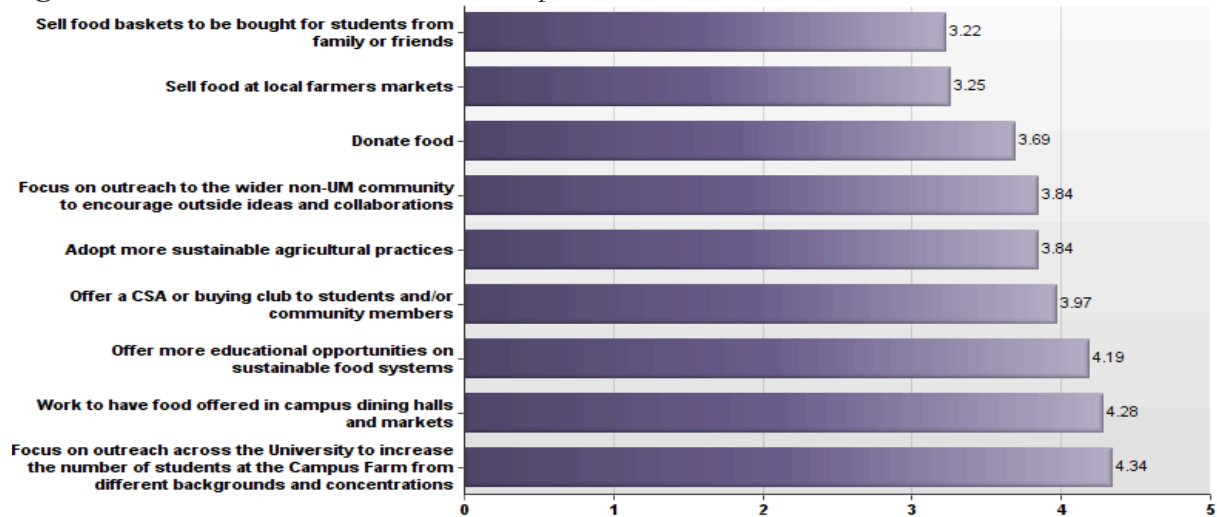


Figure 3.16. What social science students prioritize

We performed a factor analysis on Item 13. Although three factors emerged, the underlying constructs prove to be elusive (Table 3.3). The implications of this will be discussed in greater detail below.

Table 3.3. Factor Analysis of Item 13: Participants desires for future programming

| | Factor 1 | Factor 2 | Factor 3 |
|--------------------------|----------|----------|----------|
| Dining Halls | 0.681 | | |
| Student Outreach | 0.669 | | |
| Non-student Outreach | 0.827 | | |
| Farmer’s Markets | | 0.821 | |
| Donate Food | | 0.593 | |
| Food Baskets | | 0.780 | |
| CSA | | | 0.719 |
| Sustainable Ag Practices | | | 0.716 |
| Learning Opportunities | | | 0.728 |

Participants were also invited to provide “other suggestions” for the Campus Farm as a free response item. We received twelve comments total; among them were calls for more educational and volunteer opportunities and increased outreach. There were also comments that expressed concern over selling food from the Campus Farm at farmer’s markets.

Enhanced educational opportunities, and the infrastructure to support them:

- “Consistent transportation and long-term, stable funding to support internships! Students living on-site as interns during the school year would be great down the road. And animals!”
- “Have a way to have U of M students come teach sustainable ag workshops to elementary age children who participate in school gardening. Ann Arbor Public Schools have gardens that U of M students could work with.”
- “Please teach us about policy and farming techniques during workdays. You guys are awesome and amazing and doing really great work. Keep it up!!”
- “I would love to see a farm orientation trip - incoming students come during the summer before their freshman year and do a week of learning/work/fun at the farm and surrounding farms (Yale has a great model for this, called Harvest)”
- “Looks great! Excited about the fruit trees.”

Calls for more volunteer opportunities:

- “Additional campus farm workdays”
- “Have two workdays so that people who cannot make it to the Friday workdays have another opportunity to participate”

Comments about the visibility of the Campus Farm across campus:

- “For the students that know about the Campus Farm, it's awesome! However, there are a ton of people at UM who don't even know it exists. It is essential that we reach out to these people so that everyone can benefit!”
- “Would just like to reinforce my response above--as a Political Science major I only found out about how active a community you guys are during my last semester at U of M. Wish I had found out about you guys sooner!”
- “The main issue I have with the Campus Farm is I had never heard of it until taking this class. I have never seen an advertisement on the bus, on the campus billboards, or even on the tables at the dining halls. I worked at one, I read every one of those little things and I still remember that the university makes its own granola, but I have never heard of the Campus Farm.”

Concerns about selling Campus Farm food at farmer's markets:

- “Must be thoughtful in what is done with campus farm food. Try not to hinder other great food businesses (like those common to farmers' markets). Target other groups who are not already on the wagon (aka: shopping at the coops and markets).”
- “I don't like the idea of selling food at local farmers markets. I worry that if we did we would take much needed business away from local farmers trying to make a living. This is a project we participate in for our enjoyment and for the opportunity to learn. If we don't sell our food we don't lose anything. If local farmers don't sell their food they lose profits. Also, I really like the way the Friday volunteer work days are set up that you just go to participate and there is no sort of formal lecture/ seminar that goes along with it, so those who are just looking to play in the dirt and have a nice afternoon doing good work can do just that. However, it would be nice if there was a more defined outlet for asking questions. For example, at the beginning of the work day just point out a few people who could answer questions about different things. You all are killing it, the campus farm is awesome and was highlight to my week!”

Finally, participants were asked about their preferred form(s) of communication for learning about Campus Farm events and news. The UMSFP newsletter, a digital newsletter sent out through email on a weekly basis, was the most preferred method, followed by Facebook and word-of-mouth (Figure 3.17). Eight people checked the box for *other*, five of whom indicated that “email” was a preferred method of communication. It is unclear if this is differentiated from the UMSFP email newsletter. Other comments mentioned “YouTube” and “in dorms and buses.”

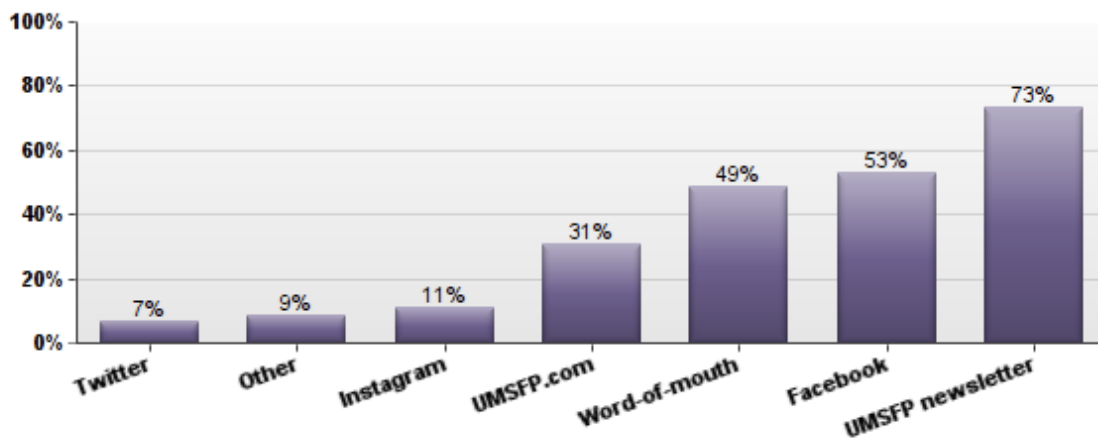


Figure 3.17. Item 15: Preferred forms of communication with Campus Farm

3.4 Discussion

Many people operating a Campus Farm might assume that most people’s primary motivation for getting involved is to “learn” or “acquire skills;” our findings suggest that this is not the case. According to our results, the number one motivation for participation was “having the chance to do something meaningful that is in line with my values” (Figure 3.5). This finding is consistent with the theory behind the Reasonable Person Model, which suggests that people are motivated to participate in an activity when it allows them to make a difference, makes them feel needed, and allows them to work with others to achieve important goals (Kaplan & Kaplan, 2009).

The significance of meaningfulness in motivating participation at the Campus Farm is certainly worthy of further investigation. We recommend that, in the very least, future programming at the Campus Farm takes the importance of meaningfulness into account – such as through recognizing the contributions of volunteers or regularly calling attention to the value of their work. Program leaders might make it a regular practice to highlight the reasons why the work being undertaken is important for a sustainable future, or have ways of providing feedback about the impact they have made.

When we asked about people’s desires for future programming (Figure 3.12) we offered choices that were relatively typical of what you might see on any campus farm – such as more opportunities to learn about sustainable food, more farm food in dining halls, and so on. After some reflection, we realized that the range of choices we provided was not very broad in scope, nor representative of the myriad of interesting things that might be implemented at the Campus Farm. It would be valuable to broaden the choices in order to better reflect what is possible (e.g., exploration of social dimensions of farming; sustainable technology; art & design; etc.). In the next iteration of the survey, we recommend a wider variety of options, informed by input from students representing many different disciplines.

3.5 Limitations

The biggest limitation was the small sample size ($n < 120$). With such a small sample size, it cannot be said that the views reflected in the findings are representative of the larger Campus Farm participant population; because of this, we advise that the findings generated from this study are used only as a supplement to other forms of data (e.g., written records, interviews, observations, case studies). The survey findings are still highly useful for illuminating interesting areas worthy of further investigation; for example, meaningfulness as a motivation for participating at the Campus Farm, or what different types of audiences want to see in future programming.

While knowing participants' general area of study is useful for building a broad understanding of the population, it may be more useful to ask which particular programs participants are enrolled in if we want to be able to strategically target certain audiences. This could easily be accomplished through offering a drop-down menu of the University's schools and colleges. The trade-off, however, is that such a list requires more time for respondents to sift through, which could lead to fatigue.

3.6 Future Directions

Systematic evaluation, in part conducted through the administration of surveys, plays a key role in the development and implementation of quality programming. Only through this process are we able to track changes over time, discover the strengths and weaknesses of different Campus Farm programs, or even make discoveries about interesting relationships between key variables, such as area of study and motivation for participating at the Campus Farm.

Program evaluation is becoming increasingly important as funding is spread thin and the pressure to prove a program's worth grows. Having data – such as evidence of impacts on participants – that is high-quality, well-organized, and well-communicated positions the Campus Farm to convince potential funders of the benefits of its programming, ultimately helping the Campus Farm sustain its operations well into the future.

For these reasons, we advise that regular and consistent data collection – accomplished in part through administering the survey at least once a year – become incorporated into regular Campus Farm operations. Administering the survey on an annual basis and then analyzing and publishing the results (e.g., in the UMSFP annual report) could be a task assigned to a member of the UMSFP Leadership Team. Because the process will likely require a considerable amount of time and effort, the Leadership Team should consider appointing a team member responsible solely for this task. The role will be ideal for a student interested in learning and applying skills related to research, assessment, and program evaluation.

That said, evaluation should not be an end in itself. The primary purpose of an evaluation should be to improve performance; it is our hope that the data collected via this survey is used for

“What gets measured gets done. If you don't measure results, you can't tell success from failure. If you can't see success, you can't reward it. If you can't reward success, you're probably rewarding failure. If you can't see success, you can't learn from it. If you can't recognize failure, you can't correct it. If you can demonstrate results, you can win public support.”

- Osborne & Gaebler, 1992

this purpose. We therefore encourage the UMSFP Leadership Team to consult the findings from this survey to help inform and inspire future programming.

We ultimately hope that the survey and the data it generates are useful for any organization interested in learning more about how to strategically engage students in the promotion of sustainable food systems within higher education. In order to accomplish this, survey results and key findings should be summarized in an easy-to-read document, limited to one or two pages, and shared with the UMSFP Leadership Team, key stakeholders (e.g., funders and university leadership), and the public. Findings can open avenues for further research and then be shared at conferences, in publications, or within and across relevant communities and networks.

To the authors' knowledge, this is the first survey instrument that explores the experiences and expectations of participants at a university campus farm. As such, it is likely to have value for peer institutions with campus farms or sustainable food programs of their own. Sharing the survey instrument with peer institutions can accomplish two important things: First, it will allow peer institutions to systematically evaluate their own programming for the purpose of improving its quality (which can ultimately promote a more sustainable food system on campus). Second, it can enable researchers to make comparisons across universities (provided that survey items and methodologies are kept consistent) and paint a better picture of how different campus farms work. In the long run, this can ultimately allow for more strategic networking and coordination of efforts across campuses, and strengthen the movement towards sustainable food at a large scale.

4. A Collective Future Direction

Building off the work of the previous Master's Project and UMSFP, our project aimed to support and enhance educational and community initiatives at the Campus Farm. Our project's three task force teams, built a foundation for experiential learning opportunities at the Campus Farm via signage and branding, defining and crafting the Campus Farm Living Learning Laboratory Program, and assessed student engagement motivations. In order to construct a sustaining programming and space, future action and involvement needs to occur within the University of Michigan community at the Campus Farm. In order for UMSFP, to be effective and relevant in the future, community and education objectives need to be evaluated, as highlighted by each task force team from signage to the Campus Farm Living Learning Laboratory Program. The assessment task force exemplified how this culture of evaluation needs to be continuous in order to measure the effectiveness of the Campus Farm initiatives as well as to demonstrate the need for them. With a growing need for students and community members alike to participate in experiential, action and solution based learning, the Campus Farm is situated as a premier space. A space for these individuals to collaborate, research, converse, explore and dig in, while developing the capacity to meaningfully act presently and in future environmental issues.

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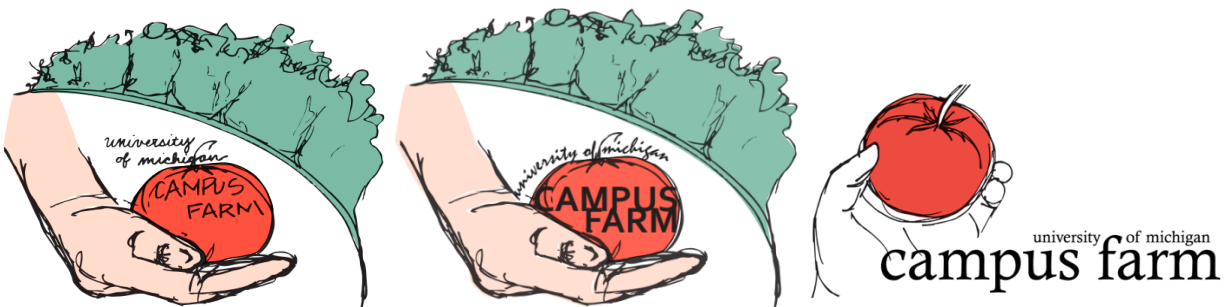
Appendix A: Alternate Logo Designs

Round 1:



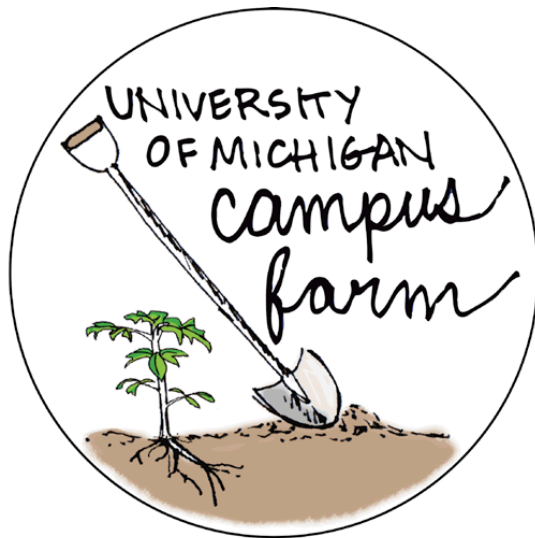
The use of the hand, rake, and informal handwritten font all offer a feeling of community, while the tomato, kale, and other vegetables indicate food production. While we liked the look of the logo that incorporates fruits, vegetables, and tools into the font of the Campus Farm name (above, bottom-center), we felt the logo was too similar to that used by UMSFP and would not allow the farm to establish its own identity.

Round 2:



Although the feedback we received in our survey showed that many people liked the idea of the hand holding a tomato, many respondents expressed concern about whether this design could adequately depict diversity. Because of this, we chose not to pursue these designs.

UNIVERSITY OF MICHIGAN
CAMPUS FARM
BRANDING & STYLE GUIDE



The [Campus Farm](#) branding and style guide provides the standards for the University of Michigan Campus Farm's brand identity. The following guidelines help clearly define the Campus Farm brand to enable effective and consistent communication.

This book provides guidance so that together we can communicate the mission of the Campus Farm in a coherent and uniform way.

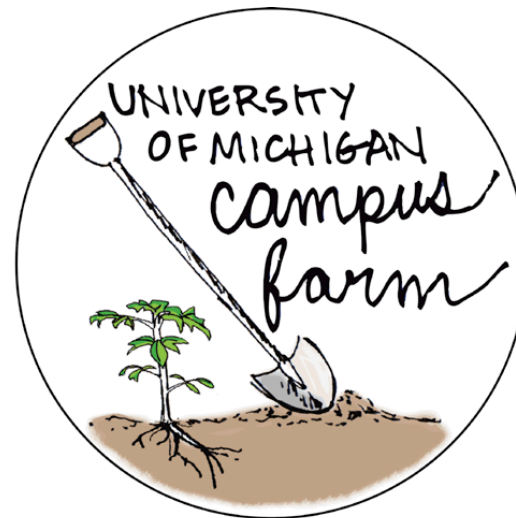
Our mission

The UM Sustainable Food Program fosters collaborative leadership that empowers students to create a sustainable food system at the University of Michigan while becoming change agents for a vibrant planet. To further this mission, the UMSFP focuses effort in three specific areas:

- (1) *Developing responsible citizens* and leaders by facilitating formal and informal education on sustainable food topics
- (2) *Strengthening communities* through collaborative programming and outreach
- (3) *Growing sustainable food* that supports the well-being of people and the environment at the University of Michigan and beyond

Our logo

Our logo is the primary symbol of the Campus Farm, representing the adherence to our mission of community, education, and production in all of our efforts.

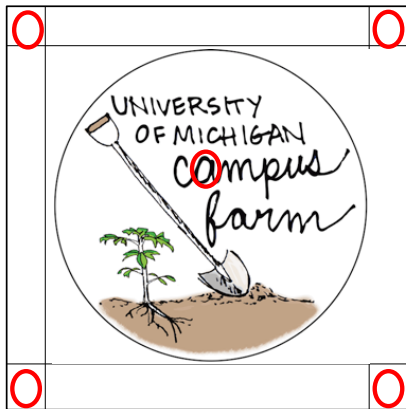


Using our logo

Clear space

Always position the logo in a highly visible location and don't crowd other elements around it.

The minimum clear space for the Campus Farm logo is roughly the size of the "a" in "Campus Farm", as it appears in the logo. The clear space rule should be maintained proportionately as the logo is enlarged or reduced in size.



Using our logo

Minimum size

When reproducing our logo, be conscious of size and legibility—a logo that is too small ceases to communicate properly.

Our logo should never appear less than two inches wide.



In text, Campus Farm should appear as two words in upper- and lowercase with a capital "C" for Campus and a capital "F" for Farm. In sentences, the Campus Farm logo is never to be used in place of Campus Farm text.

Logo color

The Campus Farm logo should be reproduced in color whenever possible. White is the most effective background because it provides contrast for the logo's color and elements. No matter the color of the background surrounding the logo, the background within the boundary of the circle should be white.

Misusing our logo

The Campus Farm logo has been carefully designed and its shape and elements should never be altered.

- (1) Never stretch, condense, or re-shape the logo.
- (2) Never redraw the logo or alter the placement and size relationship between its elements.
- (3) Never add additional elements to or change the colors of the Campus Farm logo.

Our colors

Color is an effective and playful way to illustrate the Campus Farm personality to our audience. Consistent use of color provides a visual connection to our brand.

Our color palette

Colors that work well with the Campus Farm brand invoke the concepts of fresh-picked vegetables, a community of gardeners, and caring for the environment. Our main colors are inspired by a ripe tomato on the vine.

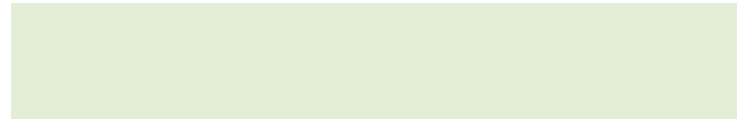
#ED4423 – R:237 G:68 B:35



#B7D78D – R:183 G:215 B:141



#E4EFD5 – R:228 G:237 B:213



Our typography

Typography adds an essential element of coherence and legibility to our brand identity. It is a very powerful tool. With consistent use, type creates yet another connection between the Campus Farm brand and our audience.

Our font

Myriad Pro is simplistic and casual typeface, selected to convey the lighthearted yet mission-driven focus of the Campus Farm. The sans serif style allows effective communication on Web and screen-based materials, while translating legibly to print.

Myriad Pro

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m n o p q r s t u v w x y z

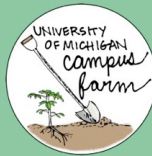
1 2 3 4 5 6 7 8 9 0 \$ & # ! @ + =

Appendix C: Interpretive Signage

5 Interpretive signs were printed on 14 x 10" Dibond aluminum with a laminate covering. They were installed in the Spring of 2014 with posts and backings made in house at the Mathaei Botanical Gardens.

Herb Spiral

- 🍅 The vertical and circular design of the herb spiral accommodates the needs of herbs with different growing conditions by creating microclimates and facilitating downhill water drainage.
- 🍅 The top is sunny and dry which is perfect for Mediterranean herbs like rosemary, oregano, and sage. The bottom is shady and moist which is ideal for herbs like mint and parsley.
- 🍅 The urbanite stone walls are salvaged concrete slabs that retain heat and insulate the plants in colder weather or at night.
- 🍅 The spiral utilizes permaculture design values by mimicking a form found in nature, performing several ecosystem functions at once, creating edge habitat, and producing no waste.
- 🍅 This design is resilient and produces higher yields than herbs grown separately.



Fruit Trees

- 🍅 The fruit trees complement the other produce grown at the farm by attracting pollinators and creating a more diverse ecosystem.
- 🍅 When planted in 2013, the trees were fertilized with compost and mycorrhizae. Mycorrhizae is part of a fungal symbiotic relationship in which the fungus receives carbohydrates from the plant and in return, the fungus increases the plant's root surface area so it is able to absorb more water and nutrients.
- 🍅 The trees were planted using sheet mulching. The soil was covered with a thin layer of slowly decomposing cardboard that acts as a weed barrier. When the cardboard decomposes it adds nutrients to the soil and weed matter quickly decays beneath the barrier. A layer of soil and compost was added over the cardboard and the soil was ready to receive the tree seedlings.



Raised Beds

- 🍅 Raised garden beds are higher than ground level and have a frame to keep soil in place. They reduce soil erosion, improve farm accessibility, and maintain aerated soil because it is not compacted from being stepped on.
- 🍅 Made with white oak, the wood will decay very slowly.
- 🍅 These beds demonstrate small-scale models of potential home gardens. Square-foot gardens are a popular solution for growing plants in places with limited space or polluted soils.
- 🍅 Raised beds utilize permaculture design values by working at a small, manageable scale, maximizing the produce to work ratio, and integrating plants with companion planting.



Native Prairie

- 🍅 Native plants are species that have existed for many years in an area and have adapted to the conditions specific to that environment.
- 🍅 This "native area" houses grasses, flowers, trees, and shrubs that are native to Michigan and require little maintenance since they are adapted to the local climate.
- 🍅 This diverse environment provides habitat to many beneficial creatures, like the insects that help with pest control and pollination, or the native flowers that act as a food source for the honeybees.
- 🍅 Many of the crops rely on pollinators to develop their fruits, such as tomatoes, cucumbers, and squash. During the process of collecting pollen to make honey, the bees move pollen around the flowers which initiates fruit production.



The Compost

- 🍅 These three "bays" transform organic farm waste into material called compost.
- 🍅 Newly collected organic matter is placed in the first bay and left to decompose for several weeks. That pile is then transferred to the second bay. After another few weeks the piles are transferred again. Once a pile has made it through all three bays and the inner temperature reaches 135-160 degrees Fahrenheit for three days it is ready for use. The high temperature destroys weed seeds and disease-causing organisms.
- 🍅 The composting process involves: organic matter (carbon), nitrogen, oxygen, water, bacteria, and decomposers. Bacteria, worms, insects, and microbes facilitate the breakdown of complex plant materials into humus, simple compounds that plants can use.
- 🍅 The compost utilizes permaculture design values because it captures energy, reduces the need for external inputs, and is a manageable small-scale process.



Appendix D: Signage and Branding Budget

Our ability to create signage was constrained by the available funding. Our budget was entirely made up from our Master's Project funding from SNRE. The following table describes the breakdown for the purchases made for the signage and branding task force.

| Material | Unit Price | Quantity | Cost |
|------------------------------------------------------------------------------------|-------------------|-----------------|---------------|
| 14"x10" small dibond sign on foam cord | \$43.20 | 5 | \$216 |
| 4"x4" post for 14"x10" small dibond sign on foam cord | \$7.00 | 5 | \$35 |
| Weather-resistant plywood backing for 14"x10" small dibond sign on foam cord | \$40.00 | 5 | \$200 |
| Double sided 22"x14" weatherproof cardstock signs hung on a U-wire | \$25.00 | 4 | \$100 |
| Medium Green Trimline, Single-sided Message Center from Max-R (with posts and S&H) | \$1,185.00 | 1 | \$1185 |
| Logo design fee | \$100.00 | 1 | \$100 |
| Literature rack | < \$64.00 | 1 | < \$64 |
| | | Total | \$1900 |

Appendix E: Profiles of Other Campus Living Learning Laboratory Programs

Brown University: Campus as a Living Lab

| | |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Program History | A commitment was made to using the University as a living lab when the president signed the ISCN-GULF Sustainable Campus Charter in 2010. |
| Structure | Mainly behavior-based programming, including the Dorm Energy Efficiency Program and student EcoReps. The Brown Climate Action Fund is also included as a student initiative. Ad-hoc course collaborations are also a part of the program. |
| Reporting/Sharing Results | Descriptions of student projects and presentations available on program website. |
| Oversight | Energy and Environment Office |
| Theme | Heavy focus on energy and environmental psychology |
| Academic Alignment | Some class projects and course integrations |
| Eligibility | Students, Researchers, Faculty, Facilities |

Brown University, 2014

The California State University: Campus as a Living Lab Grant Program

| | |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Structure | Follows a request for proposals process in which proposals are accepted once a year; largely a funding program that funds two types of projects: Course redesigns that incorporate sustainability and campus integration and projects that create “interdisciplinary Learning Community, focused on campus sustainability.” |
| Reporting/Sharing Results | Not shared on website |
| Oversight | Partnership between the Divisions of Business and Finance, Academic Affairs, and Systemwide Academic Senate; proposals reviewed by a committee consisting of Academic Affairs, Capital Planning, Design and Construction, and the Systemwide Academic Senate |
| Theme | Alignment with university sustainability commitment and aimed at “preparing students for the workforce” |
| Academic Alignment | Encourages proposals that incorporate “for-credit internships, service-learning courses, undergraduate research opportunities, student learning communities, and first year or capstone programs.” |
| Eligibility | Applications are accepted from full- and part-time faculty and facilities management staff and the program requires partnership of faculty and facilities management staff. Community colleges in California are also eligible to be partners. There is an emphasis on integration with undergraduate curricula. |

California State University, 2014

Duke University: Campus as a Living Laboratory

| | |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Structure | The University serves as a client and students select a list of pre-determined on-campus sustainability projects. Living Laboratories on campus include: Home Depot Smart Home, Duke Campus Farm, Duke Forest, Duke Lemur Center, SWAMP Outdoor Classroom/Field Laboratory, Duke Marine Lab, Duke Carbon Offsets Initiative |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reporting/Sharing Results | Highlights from past projects are available on the program website. |
| Oversight | Duke Sustainability |
| Theme | General sustainability |
| Academic Alignment | Master's projects from the Nicholas School of the Environment regularly use the program. Biology and Environment undergraduate course projects are highlighted on the program website. |
| Eligibility | Students |

Duke University, 2014

The University of Minnesota: Living Laboratory

| | |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Program History | The program was described in campus master plan and sustainability goals and outcomes report. A pilot program was implemented in 2013 and 2014. A revision is planned for summer 2014. |
| Structure | Proposals are accepted twice per year via online application. Most grounds/landscape spaces on campus are open to the program, with the exception of historical and iconic spaces. A map is provided to show eligible spaces. |
| Reporting/Sharing Results | Video overviews of successful project proposals and sample applications are available on the program website. |
| Oversight | The Twin Cities Sustainability Committee developed the pilot process and facilitates the program. Submissions are reviewed by the living lab review panel, which includes: Director of Planning and Architecture, Sustainability Coordinator, Grounds Superintendent, Landscape Architect, Dean of College of Design, Department of Horticulture, Student Association Representative, Graduate and Professional Student Assembly Representative |
| Theme | Projects must align with university internal sustainability goals and external commitments such as the University Presidents' Climate Commitment |
| Academic Alignment | Projects must be affiliated with a University department |
| Eligibility | Faculty, staff, and students |

The University of Minnesota, 2014

Portland State: A Living Laboratory for Solutions

| | |
|---------------------------|---------------------------------------------------------------|
| Reporting/Sharing Results | Hosted AASHE workshop "Campus as a Living Learning Lab" |
| Oversight | Assistant Director of the Institute for Sustainable Solutions |
| Theme | General sustainability, focus on cross-disciplinary |
| Eligibility | Students, faculty, staff, local residents |

Portland State University, 2014

Ohio State University: Campus as a Living Laboratory (CALL) Program

| | |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Program History | First student proposal reports posted to Campus as a Living Laboratory Library (Archive) in 2013 |
| Structure | Website provides a database of potential projects including a proposed department (many are interdisciplinary), proposed faculty/instructor/staff and suggested course. The program encourages building off of past projects. |
| Reporting/Sharing Results | Full student proposal reports available in the “Campus as a Living Laboratory Library” |
| Oversight | Energy Services and Sustainability in collaboration with the Office of Energy and Environment |
| Theme | General sustainability |
| Academic Alignment | Must contribute to academic credit for the student |
| Eligibility | Projects are collaborations among staff, faculty, and students. A faculty or staff member must sponsor the project. |

The Ohio State University, 2014

Portland State: A Living Laboratory for Solutions

| | |
|---------------------------|---------------------------------------------------------------|
| Reporting/Sharing Results | Hosted AASHE workshop “Campus as a Living Learning Lab” |
| Oversight | Assistant Director of the Institute for Sustainable Solutions |
| Theme | General sustainability, focus on cross-disciplinary |
| Eligibility | Students, faculty, staff, local residents |

Portland State University, 2014

University of British Columbia: SEEDS Program (Social Ecological Economic Development Studies)

| | |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Program History | Program began in 2000 and was the first program of its kind in Western Canada. |
| Structure | Projects are completed either as part of a class, as an individual, or in a group. Other living learning lab programs at UBC include the Centre for Sustainable Food Systems, Smart Energy System (Partnership with Honeywell) and Electro-chemical Energy Storage Project |
| Reporting/Sharing Results | The SEEDS Library contains over 800 student reports. It is searchable and includes icons to designate project topics. Project highlights are featured on the program’s website. |
| Oversight | SEEDS Program Coordinator |
| Theme | General sustainability |
| Academic Alignment | All SEEDs projects are integrated into existing UBC courses and students earn academic credit |

| | |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eligibility | Staff members typically initiate projects, but students and faculty can propose projects for staff consideration. Students involved are 3 rd and 4 th year undergraduates and grad students. |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

University of British Columbia, 2014

| University of Cambridge: Living Laboratory for Sustainability | |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Program History | Program began in October 2012 |
| Structure | Projects come in five different forms: Academic projects lead to academic credit, Affiliated projects are projects already occurring at the University that are granted additional promotion and support through the Living Laboratory, Small-scale projects are volunteer projects for students, Internships are paid and open to students and graduates in the summer, Awards are offered each year as a student challenge. Opportunities to participate are promoted through the web, presentations, meetings, and external media. Available projects can be found on their website as are proposal forms which are to be submitted via email. |
| Reporting/Sharing Results | Information on past projects is provided on the program website. The program also publishes an annual report. |
| Oversight | A Living Laboratory for Sustainability Coordinator manages a database of all submitted project ideas. The program is overseen by an advisory group that includes Estate Management Staff, academics, and student representatives. |
| Theme | General sustainability |
| Eligibility | Ideas for projects come from students, academic staff, Estate Management Staff, and the Energy and Carbon Reduction Project |

University of Cambridge, 2014

Appendix F: 2013 AASHE Annual Conference Presentations

The team traveled to Nashville, Tennessee to attend the 2013 AASHE Annual Conference held October 6-8th, 2013. The conference was attended by 1800 professionals and students involved in advancing sustainability in higher education. The theme of the conference was “Resiliency and Adaptation,” and the team presented “A Rooted University: Growing Resiliency, Community, and Engaged Food Citizens.” Meaghan Guckian presented a poster and Mariel Borgman, Meghan Jakes, and Ryan Gourley delivered a twenty-minute case study.

Presentation Abstract:

With the impending energy descent and accelerating impacts of climate change, the need to foster resiliency and adaptation in the realm of higher education is increasingly pertinent. Universities provide a platform for students and communities to pre-familiarize themselves with future alternative scenarios and experiment with small-scale adaptations. Our presentation describes a campus farm as a multifunctional space, transcending many preconceived notions of agriculture. The unifying nature of food serves as a gateway to building networks for community engagement. Most students at our non-land-grant university will never become farmers or agronomists, but all benefit from the farm’s green infrastructure, experiential learning opportunities, and community connections. As an accessible greenspace, a campus farm provides opportunity for restorative connection with nature, offsetting the typical student experience of time indoors and “plugged in,” and the accompanying vulnerability to stress and mental fatigue (Maller et al, 2005). Utilizing the Reasonable Person Model (Kaplan & Kaplan, 2009) as a guiding framework, we posit that the farm user’s experience is marked by exploration of new concepts and environments, as well as meaningful participation in a larger effort of shaping the university into an adaptive and resilient institution in the face of global environmental challenges. Indeed, a campus farm can function as a test kitchen for “adaptive muddling” (DeYoung & Kaplan, 2012). This approach to building resilience uses “small experiments” to derive varied possible solutions that are participatory and place-based. In collaboration with faculty, students, and local K-12 schools, our farm will offer an adaptive curriculum incorporating diverse, experiential learning opportunities that nurture a new generation of food citizens. These programs bridge traditional academic disciplines and cultivate systems thinking. Just as the kitchen serves as the heart of a home, so too can the campus farm be the primary pulse of the community, connecting people, circulating ideas, and renewing resources.

A Rooted University: Growing Resiliency, Community, and Engaged Food Citizens

Mariele Borgman, Dana Burnette, Sara Cole, Ryan Gourley, Meaghan Guckian, Meghan Jacokes, Stephanie Smith
University of Michigan, School of Natural Resources and Environment



Theory

The Reasonable Person Model

The farm user's experience is marked by exploration of new concepts and environments, participation toward meaningful goals, and connectedness to an effort of transitioning the university to be an adaptive entity in the face of global environmental challenges.¹

Mental Restoration

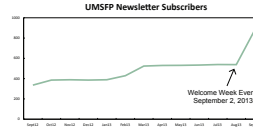
Access to green space has been shown to offset the typical student experience of time indoors and vulnerability to stress and mental illness.²

Adaptive Muddling

This method uses small experiments to derive varied possible solutions that are participatory in nature and place-based.³

Outcomes

- 100+ Garden Volunteers
- 300+ Attended Harvest Festival
- 10 Large Group/UM Department Workdays (ex. Law School Orientation, Telluride Association Summer Program, Development Office) in 2013
- 300+ new newsletter subscribers since August 2013



Abstract

The University of Michigan's campus farm serves as a multifunctional space, transcending many preconceived notions of agriculture. Most students at our non land grant university will never become farmers or agronomists, but all benefit from the farm's green infrastructure, experiential learning opportunities, and community connections. In collaboration with faculty, students, and local schools, the farm offers an adaptive curriculum incorporating diverse, experiential learning opportunities that nurture a new generation of agricultural citizens.

MISSION STATEMENT

Fostering collaborative leadership that empowers students to create a sustainable food system at the University of Michigan while becoming change agents for a vibrant planet.



Project Goals

- Help students develop the skills to meet today's sustainability challenges
- Provide a collaborative environment that empowers students to create a sustainable food system at the University of Michigan while becoming change agents for a vibrant planet
- Position the Campus Farm as a community hub and premier educational space for sustainable food
- Be a resource and facilitator to programs within and outside of the University, such as the Graham Sustainability Institute, sustainable agriculture programs, community organizations, and local schools
- Foster and sustain relationships between faculty members and students to provide a "test kitchen," outdoor classroom to enhance their courses.

Implementation

- Guided by Environmental Psychology Research and Theory
- Forming Community Partnerships
- Volunteer Work Days
- Collaborations with Faculty
- Special Events
- Website and social networking

References

1. De Young, B. and S. Kaplan (2012). Adaptive muddling. In B. De Young and T. Prosen (Eds.) The Localization Reader: Adapting to the Coming Downshift. (pp. 287-298) Cambridge, MA: The MIT Press.
2. Miller, C., Townsend, M., Pryor, A., Brown, P., & S. Lager, L. (2005). Healthy nature healthy people: "Contact with nature" as an upstream health promotion intervention for populations. Health Promotion International, 20(1), 45-54
3. S. Kaplan and R. Kaplan (2008) Creating a larger role for environmental psychology: The Reasonable Person Model as an integrative framework. Journal of Environmental Psychology, 29(3), 329-339.

Welcome Week

More than 150 incoming and current University of Michigan students, faculty, and staff came to the Campus Farm to pick their own produce, tour the Matthaei Botanical Gardens, and learn about sustainable food courses.



Sharing Summit

More than 75 University students an Ann Arbor area residents attended this event, hosted by the Campus Farm, which built capacity for the community's shared resources in a fun, informative, and cross-disciplinary context.



Acknowledgements

Thank you to Raymond DeYoung, Bob Grese, Matthaei Botanical Gardens, UMSFP, 2012-2013 Campus Farm Masters Project Team, Center for a New American Dream/lobby, and SNRE.



Appendix G: Eligible Spaces

- **UM Campus Farm**
 - Website: <http://www.lsa.umich.edu/mbg/see/campusfarm/>
 - A two-acre space located at Matthaei Botanical Gardens, featuring annual and perennial vegetables and fruit, a large herb spiral, raised beds, demonstration plots, and an apiary and honeybee sanctuary
- **Cultivating Community**
 - Website: <http://www.lsa.umich.edu/mbg/learn/cc/gardens.asp>
 - Located at the Ginsberg Center, featuring small-scale, urban garden techniques such as vertical planting, crop rotation, composting, seed saving, an herb spiral, and a hoop house for season extension
- **Outdoor Adventures Garden**
 - Website: <http://umsfp.com/index.php/members/149-oag>
 - Located at the Outdoor Adventures building, featuring raised beds
 - The Outdoor Adventures garden provides local, organic food for students on Outdoor Adventures wilderness trips
- **School of Public Health Garden**
 - Website: <http://umsfp.com/index.php/members/148-san>
 - Located in the courtyard of The School of Public Health (Building 1), the School of Public Health Garden

Appendix H: Event Summaries

1. **Campus Farm Feasibility Project (ENVIRON 391; Fall 2011)**

In the Fall of 2011 Mike Shriberg, Education Director for the Graham Sustainability Institute and School of Natural Resources graduate student, Lindsey MacDonald, collaborated to form a undergraduate student project in Enviro 391, “Sustainability & the Campus.” Under the direction of Shriberg and MacDonald, seven undergraduate students analyzed the feasibility of implementing a campus farm on university grounds. This included researching potential sites at the Matthaei Botanical Gardens and conducting a survey gaging student interest in a campus farm. Based on their survey and research, a practical educational model was recommended that incorporates faculty oversight with student organization, management and leadership to maximize learning outcomes for students. Additionally, the Enviro 391 project members proposed a three-phase process to prioritize and expedite the develop of the campus farm: Phase 1 - development of a large-scale farm at MBG; Phase 2 - development of a sustainable food program integrating satellite gardens around campus with student groups currently engaged in food related topics; Phase 3 - expansion and additions to increase sustainability and participant attraction through site and program development. To date, almost all of their suggestions have come to fruition.

2. **Short-Term Implementation Tools for Campus Harvest (UP 505; Winter 2012)**

During the Winter of 2012, Emily Provonsha, a student in Urban Planning 505, “Fundamentals of Planning Practice,” conducted her term project identifying and assessing implementation tools to initiate and maintain a campus farm at UM. For her project, Emily interviewed members of Duke University’s Campus Farm to better understand best practices which enabled her to identify readily available resources and human capital at the University of Michigan. In her memo, Emily suggested four tools for implementation: (1) hiring a farm manager, (2) integrating the farm into academic curricula, (3) creating community program to encourage motivation and (4) partnering with other farms, individuals and organizations

3. **Campus Farm Master’s Project Team (NRE 701; Winter 2012 -Winter 2013)**

A group of four School of Natural Resource and Environment students set out to bring their vision for a Campus Farm to fruition. As part of their project, Liz Dengate, Jerry Tyrrell, Lindsay MacDonald and Allyson Greene formed the University of Michigan’s Sustainable Food Program, eastblishing the student Leadership Board and Advisory committee made up of faculty and staff. They also created an operating handbook and strategic business plan for the Campus Farm. The group was instrumental in securing cultivation space at the Matthaei Botanical Garden and implementing the inaugural Harvest Festival.

4. **Pilot Garden Groundbreaking at Matthaei Botanical Gardens (April 27, 2012)**

On April 27, 2012, proved to be a pivotal moment in the Campus Farm’s history as a collection of dedicated and driven UM students broke ground on the pilot garden site located at the Matthaei Botanical Gardens. Those in attendance included Dan Cox, Lily Springsteen, Lauren Beriont, Hannah Heyman, Sarah Schwimmer, Kristen Kiluk, Annie Cronin, along with School of Natural Resources and Environment Campus Farm Master’s Project member’s Jerry Tyrrell, Allyson Green, Liz Dengate and Lindsey MacDonald. The

site was located next to Project Grow's Community Garden and was aided by a \$1,000 grant from the Bank of Ann Arbor's Project Help.

5. First Planting Party at Pilot Garden (May 17, 2012)

With UM students on summer break, those still in the area managed to throw the First Planting Party at the pilot garden on May 17, 2012. Students and some MBG staff spent the day laying fresh compost and preparing the beds for planting. Despite a day of hard work in the sun the group entertained themselves with some rather creative dirt angels!

6. Second Planting Party and Potluck (May 31, 2012)

The crew was back in action May 31, 2012 for the second Planting Party and potluck out at Matthaei Botanical Gardens. Familiar faces Jerry Tyrrell, Allyson Green, Emily Provonsha, Liz Dengate along with nine others showed for the party and potluck. Students spent the day getting their hands dirty planting a collection of tomatoes, herbs, squash, peppers and all sorts of tasty veggies!

7. Taubman College of Architecture and Urban Planning Staff Retreat (June 14, 2012)

June 14, 2012 marked one of the first departmental service events at the farm with the Taubman College of Architecture and Urban Planning Staff Retreat. Initiated by the Taubman staff, roughly twenty TCAUP members were came out to the farm contributing about 40 hours of volunteer work. The day's activities included installing a groundhog fence, staking tomatoes, planting and making signage for the crops.

8. First Annual University of Michigan Sustainable Food Program Harvest Festival Event (October 4th, 2012)

Over 300 students, faculty, staff and community members attended the first annual UMSEFP Campus Farm Harvest Festival on October 4, 2012. People of all ages came out to the farm which boasted a plethora of activities aimed to both introduce and actively engage people in visualizing the future cultivation space. The event featured a cooking demonstration and food from University Unions Catering, most of which was sourced from small local farms within the area. Attendees spent their time playing games, listening to live music from the The Crane Wives, Magdalen Fossum and the Dragon Wagon. In addition to planted that season's garlic crop.

9. Community Service Day; University of Michigan School of Natural Resources and Environment (October, 7, 2012)

First year and returning students from the School of Natural Resources and Environment joined forces for a community service work day at the farm. Campus Farm Master's Project Student Liz Dengate and SNRE students' Diana Portner, Dan Cox, Mariel Borgman, Samantha Miller, Matt Ferris-Smith and Jill Carlson put forth 20 hours of work in the soil. Students spent the day.

10. Transition to Permanent Campus Farm Space (October 8, 2012)

On October 8, 2012, Jerry Tyrrell, Allyson Green, Shannon Zandee and Hannan Rockwell took part in the first official planting in the permanent campus farm space where

the farm currently resides. The students planted garlic cloves in the northeast corner of the quarter acre plot and transplanted a few sage bushes from the pilot garden. First planting in permanent campus farm space (old nursery space, across the fence from Project Grow).

11. Campus Farm Workdays Transition to MBG Greenhouses (November 2, 2012)

The winter blues didn't break the Campus Farm's Workdays momentum after the Matthaei Botanical Gardens generously shared some greenhouse space. Friends of the Campus Farm volunteers spent the night disassembling greenhouse tables, digging out 50 year old dirt and replacing it with fresh soil and compost. The cultivation beds were finally ready February 1, 2013 and the first seeds were started in trays. Just over a week later students came together for the first greenhouse planting party which included greens, radishes, beets and flowers that spelled out UMSFP in the soil.

12. Landscape Architecture Campus Farm Designs (NRE 668; Winter 2013)

School of Natural Resources and Environment Landscape Architecture students in Professor Stan Jone's class, NRE 668 *Site Planning and Design*, were charged with designing the Campus Farm space from concept to detail. Second year Landscape Architecture students looked beyond the snow-covered landscape to envision a blossoming cultivation and educational space. Twelve students produced conceptual designs for the Campus Farm that considered the site's ecology, biological diversity, educational potential, infrastructure and more. Design elements included implementing a natural amphitheatre, outdoor kitchen, moveable raised beds, and an outdoor classroom setting.

13. Permaculture Education at UM (ENVIRON 391; Winter 2013)

Undergraduate students in Mike Shriberg's, Education Director of Graham Institute, ENVIRON 391, *Sustainability & The Campus*, were charged with addressing and exploring real-life ecological, social and economic dimensions of campus sustainability in higher education settings. Working with Graduate Student Instructor, UMSFP Leadership Member and Campus Farm Master's Project student Lindsey MacDonald, a group of students explored the opportunities for Permaculture education and curricula at the University of Michigan. The group was sponsored by Chiwara Permaculture and UMSFP.

14. Ecological Issues Course Collaboration (ENVIRON 201, Winter 2013)

In ENVIRON 201, *Ecological Issues*, Professors Shelie Miller and Paul Webb, and GSI/UMSFP Leadership Team member Liz Dengate encourage students to complete their groups projects at the UM Campus Farm or in collaboration with UMSFP. Information on UMSFP and the farm was included in many course lectures.

15. Campus Farm Master's Project (NRE 701, Winter 2013-Winter 2014)

A group of seven School of Natural Resource and Environment students took on the Master's Project, "Education and Community at the University of Michigan Campus Farm." The group is working on several deliverables including: a Living Learning Laboratory Program and online interface, education signage and materials, a logo and branding strategy

for the Farm and a framework for evaluating the Farm's impacts on the campus and surrounding communities.

16. Ann Arbor Student Food Co. sells Campus Farm Produce (April 9, 2013)

School of Natural Resource and Environment Master's Project students Liz Dengate and Allyson Greene bring fresh greenhouse kale and swiss chard to the Student Food Co. stand for the first time. This marked the first time produce from the Campus Farm would be sold to students. The hope was to assess what it would take to make this a regular process.

17. Planet Blue Ambassador Appreciation Day (May 10, 2013)

May of 2013, University of Michigan's Graham Institute honored their Planet Blue Ambassadors with an Appreciation Day out at the Campus Farm. Planet Blue Ambassadors act as campus leaders in sustainability providing insight and up to date sustainability initiatives on campus as well as modeling socially and environmentally responsible behaviors. Those in attendance helped construct and plant a potato snake on the site. The Ambassadors' also enjoyed a meal prepared by a University Union Chef with much of the food being sourced directly from the farm.

18. First Campus Farm Interns (Summer 2013)

School of Natural Resources and Environment graduate students, Parker Anderson and Meaghan Guckian were hired by UMSFP and the Matthaei Botanical Gardens to serve as the first ever Campus Farm Interns. Parker, a Landscape Architect student, was appointed the Campus Farm Manager, charged with managing the daily operations of the space, design and construction of the cultivation beds, honeybee apiary, raised beds and herb spiral. Meaghan, concentrating in Behavior, Education and Communication, served a two-faceted role with the student group Cultivating Community and the Campus Farm. Together, Meaghan and Parker established the design of the space, coordinated volunteer workdays, hosted the Telluride Program students, and facilitated all planting and harvesting at the site.

19. Telluride Association Summer Program – "Food" (Summer 2013)

A group of extraordinary talented and diverse group of High School Juniors from across the world spent their summer taking an intensive six-week course exploring anything and everything related to *Food*. Roughly 15 students from countries including Turkey, Mali, China, Canada, United States and more ventured to the farm each Friday for a three hour workday and exploration. They spent their time working in the soil and learning about the land, plants, harvest and sustainable growing practices. The field work at the Campus Farm complimented their academic investigation into the socio-cultural, political, historical and economic dimensions of food. The Telluride Students also took part in the first harvest for the Food Gathers, a food rescue and food bank program serving Michigan's Washtenaw County. A total of 203 pounds of fresh produce including kale and swiss chard contributing to a great event. The summer experience culminated in a final dinner prepared by the students with food harvested from the farm that they saw grow from seed and planted themselves. Campus Farm Intern Parker Anderson and 2013 Master's Project student and Farm Intern Meaghan Guckian joined the students for the dinner which was highlighted by stories around each dish.

20. Nature-Based Contemplative Practice (Summer 2013)

School of Music, Theatre and Dance Professor Martha Travers brought 18 of her summer school students out to the Campus Farm on two occasions. The students were studying Nature-Based Contemplative Practice and spent most of their time touring the space with Farm Intern Parker Anderson.

21. Matthaei Botanical Garden and Nichols Arboretum Intern Workday (June 13, 2013)

On June 13, 2013, twenty Matthaei Botanical Garden and Nichols Arboretum Summer Interns spent the morning assisting Farm Interns' Parker Anderson and Meaghan Guckian in the cultivation bed between the greenhouses. The MBGNA interns help mulch the raised bed area and companion planted a number of species including peppers, tomatoes, pumpkins, herbs, squash, beans and corn. The student also helped construct the raised beds that are located at the Campus Farm.

22. Arthur W Brant Memorial Planting (June 15, 2013)

On June 15, 2013 students from the University of Michigan's Native American Student Association and members of the North American Indian Association of Detroit came together at the Campus Farm to celebrate the life and work of Arthur W. Brant. Brant, a Mohawk Indian, served for over 20 years as the president of the North American Indian Association of Detroit and was known for his commitment to the protecting the rights of Native people throughout the Great Lakes Region. For the memorial dedication, attendees planted a variety of native fruit trees, bushes and shrubs including Wild Good Plum trees, Blue Profusion Juneberries, PawPaws, Michigan Pecan and multiple varieties of Gooseberries. This event was in collaboration with the first Master's Project team.

23. Ford Company Employee Workday (June 2013)

Ford Company Employees ventured to the Matthaei Botanical Gardens for a volunteer workday. The employees spent their day with MBG staff in the greenhouses and the Campus Farm Interns touring and working the site. The Ford staff gave an extra hand in the daily maintenance of the cultivation beds, pruning plants and weeding some of the areas.

24. Development Office Service Day (June 2013)

Staff from the Development Office of University of Michigan joined in on the farm work for a service day in June. The staff received a tour from Campus Farm Manager Parker Anderson. Following the tour, about 20 volunteers pitched in to weeding the cultivation beds, harvesting herbs, and tending to the plants.

25. Matthaei Botanical Gardens and Nichols Arboretum Intern Workday (August 1, 2013)

Matthaei Botanical Gardens and Nichols Arboretum Summer Interns returned for a second Campus Farm workday on August 1, 2013. In addition to the twenty interns, Bob Grese, Director of the MBGNA, Theodore Roosevelt Professor of Ecosystem Management, and Landscape Architecture Professor at SNRE also took part in the workday. Much of the morning was spent weeding in the raised bed between greenhouse and up at the cultivation

area. The day was highlighted by the discovery of a tomato horn worm, which ultimately ended in a tasty treat for the MBG coy fish.

26. Sharing Summit (August 9th, 2013)

On August 19, 2013 with support from *Shareable* and in partnership with the University of Michigan Botanical Gardens and Campus Farm, A²Share hosted the inaugural Ann Arbor Sharing Summit. The Summit brought together **over 25 organizations** and 75 individuals with interests and investments in the local sharing economy.

Participants had the opportunity to learn about the community's existing resources, as well as envision what the future of them might look like and collectively brainstorm how to bring about that future. The event kicked off with a tour and volunteering at the UM Campus Farm, to give participants an opportunity to component of resilient, localized communities. The activities then moved indoors, where participants enjoyed an information fair, a potluck, and a farm-to-table demo by University Unions Chef Paul Smith. Finally, the summit culminated with a series of breakout sessions on various domains and considerations of sharing.

The feedback to the organizers both directly and from surveys was overwhelmingly positive. A recurring theme was that participants were excited about the new networking and collaboration the event allowed for, and hoped for more (and frequent) opportunities going forward.

27. Law Student Orientation (August 29, 2013)

The Campus Farm welcomed extra hands from over 30 incoming University of Michigan Law School students. The future lawyers spent the day touring the space, establishing new friendships and were essential in preparing the cultivation space. With their help, the farm space was transformed into six cultivation beds each prepared with a different combination of mulch, straw, newspaper and compost.

28. Service Day; University of Michigan School of Natural Resources and Environment (August 26, 2013)

Forty incoming SNRE students volunteered their morning to help harvest 356 pounds of produce for Food Gatherers as part of the inaugural School of Natural Resources and Environment incoming students' service day. The new first year graduate students collected produce for the food rescue and food bank organization, Food Gatherers. A local organization dedicated to capturing and providing fresh produce for those in Washtenaw County in need. In conjunction with harvesting, these students oriented to the campus farm with a tour by Cultivating Community / Farm Intern, Meaghan Guckian, and Farm intern, Parker Anderson. The event was highlighted by a visit from the University of Michigan's News Service which interviewed students about their experience at the Campus Farm.

29. Welcome Week (September 2, 2013)

In order to introduce new UM students to the Farm and Botanical Gardens, during welcome week the farm hosted an open house. The goals of the event were to let students explore the farm space and to connect with food focused student groups on campus and the Ann Arbor

community. Students discovered what UM students are doing to work towards having greener, tastier, and healthier food in our community by interacting with UMSFP groups and several local community food advocates such as the Ann Arbor Farmers market, the Fairfood Network, and PlanetBlue. At this carnival style event 123 incoming undergraduate students, graduate students, and community members picked their own vegetables, explored food related and sustainability courses, tasted a dorm cooking demonstration, and picked herbs to dry. Attendees came from 24 disciplines ranging from environmental studies to engineering. This event was the majority of attendees, ninety two percent of participants' first time at the campus farm . This gateway event served to grow the community at the Campus Farm and connect students with food or sustainability interests.

30. MFarmers Markets (September 12 & 26, October 10, 2013)

For the first time ever, produce from the Campus Farm was sold to students, faculty, staff, and other visitors to the MFarmers Markets located on the steps of the University Union. A total of \$416 of produce was sold ranging from kale, swiss chard, herbs and much more. The Campus Farm's produce is now a continued presence at the MFarmers Markets. Since the inaugural sale, volunteers from student groups' Friends of the Campus Farm and the Student Food Co established a regular Friday morning harvest regimen.

31. 2nd Annual UMSFP Harvest Festival (October 2, 2013)

After a huge success in 2012, the University of Michigan's Sustainable Farm Program welcomed visitor's back to the campus farm for the 2nd annual Harvest Festival on October 2, 2013. Over 300 students, faculty, staff and community members made it out for the event. Of the people who signed in for the event, there were 31 graduate students, 41 undergraduate students, 10 community members and 10 faculty and staff members. At least 18 different departments were represented. Once again, the event feature food from the University Unions Catering and Beet Box, a local food cart dedicated to promoting local health organizations and providing healthy food. Harvest Festival attendees also enjoyed music from Magdalen Fossum, Wire in the Wood and Red Tail Ring.

32. Association for the Advancement of Sustainability in Higher Education (Nashville, TN; October 6th-9th, 2013)

In October, the "Education and Community at the UM Campus Farm" Master's project team gave a presentation titled "A Rooted University: Growing Resiliency, Community, and Engaged Food Citizens." The theme of the AASHE 2013 conference, which took place in Nashville, TN, was "Resiliency and Adaptation." As North America's largest venue for sustainability in higher education, the conference drew around 2,000 participants. The team explained how a Campus Farm can serve as a living learning laboratory, offering opportunities to conduct small experiments and derive varied place-based solutions to environmental and social issues. Also, the mental well-being benefits of the farm were noted. As an accessible greenspace, the Campus Farm fosters a restorative connection with nature, and offsets the typical student experience of time spent indoors, which can make them more vulnerable to stress and mental illness. The farm user's experience is marked by exploration and problem solving, meaningful involvement, and participatory transitioning in response to global environmental challenges.

33. School of Natural Resources and Environment Staff Workday (October 26, 2013)

As part of a SNRE staff service day, three staff members braved stormy weather to plant garlic, participate in a tour of the campus farm, and harvest kale to take home.

34. Circle K/Program in the Environment Club Service Day (November 16, 2013)

Circle K International at the University of Michigan and Program in the Environment Club came out to the Campus Farm for a Service Day on November 16, 2013. A total of 15 students made the final preparation for the Spring 2014 growing season and also mulched the peonies located on the farm property.

35. Permaculture Education - (Honors Thesis; Fall 2013)

Permaculture Design Team co-founder Madeline Dunn completed her honor's thesis on Permaculture Education at the University of Michigan in the Fall of 2013. According to Madeline, "My vision is for students at the University of Michigan to have a consistent set of affordable opportunities to engage in permaculture education and research within the education system. On a larger scale, this thesis serves as advocacy for an increase in open source education and the need for institutionalized permaculture initiative at this university."

36. Sustainable Food System Design (ART-DES 500; Fall 2013)

Under the direction of Professor Joe Trumpey, students in ART-DES 500, *Sustainable Food System Design*, utilized the farm space as a platform for a number of course projects. On September, 13 2013, eighteen students from the class came out to the farm for a fruit tree planting, which lines the parameter of the new deer fence. In late November, the students presented their design layouts to UMSFP and the Campus Farm which included a designs for a food forest, shed renovation and an onsite washing station. The term culminated with a final project and presentation of a Honeybee Sanctuary to the UMBees student organization.

37. Engineers Making a Difference (ENGR 100-800; Fall 2013)

In *Engineers Making A Difference*, Professor Lorelle Meadows took students to the campus farm to gain a deeper understanding and empathy for what it takes to grow food. On October 4, 2013 the sixty engineering students toured the farm and dug up potatoes over the course of five hours. The trip would serve as the foundation for the students' semester-long project designing an urban agriculture solution for a community client. Preliminary designs were presented to the University of Michigan's Sustainable Farm Program on October 25, 2013. Final designs were then showcased at an end of the semester design expo on December 7, 2013. A handful of the Engineering 100 student designs were donated to the UM Campus Farm.

38. Community High School, Detroit, MI Collaboration (ENGR 100; Fall 2013)

Eleven Community High School students from Detroit, MI came out to the farm for a tour and volunteer workday. Engineering 100 Professor Lorelle Meadows, who has fostered a partnership with the high school, led the collaboration. University of Michigan Engineering 100 students worked with Community High students to come up with urban agriculture design solutions for their school campus in Detroit. Both UM students and Community High

School students showcased their designs at an end of the semester design expo (December 7, 2013); one of the Community High School student designs was donated to the UM Campus Farm.

39. Ecological Issues Course Workday (ENV 201; Fall 2013)

Professor Jacqueline Courteau and six students from ENV 201, *Ecological Issues*, lended a hand to the campus farm. The students spent 5 hours at the farm getting their hands dirty in the soil. The students then presented to their classmates about their time at the farm and lessons learned.

40. Small Experiment in Behavior & Environment (ENVIRON 360/PSYCH 384; Fall 2013)

Professor Ray De Young's ENVIRO 360 course, *Behavior and Environment*, which explores human behavior through interactions with built and natural environments, provided students with an opportunity to see how environment's effect peoples' mental and physical well-being. Multiple students elected to volunteer and engage in meaningful action at the Campus Farm for their small experiment project. After volunteering for a workday, students analyzed their experience through the lens of course principles, particularly the Reasonable Person Model framework, which emphasizes how nature and other environments, can both restore attention and bring out the best in people.

41. Ecological Restoration Course Workday (ENVIRON 421; Fall 2013)

Nine students from ENV 421, *Ecological Restoration*, took a field trip to the Campus Farm. Four of these students envisioned and designed a food forest for a course project. The final designs were presented to UMSFP and Campus Farm on December 5, 2013.

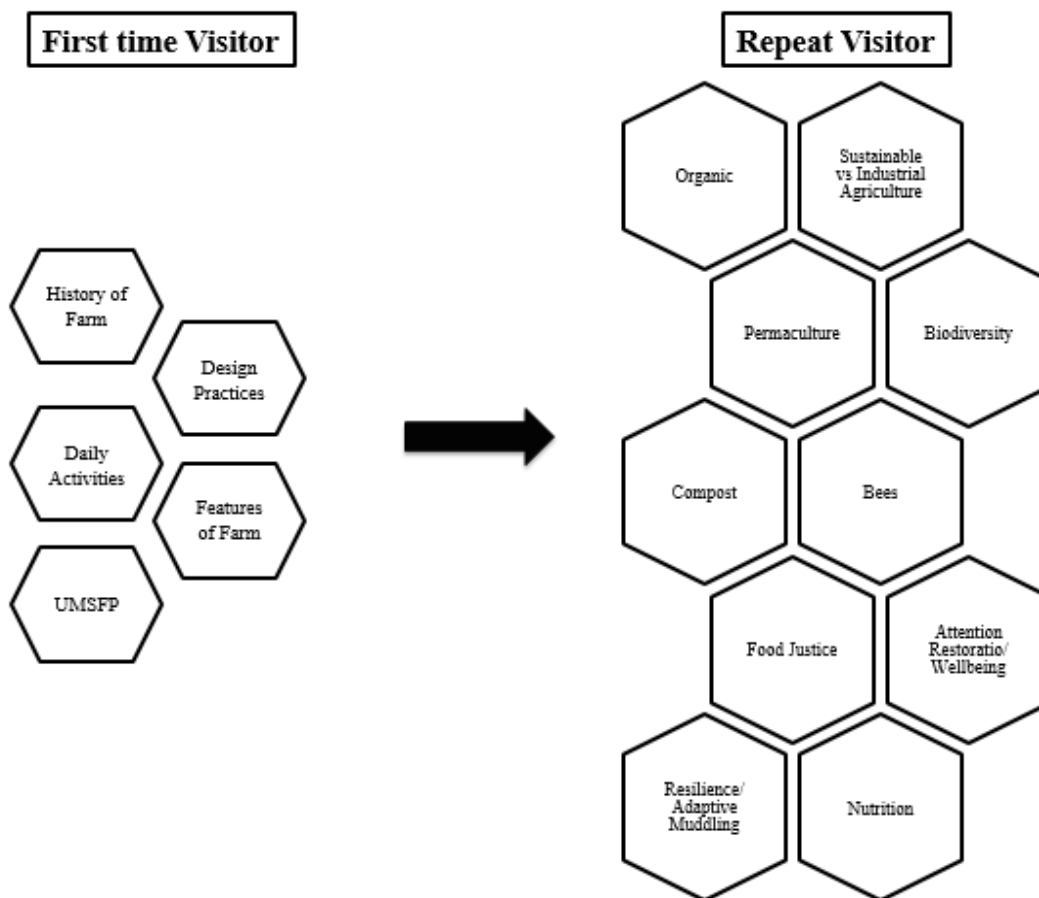
42. Campus Farm Lesson Planning (ENVIRON 382; Winter 2014)

Students in Professor Michaela Zint's ENVIRON 382, *Introduction to Environmental Education for Sustainability*, are charged with observing a lesson, creating a lesson plan and teaching to a targeted audience. Four students elected to use the Campus Farm as the platform for their lesson plan, which focused on the use of pesticides in agriculture. The four students taught *Friends of the Campus Farm* volunteers about both conventional farming methods and organic practices through the lens of pesticide use.

43. Composting at the Campus Farm (ENVIRON 391; Winter 2014)

Appendix I: Proposed Educational Lessons

Utilizing our project team's expertise conducting Campus Farm educational programming such as Meaghan Guckian, a former cultivating community intern, and Mariel Borgman, Academic Ambassador 2013-2014 on the UMSFP leadership board we anticipated knowledge gaps. The foremost need is for a lesson to orient all audiences to the Campus Farm and sustainable agriculture. From this initial lesson, our additional proposed lessons that build off this first lesson focused on the greatest knowledge gaps for UM students, faculty, and staff's in terms of sustainable agriculture. These topics these topics below are the proposed initial lesson topics for the Higher Education audience:



We propose that these lessons with the exception of the first time visitor module be developed so as to be accessible and useable beyond the Campus Farm.

Appendix J: Rationale for the Higher Education Audience

The higher education audience was determined to be our primary focus due to a number of factors that included established K-12 sustainable food and agriculture opportunities already extant within the greater Ann Arbor community. Examples of such organizations include Agrarian Adventure and Growing Hope (Growing Hope, 2014; Agrarian Adventure, 2014). Both of which offer resources ranging from food production at schools, bringing food producers into the classroom, sustainable food curricula, sustainable agriculture after school programming, and an established network between food producers and the school system. Even further, demonstration sustainable agriculture farms specifically designed for experiential and hands on learning are already available and being utilized by the K-12 age groups including the Farm at St. Joe's Hospital and Cornman farm (St. Joe's Hospital, 2014; Cornman Farm, 2014). Due to the abundance of sustainable agriculture curricula and educational opportunities, our master's project decided to address the higher education audience.

Appendix K: Elementary and Secondary Education Audience

With current sustainable agriculture curricula present in Ann Arbor, there is still an interest in the Campus Farm exhibited by a local 2nd-3rd grade Educator wanting to use the space to discuss permaculture concepts, ethics and, connect to the UMSFP member group/Permaculture design team. Future development of K-12 curricula and programming would be best benefitted from a collaborative approach with resources already present within the greater Ann Arbor and UM community.

Future K-12 student engagement at the farm should be focused on integrating and utilizing the research and activities at the farm conducted by UM students, faculty, and staff. For example, Lorelle Meadows' engineering students in the past have constructed water catchment structures, using these structures at the farm to both provide water at the farm, could be utilized in a lesson for K-12 on a range of topics including water conservation, engineering, biodiversity, sustainability and so forth that could transcend sustainable agriculture. Therefore, using research and projects at the space has the potential to extend UM's outreach in the Ann Arbor community, while also fulfilling a need within the K-12 system. This could potentially be an opportunity for K-12 students to engage in current research from a multiple disciplines as states begin to adopt Next Generation Science Standards (Next Generation Science Standards, 2014). These standards emphasize integrating real-life experiences of how science and engineering are practiced in the professional world. This is a major pedagogical shift in K-12 education, which will require re-alignment of curricula and the need for opportunities to engage with researchers and experience real-life research(NGSS, 2014).

With the campus farm's commitment to being a collaborative educational space, the research and projects both past and currently being conducted, and the need for K-12 educators and students can engage with current research highlights an area for a future Master's project or UMSFP to address.

Appendix L: Campus Farm Docent Program

Due to the limited capacity of the farm intern, program manager, and UMSFP to orient groups to the farm, a docent program should be developed drawing from other campus farms such as Yale University's Farm that has 50 volunteers available from the university and community trained to deliver tours to first time visitors orienting them to their farm (Yale Sustainable Food Project, 2014). Developers of the docent program should collaborate with the Teaching and Inspiring Environmental Stewardship program (TIES), that orients a range of audiences to the School of Natural Resources and Environment's Dana building on UM's central campus (Teaching and Inspiring Environmental Stewardship Program, 2014). The TIES program is designed to promote sustainability and environmentally responsible behavior by utilizing the LEED gold certified building as an educational space (TIES, 2014). The TIES program docents should be sought out to utilize their expertise in the development of the docent programming. Docents could be recruited from the UMSFP member groups, these groups have established networks and expressed interest in sustainable agriculture. The docent program should only be developed in the future after the first lesson is developed and pilot tested with UMSFP member groups such as friends of the campus farm.

Appendix M: Proposal for ENVIRON 391: Sustainability and the Campus

Project: Engaging the Community at the UM Campus Farm

Sponsor: Dr. Ray DeYoung, Ryan Gourley & UM Sustainable Food Program

The University of Michigan Campus Farm provides a unique destination for students, faculty, and staff interested in sustainable food to gather, work, learn, and build community. The benefits of participating at the campus farm may also be multiplicative, encouraging further engagement in other sustainability initiatives. In order to provide the most valuable opportunities for engagement, research is needed into what the campus community wants out of the farm, and what they hope to put in. This project has several objectives:

1. Gauge awareness and perception of the Farm across campus
2. Seek community goals/vision for the Farm
3. Understand motivations for visiting and volunteering at the Farm
4. Determine outcomes of participation at the Farm
5. Make recommendations and design outreach based on conclusions from 1-4

Objectives 1-4 will comprise Phase I and primarily involve skill building in survey research, interview, and literature review. Students will begin by piloting the survey, then move into data collection and analysis, and conclude with recommendations for Phase II.

Objective 5 would comprise Phase II and may include opportunities for designing a marketing campaign including skill building in social marketing, guerilla marketing, graphic design, video production, and/or social media.

Expected goal/outcome:

Students will develop skills in research to enhance the ability of the Campus Farm to provide meaningful engagement in sustainable agriculture and education.

Appendix N: The Campus Farm Survey

The objective of this survey is to find out how you engage with the UM Campus Farm, and to get your input on past performance and future directions with regards to programming. Thank you for providing your feedback! All responses are confidential. Once the data is analyzed, we will share aggregated results with you at www.umsfp.com!

How familiar are you with the following topics?

| | Not at all familiar | | Somewhat familiar | | Extremely familiar |
|------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| The UM Campus Farm purpose/mission | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The UM Campus Farm activities/projects | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The UM Campus Farm operations/logistics | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sustainable food systems | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ways a person can participate in a sustainable food system | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

What is your current level of interest in issues pertaining to sustainable food systems, as defined below?

"The American Public Health Association defines a sustainable food system as one that provides healthy food to meet current food needs while maintaining healthy ecosystems that can also provide food for generations to come with minimal negative impact to the environment. A sustainable food system also encourages local production and distribution infrastructures and makes nutritious food available, accessible, and affordable to all. Further, it is humane and just, protecting farmers and other workers, consumers, and communities." -- APHA, 2007

| | | | | | | | |
|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|----------------------|-----------------------|
| Not at all interested | <input type="radio"/> | <input type="radio"/> | Somewhat interested | <input type="radio"/> | <input type="radio"/> | Extremely interested | <input type="radio"/> |
|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|----------------------|-----------------------|

How many times have you attended the following events at the UM Campus Farm?

| | Never | Once | 2-5 times | Often |
|---------------------------|-------|------|-----------|-------|
| Volunteer Work Day (e.g., | | | | |

| | | | | |
|--------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| planting, harvesting, building, etc.) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Skill-building Workshop (e.g., composting, seed starting) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Educational Tour | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Community Gathering (e.g., Harvest Festival, Welcome Week) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other: <input style="width: 150px; height: 15px;" type="text"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Name of event you attended most recently:

Thinking of the most recent Campus Farm event you attended, what effect did it have on your interest in sustainable food systems?

| | | | | |
|--------------------------|-----------------------|---------------------------------------------|-----------------------|--------------------------|
| Decreased it quite a bit | | Neither increased nor decreased my interest | | Increased it quite a bit |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

What has motivated you to attend events at the UM Campus Farm?

My motivation has been to:

| | Strongly disagree | | Neither agree nor disagree | | Strongly agree |
|--------------------------------------------------------|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| learn more about sustainable food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| acquire new skills | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| meet new people | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| take a break from my normal routine | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| do something meaningful that is in line with my values | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| | | | | | |
|--------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| do something with my friends and/or family | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| support the Campus Farm | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| spend time working outdoors | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| have access to fresh produce | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other: <input type="text"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

How satisfied are you with the degree to which you've been able to do the following at UM Campus Farm events?

| | Not at all satisfied | | Moderately satisfied | | Extremely satisfied |
|--------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| learn more about sustainable food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| acquire new skills | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| meet new people | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| take a break from my normal routine | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| do something meaningful that is in line with my values | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| do something with my friends and/or family | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| support the Campus Farm | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| spend time working outdoors | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| have access to fresh produce | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other: <input type="text"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Overall, how would you rate the quality of your most recent experience at the Campus Farm?

| | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Poor | Fair | Good | Very good | Excellent |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Think about what you would like your life to be like in the future. Which of the following will be important to you?

| | Not a priority | | Medium priority | | Essential priority |
|----------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Buying sustainable food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Growing your own food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Attending more sustainable food community programs/events | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Buying food from your local farmers market | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Belonging to a food co-op | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Participating in a CSA (community-supported agriculture) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Financially contributing to sustainable food organizations or sustainable farming operations | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Volunteering for sustainable food organizations or sustainable farming operations | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Eating at restaurants that focus on sustainable food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Taking steps to understand how and/or where your food comes from | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Selecting food products with minimal packaging to limit waste | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

What is the likelihood you would participate in the following UM groups at some point in the future?

| | N/A - I will be leaving too soon to get involved | Extremely unlikely | | Neutral | | Extremely likely | Currently participate |
|----------------------------|--------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Ann Arbor Student Food Co. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| | | | | | | | |
|-----------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Consortium on Agriculture, Food and the Environment | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Friends of the Campus Farm | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Outdoor Adventures Garden | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Cultivating Community | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| UM Bees | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Michigan Sustainable Foods Initiative | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Food Recovery Network - UM Chapter | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Student Advocates for Nutrition | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Permaculture Design Team | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| UM Sustainable Food Program (UMSFP) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other <input type="text"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

What is the likelihood you would elect to enroll in the following educational offerings?

| | N/A - I will be leaving too soon to enroll | Extremely unlikely | Neutral | Extremely likely | Already have |
|-----------------------------------------------|--------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Semester long course on sustainable food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Half-semester long course on sustainable food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Weekend course on sustainable food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| A certificate program on sustainable food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| A course held at the Campus Farm | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| A workshop or seminar held at the Campus Farm | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

How would you rate the Campus Farm's efforts to do the following?

| | N/A - I don't know enough to evaluate | Poor | Fair | Good | Very good | Excellent |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Facilitate formal and informal education on sustainable food topics | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Build "living laboratories" on campus that create diverse, interdisciplinary opportunities for independent research and course projects | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Provide experiential education and service-learning opportunities that promote teamwork and leadership | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Mentor volunteers and interns to promote personal and professional growth | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Strengthen communities through collaborative programming and outreach | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Connect people from diverse backgrounds through collaborative and creative workshops, seminars, and projects that explore pertinent issues | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Create models for institutions and communities through the transparent documentation of successes and failures of methods, programs, and curricula | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Grow sustainable food that supports the well-being of people and the environment at UM and beyond | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Serve as a visible commitment to healthy people and a healthy environment | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| | | | | | | |
|--------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Showcase safe and ethical practices | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Support the UM's goal of sourcing 20% local and sustainable food by 2025 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

What would you like to see the UM Campus Farm focus on? Your vision helps shape future programming!

| | Not a priority | | Medium priority | | Essential priority |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Work to have food offered in campus dining halls and markets | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sell food at local farmers markets | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Donate food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Offer a CSA or buying club to students and/or community members | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sell food baskets to be bought for students from family or friends | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Focus on outreach across the University to increase the number of students at the Campus Farm from different backgrounds and concentrations | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Focus on outreach to the wider non-UM community to encourage outside ideas and collaborations | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Adopt more sustainable agricultural practices | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Offer more educational opportunities on sustainable food systems | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Other suggestions for the Campus Farm:

Demographics

What forms of communication do you prefer to use for learning about Campus Farm events and news? Please select all that apply.

- UMSFP.com
- UMSFP newsletter
- Facebook
- Twitter
- Instagram
- Word-of-mouth
- Other

Gender:

- Male
- Female
- Other
- Choose not to identify

Age:

Ethnicity:

- White
-

- Hispanic or Latino
- Black or African American
- Native American or American Indian
- Asian / Pacific Islander
- Other

University Affiliation:

- Undergraduate student
- Graduate student
- Staff
- Faculty
- Alumni
- Other
- Not Affiliated

What is your area of study? Select all that apply.

- Humanities
- Social Sciences
- Natural Sciences
- Health Sciences
- Business
- Engineering
- Other
- Undecided

Appendix O: Invitations to Survey

Read below for jobs, news, and tasty information!

Is this email not displaying correctly?
[View it in your browser.](#)



 [Be our Friend! Ok?](#)

 [Forward to a Friend](#)

Upcoming Events

Good Food Potluck & Film (Su @ 5-9pm)

HomeGrown Local Food Summit (M, 3/31 @ 7:30-4pm)

MSFI: Weekly Meeting (Tu @ 7pm)

Greetings Lucky Ducks!

We love writing newsletters so much, that we just had to send one more out today!

Please click [here](#) to take a brief survey about the UM Campus Farm. The goal of the survey is to get a better idea of people's experiences and expectations at the farm, which will be used to inform future programming. It's short, completely anonymous -- and if you take it before Monday, April 7th, you'll be entered to win a UMSFP T-Shirt!

Much obliged!
UMSFP

Read below for jobs, news, and tasty information!

Is this email not displaying correctly?
[View it in your browser.](#)



 [Be our Friend! Ok?](#)

 [Forward to a Friend](#)

Upcoming Events

MSFI: Weekly Meeting (Tu @ 7pm)

Greetings Vegetable Lovers!

Do you want to win a "free" UMSFP t-shirt? Of course you do, silly...click [here](#) to take a brief UM Campus Farm survey and you'll have a chance at winning UMSFP's classic "Kale to the Victors" t-shirt. Help us improve student experiences at the farm while spiffing up your wardrobe!

 **University of Michigan Sustainable Food Program** shared a link.
March 30

https://umich.qualtrics.com/SE/?SID=SV_cw47URKrggfSLf7

Hi all! Please take this brief survey to tell us your experiences at the UM Campus Farm, which will be used to inform future programming! It's short, completely anonymous -- and if you take it before Monday, April 7th, you'll be entered to win a UMSFP T-Shirt...for FREE (yesss!)

UM Campus Farm Survey
umich.qualtrics.com

University of Michigan, Campus Farm, UMSFP

 **University of Michigan Sustainable Food Program** shared a link.
April 6

Help us improve the UM Campus Farm and your wardrobe by taking this survey! You'll be entered to win UMSFP's classic "Kale to the Victors" t-shirt 😊

https://umich.qualtrics.com/SE/?SID=SV_cw47URKrggfSLf7

UM Campus Farm Survey
umich.qualtrics.com

University of Michigan, Campus Farm, UMSFP



UMSFP
@UMCampusFarm



Following

Help the @UMCampusFarm grow -- take our 2014 Survey! umsfp.com/index.php/home...
@umich @SNRE @UMPlanetBlue @UmichStudents

← Reply ↻ Retweet ★ Favorite ... More

12:11 PM - 7 Apr 2014



University of Michigan Sustainable Food Program

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- RESOURCES
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Subscribe to our Weekly News

Help the Campus Farm Grow: Take Our Survey!

Published on Monday, 07 April 2014 17:04



Do you want to help the Campus Farm grow? Do you want to win a free "Kale to the Victors" t-shirt? If yes, then please take our survey. Your feedback helps shape future programming!

You can take the survey here: [Campus Farm Survey](#)

Hurry -- the opportunity to win a free t-shirt will end at noon on Thursday (April 10)!

Giving

The University of Michigan Sustainable Food Program relies on gifts from donors to help students grow and thrive through education and leadership training. Consider giving a gift today.

Login

User Name

Password

Remember Me

[Log in](#)

- [Forgot your password?](#)
- [Forgot your username?](#)
- [Create an account](#)

Appendix P: Capstone Presentation

A Rooted University: Growing Resiliency, Community, and Engaged Food Citizens at the UM Campus Farm



Student Team

Mariel Borgman
Dana Burnette
Sara Cole
Ryan Gourley
Meaghan Guckian
Meghan Jacokes
Stephanie Smith

Faculty Advisor

Raymond De Young

Co-Advisor

Robert Grese

UROP Student

Emily Laske

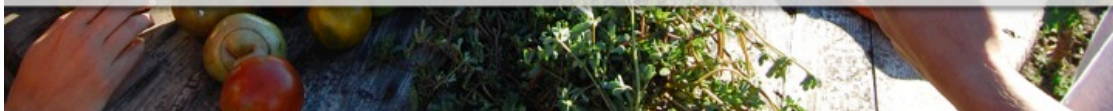
Project Partners

University of Michigan
Sustainable Food Program
(UMSFP)

Matthaei Botanical Gardens



The Campus Farm



Project Components

1. Living Learning Laboratory
2. Signage & Branding
3. Assessment & Evaluation

1. Living Learning Lab

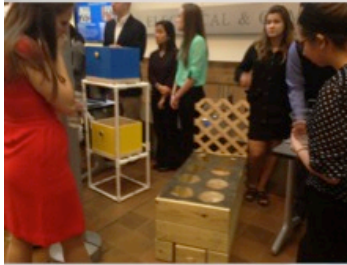
Living learning laboratories are broadly defined as a given place where problem-based teaching, research, and applied work combine to develop actionable solutions that make that place more sustainable.

(Portland State University, 2014)

1. Living Learning Lab

800 students engaged

10 University courses



WELCOME WEEK at the CAMPUS FARM

PICK-YOUR-OWN PRODUCE
MEET LOCAL FOOD ORGANIZATIONS
TOUR MATTHAEI BOTANICAL GARDENS
LEARN ABOUT SUSTAINABLE FOOD COURSES

M-BUSES FROM CENTRAL CAMPUS TRANSIT STATION TO FARM RUNNING 12:45-4:15 EVERY 30 MINUTES

MONDAY, SEPTEMBER 2nd • 1 TO 4 PM • MATTHAEI BOTANICAL GARDENS



40 student projects

600 hours of course contact



University of Michigan Sustainable Food Program

HOME PROGRAM MEMBERS **GET INVOLVED** RESOURCES ABOUT CALENDAR GIVING



Main Menu

LIVING LEARNING LAB

- Evaluation Criteria
- Application
- Past Projects
- Project Matching Tool
- Funding

PROGRAM

MEMBERS

GET INVOLVED

RESOURCES

ABOUT

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UMSFP Living Learning Laboratory Program

What is a living learning laboratory?

A Living Learning Lab is a space on campus designated as a testing ground for innovation, behavioral entrepreneurship, and interactive place-based learning. It's a place where students, faculty, staff, and community members engage in problem-solving to explore some of the most pressing ecological, environmental, and social issues of our times in a small-scale, participatory setting. Living learning lab projects foster sustainable food citizenship by offering hands-on, experiential learning opportunities to grow not only food, but leadership, conversations, and collaboration...

What kind of activities fall under the living learning laboratory program scope?

- Course collaborations (ex. presentations, tours, projects)
 - Academic research
 - Group volunteer events
 - Student organization events or projects
 - Art, engineering, or architectural installations
 - Community events
 - Farm and garden tours
- Not sure if your activity is a good fit? [Contact us!](#)

APPLY NOW!

Giving

The University of Michigan Sustainable Food Program relies on gifts from donors to help students grow and thrive through education and leadership training. Consider giving a gift today.

Login

User Name

Password

1. Living Learning Lab



2. Signage & Branding

Need

- Infrastructure to orient users to growing practices
- Make off campus location more accessible

Goals

- Increase ease of navigation and farm interaction
- Maps, interpretive and directional signage, a logo, and branding strategy

Tools

- Small experiment framework
- Feedback and stakeholder engagement

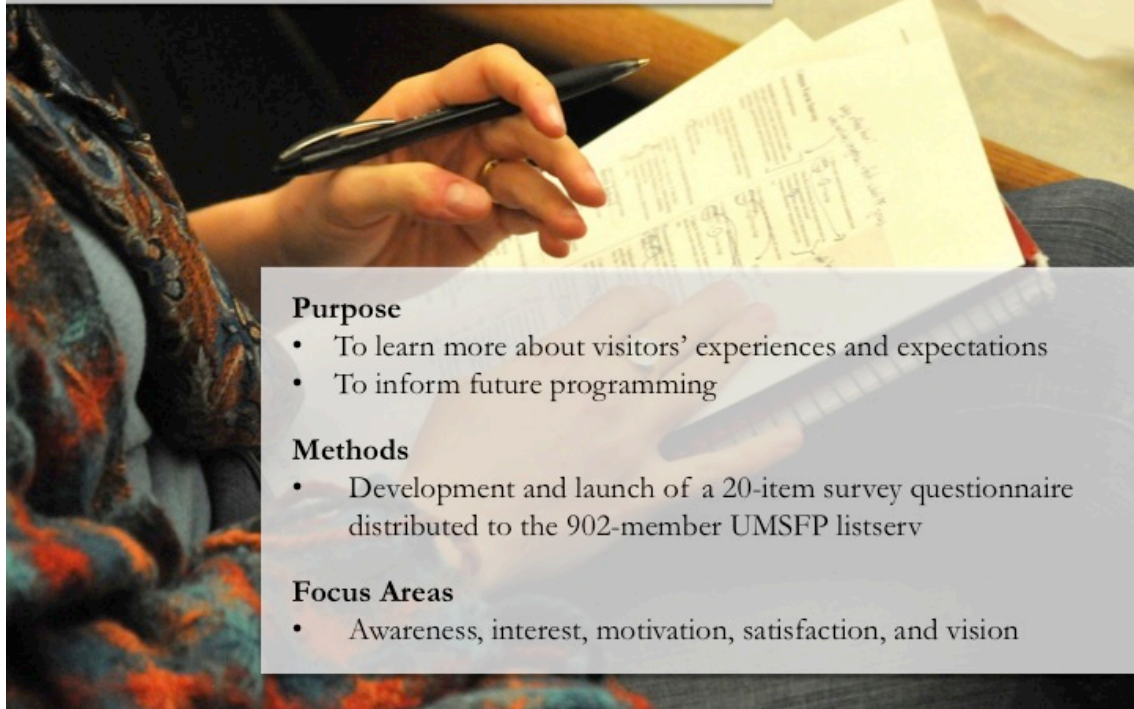
2. Signage & Branding



2. Signage & Branding



3. Assessment & Evaluation



Purpose

- To learn more about visitors' experiences and expectations
- To inform future programming

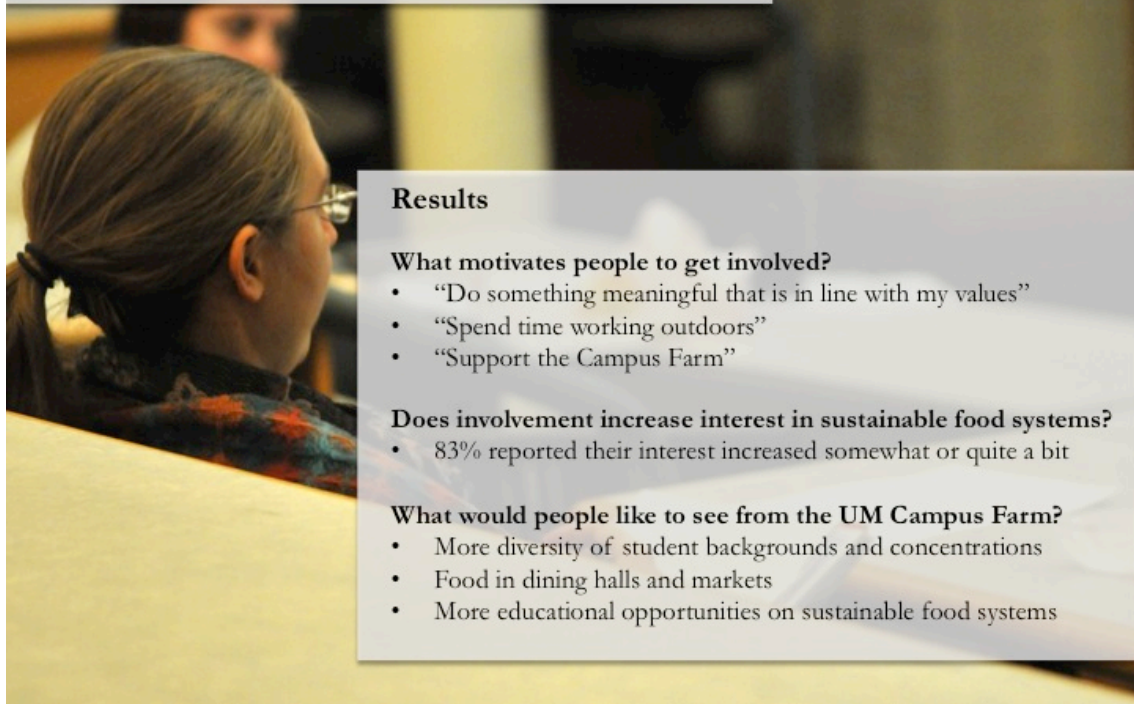
Methods

- Development and launch of a 20-item survey questionnaire distributed to the 902-member UMSFP listserv

Focus Areas

- Awareness, interest, motivation, satisfaction, and vision

3. Assessment & Evaluation



Results

What motivates people to get involved?

- "Do something meaningful that is in line with my values"
- "Spend time working outdoors"
- "Support the Campus Farm"

Does involvement increase interest in sustainable food systems?

- 83% reported their interest increased somewhat or quite a bit

What would people like to see from the UM Campus Farm?

- More diversity of student backgrounds and concentrations
- Food in dining halls and markets
- More educational opportunities on sustainable food systems

3. Assessment & Evaluation



Help the Campus Farm Grow: Take Our Survey!

Published on Monday, 07 April 2014 17:04



Do you want to help the Campus Farm grow? Do you want to win a free "Kale to the Victors" t-shirt? If yes, then please take our survey. Your feedback helps shape future programming!

You can take the survey here: [Campus Farm Survey](#)

bit.ly/campusfarmsurvey

Future Directions



1. Living Learning Laboratory

- Educational modules
- Docent programs

2. Signage & Branding

- Adaptive signage
- Marketing plan

3. Assessment & Evaluation

- Share results
- Continuation plan

Acknowledgements



Dr. Raymond De Young and Dr. Robert Grese
Shamik Ganguly, Emily Laske, Sarah Schwimmer, and Rachel Visscher
Liz Dengate, Allyson Green, Lindsay MacDonald, and Jerry Tyrrell
Staff at Matthaei Botanical Gardens & Nichols Arboretum
UMSFP Leadership Team and Member Groups
School of Natural Resources & Environment
Center for a New American Dream and ioby
Undergraduate Research Opportunity Program

Questions?






Appendix Q: Qualtrics Report

1. How familiar are you with the following topics?

| # | Question | Not at all familiar | | Somewhat familiar | | Extremely familiar | Total Responses | Mean |
|---|------------------------------------------------------------|---------------------|----|-------------------|----|--------------------|-----------------|------|
| 1 | The UM Campus Farm purpose/mission | 17 | 12 | 51 | 20 | 18 | 118 | 3.08 |
| 2 | The UM Campus Farm activities/projects | 16 | 20 | 40 | 28 | 14 | 118 | 3.03 |
| 3 | The UM Campus Farm operations/logistics | 33 | 33 | 37 | 7 | 8 | 118 | 2.36 |
| 4 | Sustainable food systems | 13 | 9 | 28 | 41 | 27 | 118 | 3.51 |
| 5 | Ways a person can participate in a sustainable food system | 12 | 12 | 28 | 41 | 25 | 118 | 3.47 |

| Statistic | The UM Campus Farm purpose/mission | The UM Campus Farm activities/projects | The UM Campus Farm operations/logistics | Sustainable food systems | Ways a person can participate in a sustainable food system |
|--------------------|------------------------------------|----------------------------------------|-----------------------------------------|--------------------------|------------------------------------------------------------|
| Min Value | 1 | 1 | 1 | 1 | 1 |
| Max Value | 5 | 5 | 5 | 5 | 5 |
| Mean | 3.08 | 3.03 | 2.36 | 3.51 | 3.47 |
| Variance | 1.46 | 1.43 | 1.33 | 1.53 | 1.50 |
| Standard Deviation | 1.21 | 1.20 | 1.15 | 1.24 | 1.22 |
| Total Responses | 118 | 118 | 118 | 118 | 118 |

2. What is your current level of interest in issues pertaining to sustainable food systems, as defined below? "The American Public Health Association defines a sustainable food system as one that provides healthy food to meet current food needs while maintaining healthy ecosystems that can also provide food for generations to come with minimal negative impact to the environment. A sustainable food system also encourages local production and distribution infrastructures and makes nutritious food available, accessible, and affordable to all. Further, it is humane and just, protecting farmers and other workers, consumers, and communities." -- APHA, 2007

| # | Answer | Bar | Response | % |
|---|-----------------------|-------------------------------------------------------------------------------------|----------|-----|
| 1 | Not at all interested | | 0 | 0% |
| 2 | | | 0 | 0% |
| 3 | Somewhat interested |  | 16 | 14% |
| 4 | |  | 34 | 29% |
| 5 | Extremely interested |  | 67 | 57% |
| | Total | | 117 | |

| Statistic | Value |
|--------------------|-------|
| Min Value | 3 |
| Max Value | 5 |
| Mean | 4.44 |
| Variance | 0.52 |
| Standard Deviation | 0.72 |
| Total Responses | 117 |

3. How many times have you attended the following events at the UM Campus Farm?

| # | Question | Never | Once | 2-5 times | Often | Total Responses | Mean |
|---|-----------------------------------------------------------------|-------|------|-----------|-------|-----------------|------|
| 1 | Volunteer Work Day (e.g., planting, harvesting, building, etc.) | 73 | 7 | 19 | 18 | 117 | 1.85 |
| 2 | Skill-building Workshop (e.g., composting, seed starting) | 103 | 7 | 6 | 1 | 117 | 1.19 |
| 3 | Educational Tour | 82 | 29 | 4 | 2 | 117 | 1.37 |
| 4 | Community Gathering (e.g., Harvest Festival, Welcome Week) | 67 | 26 | 19 | 5 | 117 | 1.68 |
| 5 | Other: | 64 | 2 | 1 | 5 | 72 | 1.26 |

| Other: |
|--------------------------------------------------------------------------------------------------------------------------------|
| Bot Gardens and a Lil' tour |
| Harvesting for Student Food Co. |
| Class project making a behavior change intervention that could be implemented at the farm for "Psychology of Env. Stewardship" |
| UMBees apiary |
| fcf outreach meetings |
| just visit to view |
| leadership meetings |
| bike tour to farm |

| Statistic | Volunteer Work Day (e.g., planting, harvesting, building, etc.) | Skill-building Workshop (e.g., composting, seed starting) | Educational Tour | Community Gathering (e.g., Harvest Festival, Welcome Week) | Other: |
|--------------------|-----------------------------------------------------------------|-----------------------------------------------------------|------------------|------------------------------------------------------------|--------|
| Min Value | 1 | 1 | 1 | 1 | 1 |
| Max Value | 4 | 4 | 4 | 4 | 4 |
| Mean | 1.85 | 1.19 | 1.37 | 1.68 | 1.26 |
| Variance | 1.39 | 0.31 | 0.41 | 0.81 | 0.66 |
| Standard Deviation | 1.18 | 0.56 | 0.64 | 0.90 | 0.81 |
| Total Responses | 117 | 117 | 117 | 117 | 73 |




4. Name of event you attended most recently:

| Text Response |
|------------------------------------------------------------------------------------|
| CF Workday |
| None |
| Campus farm workday |
| Friends of the Campus Farm workday |
| Volunteer workday (in the summer) |
| Work Day |
| I have my own community garden plot at Matthei so am at the farm frequently |
| UMSFP's 2013 Harvest Festival |
| Volunteer Workday |
| Harvest festival |
| Campus Farm workday |
| Bees |
| Field trip in Fall 2013 with Engr. 100 -800 section with Professor Lorelle Meadows |
| Circle K Service Day at the Campus Farm |
| Talk at Ann Arbor Rotary Club meeting |
| Farm Work Day |
| Tour of farm |
| Campus Farm Workday |
| Not sure of the exact name - early season clean-up workday |
| Workday |
| Campus farm work day |
| Friends of the Campus Farm workday |
| Workday |
| UMBees Meeting on 3/30/2014 |
| volunteer work day |
| Harvest 2013 |
| Harvest Festival |
| N/A |
| Campus Farm Workday |
| Farm Workday |
| none - visited botanical garden and sort of saw the sight though |
| UMBees workday at the farm |
| Educational Tour |
| Harvest Festival |
| workday |
| Harvest Festival |
| UMSFP Potluck: HomeGrown Local Food Summit (if that counts!) |
| Harvest Festival |
| Friends of the Campus Farm Volunteer Workday |
| End of season potluck (2013) |
| Volunteer Day |
| Bee Keeping |
| N/A - new and waiting/wanting to attend one! |
| First meeting of the term. |
| Harvest Festival 2013 |
| Fall Hive Prep 2013 UMBees |
| workday at the greenhouse |
| N/A |
| Volunteer work day |
| Harvest Festival |
| Harvest Festival |
| Volunteer for harvest |

| |
|------------------------|
| Harvest Festival |
| Volunteer work days |
| Harvest Fest fall 2013 |
| None |
| Harvest Fest 2013 |
| n/a |
| Harvest Festival |
| workday |
| Workday and potluck |
| Welcome week |

| Statistic | Value |
|-----------------|-------|
| Total Responses | 62 |

5. Thinking of the most recent Campus Farm event you attended, what effect did it have on your interest in sustainable food systems?

| # | Answer | Bar | Response | % |
|---|---------------------------------------------|------------------------------------------------------------------------------------|----------|-----|
| 1 | Decreased it quite a bit | | 0 | 0% |
| 2 | | | 0 | 0% |
| 3 | Neither increased nor decreased my interest |  | 12 | 19% |
| 4 | |  | 32 | 52% |
| 5 | Increased it quite a bit |  | 18 | 29% |
| | Total | | 62 | |

| Statistic | Value |
|--------------------|-------|
| Min Value | 3 |
| Max Value | 5 |
| Mean | 4.10 |
| Variance | 0.48 |
| Standard Deviation | 0.69 |
| Total Responses | 62 |

6. What has motivated you to attend events at the UM Campus Farm? My motivation has been to:

| # | Question | Strongly disagree | | Neither agree nor disagree | | Strongly agree | Total Responses | Mean |
|----|--------------------------------------------------------|-------------------|---|----------------------------|----|----------------|-----------------|------|
| 1 | learn more about sustainable food | 0 | 0 | 12 | 30 | 21 | 63 | 4.14 |
| 2 | acquire new skills | 0 | 6 | 14 | 24 | 19 | 63 | 3.89 |
| 3 | meet new people | 0 | 2 | 10 | 25 | 25 | 62 | 4.18 |
| 4 | take a break from my normal routine | 1 | 3 | 5 | 25 | 29 | 63 | 4.24 |
| 5 | do something meaningful that is in line with my values | 0 | 0 | 4 | 21 | 37 | 62 | 4.53 |
| 6 | do something with my friends and/or family | 2 | 4 | 12 | 23 | 22 | 63 | 3.94 |
| 7 | support the Campus Farm | 0 | 1 | 6 | 22 | 33 | 62 | 4.40 |
| 8 | spend time working outdoors | 0 | 0 | 10 | 15 | 38 | 63 | 4.44 |
| 9 | have access to fresh produce | 0 | 2 | 8 | 20 | 33 | 63 | 4.33 |
| 10 | Other: | 6 | 0 | 13 | 2 | 5 | 26 | 3.00 |

| Other: |
|-----------------------------------------------|
| Emphasis on the produce |
| have fun!! |
| N/A |
| N/A |
| See the bees! |
| n/a |
| academic research |
| teach beekeeping |
| to help create an exemplary model campus farm |

| Statistic | learn more about sustainable food | acquire new skills | meet new people | take a break from my normal routine | do something meaningful that is in line with my values | do something with my friends and/or family | support the Campus Farm | spend time working outdoors | have access to fresh produce | Other: |
|--------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|--------------------------------------------------------|--------------------------------------------|-------------------------|-----------------------------|------------------------------|--------|
| Min Value | 3 | 2 | 2 | 1 | 3 | 1 | 2 | 3 | 2 | 1 |
| Max Value | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Mean | 4.14 | 3.89 | 4.18 | 4.24 | 4.53 | 3.94 | 4.40 | 4.44 | 4.33 | 3.00 |
| Variance | 0.51 | 0.91 | 0.67 | 0.83 | 0.38 | 1.09 | 0.54 | 0.57 | 0.68 | 1.84 |
| Standard Deviation | 0.72 | 0.95 | 0.82 | 0.91 | 0.62 | 1.05 | 0.73 | 0.76 | 0.82 | 1.36 |
| Total Responses | 63 | 63 | 62 | 63 | 62 | 63 | 62 | 63 | 63 | 26 |

7. How satisfied are you with the degree to which you've been able to do the following at UM Campus Farm events?

| # | Question | Not at all satisfied | | Moderately satisfied | | Extremely satisfied | Total Responses | Mean |
|----|--------------------------------------------------------|----------------------|---|----------------------|----|---------------------|-----------------|------|
| 1 | learn more about sustainable food | 1 | 4 | 21 | 25 | 9 | 60 | 3.62 |
| 2 | acquire new skills | 0 | 3 | 25 | 18 | 12 | 58 | 3.67 |
| 3 | meet new people | 0 | 4 | 6 | 27 | 21 | 58 | 4.12 |
| 4 | take a break from my normal routine | 0 | 1 | 5 | 20 | 33 | 59 | 4.44 |
| 5 | do something meaningful that is in line with my values | 0 | 0 | 3 | 22 | 33 | 58 | 4.52 |
| 6 | do something with my friends and/or family | 0 | 1 | 11 | 19 | 28 | 59 | 4.25 |
| 7 | support the Campus Farm | 0 | 1 | 7 | 22 | 29 | 59 | 4.34 |
| 8 | spend time working outdoors | 0 | 1 | 3 | 19 | 33 | 56 | 4.50 |
| 9 | have access to fresh produce | 0 | 2 | 9 | 15 | 32 | 58 | 4.33 |
| 10 | Other: | 6 | 0 | 9 | 2 | 5 | 22 | 3.00 |

| Other: |
|--------------|
| you got it |
| have fun!!!! |
| N/A |
| n/a |
| n/a |

| Statistic | learn more about sustainable food | acquire new skills | meet new people | take a break from my normal routine | do something meaningful that is in line with my values | do something with my friends and/or family | support the Campus Farm | spend time working outdoors | have access to fresh produce | Other: |
|--------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|--------------------------------------------------------|--------------------------------------------|-------------------------|-----------------------------|------------------------------|--------|
| Min Value | 1 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| Max Value | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Mean | 3.62 | 3.67 | 4.12 | 4.44 | 4.52 | 4.25 | 4.34 | 4.50 | 4.33 | 3.00 |
| Variance | 0.78 | 0.75 | 0.74 | 0.53 | 0.36 | 0.68 | 0.57 | 0.47 | 0.75 | 2.19 |
| Standard Deviation | 0.88 | 0.87 | 0.86 | 0.73 | 0.60 | 0.82 | 0.76 | 0.69 | 0.87 | 1.48 |
| Total Responses | 60 | 58 | 58 | 59 | 58 | 59 | 59 | 56 | 58 | 22 |

8. Overall, how would you rate the quality of your most recent experience at the Campus Farm?

| # | Answer | Bar | Response | % |
|---|-----------|-----|----------|-----|
| 1 | Poor | | 0 | 0% |
| 2 | Fair | | 0 | 0% |
| 3 | Good | | 13 | 22% |
| 4 | Very good | | 27 | 46% |
| 5 | Excellent | | 19 | 32% |
| | Total | | 59 | |

| Statistic | Value |
|--------------------|-------|
| Min Value | 3 |
| Max Value | 5 |
| Mean | 4.10 |
| Variance | 0.54 |
| Standard Deviation | 0.74 |
| Total Responses | 59 |

9. Think about what you would like your life to be like in the future. Which of the following will be important to you?

| # | Question | Not a priority | Medium priority | Essential priority | Total Responses | Mean | | |
|----|----------------------------------------------------------------------------------------------|----------------|-----------------|--------------------|-----------------|------|-----|------|
| 1 | Buying sustainable food | 3 | 4 | 8 | 37 | 50 | 102 | 4.25 |
| 2 | Growing your own food | 4 | 11 | 20 | 25 | 42 | 102 | 3.88 |
| 3 | Attending more sustainable food community programs/events | 2 | 9 | 29 | 32 | 30 | 102 | 3.77 |
| 4 | Buying food from your local farmers market | 1 | 2 | 17 | 31 | 51 | 102 | 4.26 |
| 5 | Belonging to a food co-op | 7 | 21 | 23 | 29 | 22 | 102 | 3.37 |
| 6 | Participating in a CSA (community-supported agriculture) | 6 | 20 | 22 | 36 | 17 | 101 | 3.38 |
| 7 | Financially contributing to sustainable food organizations or sustainable farming operations | 8 | 26 | 21 | 27 | 20 | 102 | 3.25 |
| 8 | Volunteering for sustainable food organizations or sustainable farming operations | 4 | 15 | 28 | 22 | 33 | 102 | 3.64 |
| 9 | Eating at restaurants that focus on sustainable food | 3 | 6 | 24 | 35 | 33 | 101 | 3.88 |
| 10 | Taking steps to understand how and/or where your food comes from | 2 | 8 | 16 | 24 | 52 | 102 | 4.14 |
| 11 | Selecting food products with minimal packaging to limit waste | 1 | 9 | 10 | 26 | 55 | 101 | 4.24 |

| Statistic | Buying sustainable food | Growing your own food | Attending more sustainable food community programs/events | Buying food from your local farmers market | Belonging to a food co-op | Participating in a CSA (community-supported agriculture) | Financially contributing to sustainable food organizations or sustainable farming operations | Volunteering for sustainable food organizations or sustainable farming operations | Eating at restaurants that focus on sustainable food | Taking steps to understand how and/or where your food comes from | Selecting food products with minimal packaging to limit waste |
|--------------------|-------------------------|-----------------------|-----------------------------------------------------------|--------------------------------------------|---------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------|
| Min Value | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Max Value | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Mean | 4.25 | 3.88 | 3.77 | 4.26 | 3.37 | 3.38 | 3.25 | 3.64 | 3.88 | 4.14 | 4.24 |
| Variance | 0.94 | 1.39 | 1.07 | 0.77 | 1.50 | 1.34 | 1.57 | 1.42 | 1.07 | 1.15 | 1.04 |
| Standard Deviation | 0.97 | 1.18 | 1.03 | 0.88 | 1.23 | 1.16 | 1.25 | 1.19 | 1.03 | 1.07 | 1.02 |
| Total Responses | 102 | 102 | 102 | 102 | 102 | 101 | 102 | 102 | 101 | 102 | 101 |

10. What is the likelihood you would participate in the following UM groups at some point in the future?

| # | Question | N/A - I will be leaving too soon to get involved | Extremely unlikely | | Neutral | | Extremely likely | Currently participate | Total Responses | Mean |
|----|-----------------------------------------------------|--------------------------------------------------|--------------------|----|---------|----|------------------|-----------------------|-----------------|------|
| 1 | Ann Arbor Student Food Co. | 24 | 8 | 5 | 22 | 16 | 8 | 6 | 89 | 3.52 |
| 2 | Consortium on Agriculture, Food and the Environment | 25 | 9 | 10 | 27 | 12 | 5 | 2 | 90 | 3.17 |
| 3 | Friends of the Campus Farm | 22 | 5 | 3 | 15 | 15 | 15 | 15 | 90 | 4.12 |
| 4 | Outdoor Adventures Garden | 24 | 6 | 9 | 28 | 14 | 7 | 1 | 89 | 3.30 |
| 5 | Cultivating Community | 22 | 5 | 6 | 26 | 18 | 8 | 4 | 89 | 3.60 |
| 6 | UM Bees | 25 | 11 | 10 | 12 | 17 | 7 | 7 | 89 | 3.38 |
| 7 | Michigan Sustainable Foods Initiative | 26 | 4 | 5 | 28 | 16 | 8 | 2 | 89 | 3.40 |
| 8 | Food Recovery Network - UM Chapter | 25 | 6 | 10 | 22 | 14 | 8 | 4 | 89 | 3.38 |
| 9 | Student Advocates for Nutrition | 25 | 9 | 13 | 25 | 10 | 4 | 3 | 89 | 3.11 |
| 10 | Permaculture Design Team | 27 | 11 | 10 | 20 | 7 | 9 | 6 | 90 | 3.22 |
| 11 | UM Sustainable Food Program (UMSFP) | 22 | 6 | 2 | 15 | 16 | 16 | 12 | 89 | 4.04 |
| 12 | Other | 26 | 6 | 0 | 11 | 1 | 2 | 2 | 48 | 2.35 |

| Other | | | | | | | | | | |
|---------------------------------|--|--|--|--|--|--|--|--|--|--|
| n/a | | | | | | | | | | |
| However else I can get involved | | | | | | | | | | |
| Environmentalist group | | | | | | | | | | |
| NWAEG | | | | | | | | | | |
| n/a | | | | | | | | | | |
| n/a | | | | | | | | | | |

| Statistic | Ann Arbor Student Food Co. | Consortium on Agriculture, Food and the Environment | Friends of the Campus Farm | Outdoor Adventures Garden | Cultivating Community | UM Bees | Michigan Sustainable Foods Initiative | Food Recovery Network - UM Chapter | Student Advocates for Nutrition | Permaculture Design Team | UM Sustainable Food Program (UMSFP) | Other |
|--------------------|----------------------------|-----------------------------------------------------|----------------------------|---------------------------|-----------------------|---------|---------------------------------------|------------------------------------|---------------------------------|--------------------------|-------------------------------------|-------|
| Min Value | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Max Value | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Mean | 3.52 | 3.17 | 4.12 | 3.30 | 3.60 | 3.38 | 3.40 | 3.38 | 3.11 | 3.22 | 4.04 | 2.35 |
| Variance | 3.80 | 2.90 | 4.83 | 2.92 | 3.36 | 4.01 | 3.29 | 3.49 | 2.92 | 3.82 | 4.68 | 3.30 |
| Standard Deviation | 1.95 | 1.70 | 2.20 | 1.71 | 1.83 | 2.00 | 1.81 | 1.87 | 1.71 | 1.95 | 2.16 | 1.82 |
| Total Responses | 89 | 90 | 90 | 89 | 89 | 89 | 89 | 89 | 89 | 90 | 89 | 48 |

11. What is the likelihood you would elect to enroll in the following educational offerings?

| # | Question | N/A - I will be leaving too soon to enroll | Extremely unlikely | | Neutral | | Extremely likely | Already have | Total Responses | Mean |
|---|-----------------------------------------------|--------------------------------------------|--------------------|---|---------|----|------------------|--------------|-----------------|------|
| 1 | Semester long course on sustainable food | 21 | 16 | 5 | 11 | 10 | 15 | 10 | 88 | 3.66 |
| 2 | Half-semester long course on sustainable food | 22 | 13 | 4 | 11 | 17 | 19 | 3 | 89 | 3.64 |
| 3 | Weekend course on sustainable food | 22 | 4 | 2 | 16 | 24 | 21 | 0 | 89 | 3.89 |
| 4 | A certificate program on sustainable food | 23 | 9 | 4 | 16 | 16 | 21 | 0 | 89 | 3.63 |
| 5 | A course held at the Campus Farm | 22 | 6 | 4 | 15 | 15 | 26 | 1 | 89 | 3.87 |
| 6 | A workshop or seminar held at the Campus Farm | 21 | 3 | 3 | 10 | 17 | 31 | 4 | 89 | 4.21 |

| Statistic | Semester long course on sustainable food | Half-semester long course on sustainable food | Weekend course on sustainable food | A certificate program on sustainable food | A course held at the Campus Farm | A workshop or seminar held at the Campus Farm |
|--------------------|------------------------------------------|-----------------------------------------------|------------------------------------|-------------------------------------------|----------------------------------|-----------------------------------------------|
| Min Value | 1 | 1 | 1 | 1 | 1 | 1 |
| Max Value | 7 | 7 | 6 | 6 | 7 | 7 |
| Mean | 3.66 | 3.64 | 3.89 | 3.63 | 3.87 | 4.21 |
| Variance | 4.69 | 4.12 | 3.67 | 3.80 | 4.00 | 4.28 |
| Standard Deviation | 2.16 | 2.03 | 1.92 | 1.95 | 2.00 | 2.07 |
| Total Responses | 88 | 89 | 89 | 89 | 89 | 89 |

12. How would you rate the Campus Farm's efforts to do the following?

| # | Question | N/A - I don't know enough to evaluate | Poor | Fair | Good | Very good | Excellent | Total Responses | Mean |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------|------|------|-----------|-----------|-----------------|------|
| 1 | Facilitate formal and informal education on sustainable food topics | 38 | 3 | 14 | 15 | 15 | 4 | 89 | 2.75 |
| 2 | Build "living laboratories" on campus that create diverse, interdisciplinary opportunities for independent research and course projects | 45 | 5 | 11 | 17 | 8 | 3 | 89 | 2.40 |
| 3 | Provide experiential education and service-learning opportunities that promote teamwork and leadership | 32 | 4 | 6 | 23 | 15 | 9 | 89 | 3.13 |
| 4 | Mentor volunteers and interns to promote personal and professional growth | 42 | 5 | 9 | 15 | 11 | 7 | 89 | 2.65 |
| 5 | Strengthen communities through collaborative programming and outreach | 28 | 3 | 8 | 25 | 18 | 6 | 88 | 3.23 |
| 6 | Connect people from diverse backgrounds through collaborative and creative workshops, seminars, and projects that explore pertinent issues | 42 | 3 | 12 | 13 | 11 | 7 | 88 | 2.65 |
| 7 | Create models for institutions and communities through the transparent documentation of successes and failures of methods, programs, and curricula | 45 | 3 | 7 | 21 | 8 | 5 | 89 | 2.54 |
| 8 | Grow sustainable food that supports the well-being of people and the environment at UM and beyond | 27 | 1 | 3 | 14 | 26 | 18 | 89 | 3.73 |
| 9 | Serve as a visible commitment to healthy people and a healthy environment | 26 | 3 | 5 | 15 | 19 | 21 | 89 | 3.69 |
| 10 | Showcase safe and ethical practices | 37 | 2 | 3 | 15 | 17 | 15 | 89 | 3.20 |
| 11 | Support the UM's goal of sourcing 20% local and sustainable food by 2025 | 35 | 3 | 4 | 22 | 13 | 12 | 89 | 3.12 |

| Statistic | Facilitate formal and informal education on sustainable food topics | Build "living laboratories" on campus that create diverse, interdisciplinary opportunities for independent research and course projects | Provide experiential education and service-learning opportunities that promote teamwork and leadership | Mentor volunteers and interns to promote personal and professional growth | Strengthen communities through collaborative programming and outreach | Connect people from diverse backgrounds through collaborative and creative workshops, seminars, and projects that explore pertinent issues | Create models for institutions and communities through the transparent documentation of successes and failures of methods, programs, and curricula | Grow sustainable food that supports the well-being of people and the environment at UM and beyond | Serve as a visible commitment to healthy people and a healthy environment | Showcase safe and ethical practices | Support the UM's goal of sourcing 20% local and sustainable food by 2025 |
|--------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------|
| Min Value | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Max Value | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Mean | 2.75 | 2.40 | 3.13 | 2.65 | 3.23 | 2.65 | 2.54 | 3.73 | 3.69 | 3.20 | 3.12 |
| Variance | 2.96 | 2.61 | 3.35 | 3.23 | 3.01 | 3.22 | 2.98 | 3.88 | 3.92 | 4.14 | 3.68 |
| Standard Deviation | 1.72 | 1.61 | 1.83 | 1.80 | 1.73 | 1.79 | 1.73 | 1.97 | 1.98 | 2.03 | 1.92 |
| Total Responses | 89 | 89 | 89 | 89 | 88 | 88 | 89 | 89 | 89 | 89 | 89 |

13. What would you like to see the UM Campus Farm focus on? Your vision helps shape future programming!





| # | Question | Not a priority | Medium priority | Essential priority | Total Responses | Mean |
|---|---------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------|--------------------|-----------------|------|
| 1 | Work to have food offered in campus dining halls and markets | 1 | 2 | 19 | 23 | 4.20 |
| 2 | Sell food at local farmers markets | 4 | 16 | 26 | 24 | 3.43 |
| 3 | Donate food | 1 | 9 | 26 | 29 | 3.74 |
| 4 | Offer a CSA or buying club to students and/or community members | 3 | 8 | 24 | 23 | 3.80 |
| 5 | Sell food baskets to be bought for students from family or friends | 7 | 19 | 24 | 28 | 3.19 |
| 6 | Focus on outreach across the University to increase the number of students at the Campus Farm from different backgrounds and concentrations | 0 | 5 | 15 | 19 | 4.28 |
| 7 | Focus on outreach to the wider non-UM community to encourage outside ideas and collaborations | 1 | 10 | 29 | 21 | 3.73 |
| 8 | Adopt more sustainable agricultural practices | 0 | 8 | 23 | 29 | 3.89 |
| 9 | Offer more educational opportunities on sustainable food systems | 0 | 3 | 17 | 34 | 4.13 |

| Statistic | Work to have food offered in campus dining halls and markets | Sell food at local farmers markets | Donate food | Offer a CSA or buying club to students and/or community members | Sell food baskets to be bought for students from family or friends | Focus on outreach across the University to increase the number of students at the Campus Farm from different backgrounds and concentrations | Focus on outreach to the wider non-UM community to encourage outside ideas and collaborations | Adopt more sustainable agricultural practices | Offer more educational opportunities on sustainable food systems |
|--------------------|--------------------------------------------------------------|------------------------------------|-------------|-----------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------|------------------------------------------------------------------|
| Min Value | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 |
| Max Value | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Mean | 4.20 | 3.43 | 3.74 | 3.80 | 3.19 | 4.28 | 3.73 | 3.89 | 4.13 |
| Variance | 0.87 | 1.32 | 1.01 | 1.25 | 1.32 | 0.89 | 1.13 | 0.94 | 0.71 |
| Standard Deviation | 0.93 | 1.15 | 1.01 | 1.12 | 1.15 | 0.94 | 1.06 | 0.97 | 0.84 |
| Total Responses | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |

14. Other suggestions for the Campus Farm:

| Text Response | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| consistent transportation and long-term, stable funding to support internships! students living on-site as interns during the school year would be great down the road, and animals! | |
| Have a way to have U of M students come teach sustainable ag workshops to elementary age children who participate in school gardening. Ann Arbor Public Schools have gardens that U of M students could work with. | |
| Have two workdays so that people who cannot make it to the Friday workdays have another opportunity to participate | |
| N/A | |
| Looks great! Excited about the fruit trees. | |
| Please teach us about policy and farming techniques during workdays. You guys are awesome and amazing and doing really great work. Keep it up!! | |
| additional campus farm workdays | |
| I don't like the idea of selling food at local farmers markets. I worry that if we did we would take much needed business away from local farmers trying to make a living. This is a project we participate in for our enjoyment and for the opportunity to learn. If we don't sell our food we don't lose anything. If local farmers don't sell their food they lose profits. Also, I really like the way the Friday volunteer work days are set up that you just go to participate and there is no sort of formal lecture/ seminar that goes along with it, so those who are just looking to play in the dirt and have a nice afternoon doing good work can do just that. However, it would be nice if there was a more defined outlet for asking questions. For example, at the beginning of the work day just point out a few people who could answer questions about different things. You all are killing it, the campus farm is awesome and was highlight to my week! | |
| I would just like to reinforce my response above--as a Politica Science major I only found out about how active a community you guys are during my last semester at U of M. Wish I had found out about you guys sooner! | |
| For the students that know about the Campus Farm, it's awesome! However, there are a ton of people at UM who don't even know it exists. It is essential that we reach out to these people so that everyone can benefit! | |
| I don't know enough about the farm to offer insights here. | |
| The main issue I have with the Campus Farm is I had never heard of it until taking this class. I have never seen an advertisement on the bus, on the campus billboards, or even on the tables at the dining halls. I worked at one, I read every one of those little things and I still remember that the university makes its own granola, but I have never heard of the Campus Farm. | |
| None at this time. | |
| none | |
| - | |
| None | |
| Must be thoughtful in what is done with campus farm food. Try not to hinder other great food businesses (like those common to farmers' markets). Target other groups who are not already on the wagon (aka: shopping at the coops and markets). | |
| I would love to see a farm orientation trip - incoming students come during the summer before their freshman year and do a week of learning/work/fun at the farm and surrounding farms (Yale has a great model for this, called Harvest) | |
| N/A | |
| Statistic | Value |
| Total Responses | 19 |



15. What forms of communication do you prefer to use for learning about Campus Farm events and news? Please select all that apply.

| # | Answer | Bar | Response | % |
|---|------------------|-----------------------------------------------------------------------------------|----------|-----|
| 1 | UMSFP.com |  | 28 | 31% |
| 2 | UMSFP newsletter |  | 66 | 73% |
| 3 | Facebook |  | 48 | 53% |
| 4 | Twitter |  | 6 | 7% |
| 5 | Instagram |  | 10 | 11% |
| 6 | Word-of-mouth |  | 44 | 49% |
| 7 | Other |  | 8 | 9% |

| Other |
|--------------------------|
| email |
| email |
| Email |
| The newsletter is GREAT! |
| in dorms and buses |
| email |
| youtube! |
| email |

| Statistic | Value |
|-----------------|-------|
| Min Value | 1 |
| Max Value | 7 |
| Total Responses | 90 |

16. Gender:

| # | Answer | Bar | Response | % |
|---|------------------------|--------------------------------------------------------------------------------------|----------|-----|
| 1 | Male |  | 12 | 13% |
| 2 | Female |  | 79 | 87% |
| 3 | Other | | 0 | 0% |
| 4 | Choose not to identify | | 0 | 0% |
| | Total | | 91 | |

| Statistic | Value |
|--------------------|-------|
| Min Value | 1 |
| Max Value | 2 |
| Mean | 1.87 |
| Variance | 0.12 |
| Standard Deviation | 0.34 |
| Total Responses | 91 |

17. Age:

| Text Response |
|---------------|
| 20 |
| 20 |
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| 26 |
| 28 |
| 36 |

| Statistic | Value |
|-----------------|-------|
| Total Responses | 88 |

18. Ethnicity:

| # | Answer | Bar | Response | % |
|---|------------------------------------|-----|----------|-----|
| 1 | White | | 82 | 91% |
| 2 | Hispanic or Latino | | 2 | 2% |
| 3 | Black or African American | | 0 | 0% |
| 4 | Native American or American Indian | | 0 | 0% |
| 5 | Asian / Pacific Islander | | 5 | 6% |
| 6 | Other | | 2 | 2% |

| Statistic | Value |
|-----------------|-------|
| Min Value | 1 |
| Max Value | 6 |
| Total Responses | 90 |

19. University Affiliation:

| # | Answer | Bar | Response | % |
|---|-----------------------|-----|----------|-----|
| 1 | Undergraduate student | | 59 | 65% |
| 2 | Graduate student | | 16 | 18% |
| 3 | Staff | | 1 | 1% |
| 4 | Faculty | | 1 | 1% |
| 5 | Alumni | | 10 | 11% |
| 6 | Other | | 4 | 4% |
| 7 | Not Affiliated | | 0 | 0% |
| | Total | | 91 | |

| Statistic | Value |
|--------------------|-------|
| Min Value | 1 |
| Max Value | 6 |
| Mean | 1.89 |
| Variance | 2.41 |
| Standard Deviation | 1.55 |
| Total Responses | 91 |

20. What is your area of study? Select all that apply.

| # | Answer | Bar | Response | % |
|---|------------------|-----|----------|-----|
| 1 | Humanities | | 9 | 12% |
| 2 | Social Sciences | | 32 | 43% |
| 3 | Natural Sciences | | 40 | 53% |
| 4 | Health Sciences | | 12 | 16% |
| 5 | Business | | 0 | 0% |
| 6 | Engineering | | 6 | 8% |
| 7 | Other | | 4 | 5% |
| 8 | Undecided | | 4 | 5% |

| Statistic | Value |
|-----------------|-------|
| Min Value | 1 |
| Max Value | 8 |
| Total Responses | 75 |

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