



Cultivating a Regional Food System

Assessing the Needs and Capacities of Local Farmers
with the Washtenaw Food Hub

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1 Executive Summary

The Washtenaw Food Hub (WFH) is a limited liability corporation formed in 2010 by successful organic growers, local food advocates, and other professionals supporting the development of an environmentally and economically sustainable food system. The mission of the WFH is to provide facilities and market channels to increase the economic viability of diversified farms, develop small businesses, and provide community benefits that will strengthen our food system and local economy. As the WFH continues to develop both its physical space and organizational goals, a need was recognized for a formal evaluation of input from local stakeholders—particularly growers—in the regional food system. The following goals were established as the central focus of the partnership formed between the WFH and the Dow Sustainability Fellows:

- Assess the capacities of local growers
- Examine grower need for a variety of services, resources, and facilities
- Gauge grower interest in WFH collaboration

A 42-question online survey was developed and distributed to local growers to collect quantitative and qualitative data and was supplemented by a single in-depth focus group. Survey results were used to build a knowledge base of grower demographics, crop yields, and resources, as well as provide an assessment of grower interest in working with the WFH and existing barriers to doing so. Focus group findings indicated strong interest in:

- Sharing resources, including equipment, materials, and labor
- The WFH serving as a source of information and education for local growers
- The WFH acting as a center of regional food activity
- Creating a directory of stakeholders and community groups

The WFH will use these results to shape the direction of its future goals and missives as it supports, shapes, and helps to build a strong regional food system in Washtenaw County.

2 Introduction

2.1 Washtenaw Food Hub Background

The Washtenaw Food Hub (WFH) is a limited liability corporation formed in 2010 by successful organic growers, local food advocates, and other professionals supporting the development of an environmentally and economically sustainable food system. According to the US Department of Agriculture, a regional food hub is “a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand” [1].

The conception of the WFH is situated at a nexus of political, environmental, and social conditions that have generated a desire and a need for an anchor for the local food movement in Washtenaw County. Various factors support the timeliness and economic sustainability of the WFH including rising fuel prices, food insecurity, increased consumer demand for local food, and community initiatives supporting local, sustainable food production. Thus, food hubs can address the three pillars of sustainability – social, environmental, and economic – by bringing local farmers and buyers together, reducing food miles, and keeping money in the local economy.

Through its Small Farm Initiative, Ann Arbor Township has preserved more than 3,200 acres of open space and farmland (the “Ann Arbor Greenbelt”). In 2010, a small farm incubator, Tilian Farm Development Center, was established in that Greenbelt for the purpose of populating preserved agricultural land with small farm enterprises. Recently, the University of Michigan committed to purchasing 20% of their food from local, sustainable sources by 2020, and Washtenaw County created a Food Policy Council to “support small- and mid-sized farmers by fostering policies that encourage local food purchasing and production” [2]. These are but a few examples of the current attitudinal shift in the Washtenaw County area toward a healthier and more responsible means of food growth, exchange, and distribution and are exemplary of the favorable conditions in which the WFH plants its roots.

With a 2012 Regional Food Systems grant from the Michigan Department of Agriculture and Rural Development, the WFH began restoration of the buildings and grounds of a historic 16-acre farm in Washtenaw County (see Appendix A for the WFH layout schematic). The WFH is located at 4175 Whitmore Lake Road, just north of Ann Arbor, MI. The design and inspiration for the WFH grounds are derived from its core focus of serving public and institutional demand for local food, and catalyzing and strengthening farm and food businesses. The continued

physical development of the WFH, which includes a commercial kitchen space for rent by local producers, will be paralleled by the continued development of its mission and goals.

2.2 Research Purpose

Because the facilitation of commerce between growers and local buyers is central to its identity, the WFH recognized a need for the formal collection and evaluation of input from these respective parties. This project addresses the former group: the growers and producers in the Washtenaw County area who possess valuable knowledge about food production and commerce in this region and with whom the WFH may cultivate relationships. Input from this group of small farms and businesses will be essential in shaping the vision and trajectory of the WFH to ensure its success and utility as an integral component of the local food landscape.

2.3 Research Methods

Our group collected information from growers via two separate modalities: an electronic survey and a single in-person focus group. The Washtenaw Food Hub Grower Survey (Appendix B) is comprised of 42 questions targeting grower demographics, production, resource capacity, business models, and interest in fostering a partnership with the WFH. The survey was designed by the Dow Sustainability Fellows in collaboration with two members of the WFH planning team and incorporated grower feedback and input in the final draft. The survey was distributed electronically using a targeted list of local growers' email addresses, and was also made available to a wide base of Washtenaw Food Hub electronic newsletter subscribers. The survey became available on October, 2nd, 2013 and was closed on November, 11th, 2013, providing 40 days for survey completion and collection. In this time period, 28 surveys were fully completed and another 20 were partially completed.

To build a more comprehensive knowledge base surrounding the questions and issues addressed in the survey, our group held an in-person focus group onsite at the Washtenaw Food Hub on November 4th. The focus group attendees totaled approximately 30 people and were composed of growers, small business owners, and other local stakeholders who had completed the survey and indicated interest in participating in the focus group or had been personally invited by the WFH planning team. No one was excluded from participating in the focus group. Following a catered dinner, the attendees were divided into four subgroups, each facilitated by a Dow Fellow and a WFH representative and led through a series of guiding questions regarding the development and utility of the WFH (see Appendix C for the discussion questions). The focus groups lasted approximately one hour.

A summary of results from both the survey and focus group is provided in the following section.

3 Supply Analysis Results

3.1 Washtenaw County Background

Washtenaw County is located in southeast Michigan, covering an area of 720 square miles. Its 27 cities, villages, and townships are home to about 325,000 citizens in urban, suburban, and rural settings. Agriculture is an important component of the Washtenaw County economy. Farmland makes up 166,811 acres and is 37% of the total land area, with 1,300 farms that sell over \$73 million annually. In 2007, the total crop sales were \$54,841,000, and the total livestock sales were \$18,356,000. Among the key crops, 99,288 acres of corn, soy, and wheat contribute \$32,409,000 in annual sales, while 26 dairy farms contribute \$8,685,000. In the local distribution system, there are at least 10 farmers' markets and 11 U-pick farms/on-farm markets. The value of direct-to-consumer farm product sales is \$1,859,000 [3].

3.2 Anticipated Barriers and Recommendations

From examining past feasibility studies of other food hubs, we expected certain common barriers and recommendations related to packing, marketing, and distributing products [4]. In particular, the barriers to supplier involvement include: negotiating terms with buyers at the outset, processing capacity of the food hub, the risk of not selling crops or growing new crops, access to financing for capital improvements and equipment, food safety certification cost, labor availability, and quality and consistency of product. Common recommendations of attracting suppliers include: creating a one-stop drop off or sales point to make it easier for customers to buy and suppliers to sell, providing education and information about available resources to both buyers and suppliers, lowering suppliers' costs through shared, bulk buying, and developing a wide and cooperative network of growers. In these capacities, the WFH may expect to play many different roles, including the matchmaker, facilitator, third-party certifier, educator, catalyst or innovator, and "resource prospector" [5].

3.3 Grower Survey Results

In this section, we analyze the data that gathered from WFH grower survey. Survey responses will assist the WFH in developing its mission and in fostering relationships between growers, producers, and potential buyers in the area. Forty-eight responses from the local growers were collected, including the completed and partially-completed surveys. Most of the participants' farms (25) are located in Washtenaw County, 2 in Livingston County, 2 in Jackson County and a few in other counties (Hillsdale, Ingham and Monroe, etc.). In this part of the report, we will present the data about regarding participant demographics, production, employees, marketing and sales, current barriers, and interest in working with WFH.

3.3.1 Demographics

The survey collected general demographic information about the local growers. Growers are one of the most fundamental components of the food supply chain. By collecting information such as farm size, we can better help WFH and local growers connect to needed resources and improve access to markets.

The state of Michigan has about 56,000 farms totaling over 10 million acres. Of these, 48,687 are family/individually-owned, and 2,494 are owned by corporations. The average size farm is 179 acres. (Michigan Agricultural Statistics 2007-2008).

As shown in Figure 1, among the responses from the survey, 19 farms have less than 9 acres of arable land, 10 farms have 10-49 acres of arable land, and 2 farms have 50-99 acres of arable land.

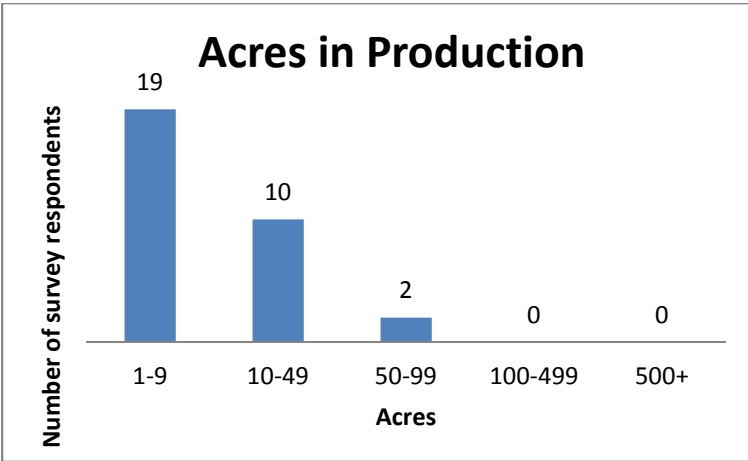


Figure 1 Acres in production

These findings indicate that most local farms are small-to-medium-sized farms and suggest that they are mainly owned by families or individuals. Some advantages of small farms are that they are flexible in what they grow and how they are managed.

3.3.2 Production

3.3.2.1 Production Diversity

Agricultural diversity is a vital component of biodiversity, and it is important for the food security of communities and the financial security of growers. For the local food supply chain, production diversity helps ensure sufficient food supply production levels. Along with data about farm size, data about the different types of products offered provides a more thorough picture of the farm production status.

Overall production diversity is shown in Figure 2. In this plot, 12.5% of the participating farms produce five or more types of products, and 53.13% of the responded farms produce only one or two types of products.

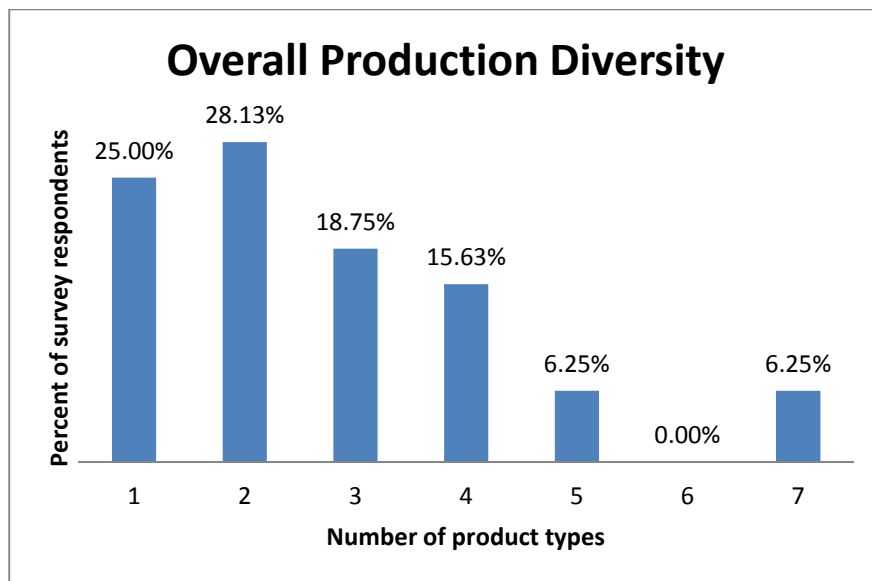


Figure 2 Overall production diversity

Farms often produce a relatively small number of product types (for example, vegetables and fruit, or eggs and meat) with maybe a few related valued-added products [Figure 3]. This makes sense given that most of the farms are small, family-owned farms with limited resources, staff, and funds.

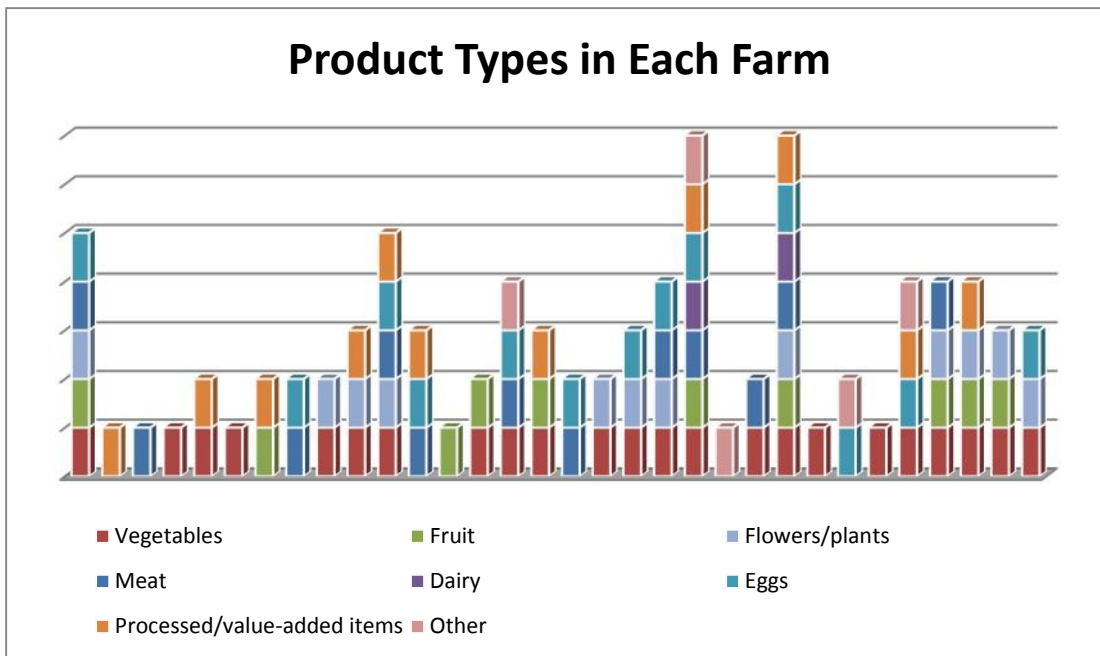


Figure 3 Product types in each farm

3.3.2.2 Most Offered Crops

A list of fruits and vegetables was developed including crops that are commonly grown in Michigan. This list was based on recommendations from WFH personnel and data collected regarding the interest of institutions in southeast Michigan in purchasing various types of local produce [6].

Among the fruits and vegetables examined, the following were highlighted as most likely to be offered by growers for wholesale distribution or other markets, listed from most to least likely.

Table 1 Top vegetables/fruits offered

Top 10 Vegetables Offered		Top 5 Fruits Offered
#1. Tomatoes	#6. Green Beans	#1. Apples
#2. Peppers	#7. Lettuce	#2. Blueberries
#3. Winter Squash	#8. Summer Squash	#3. Grapes
#4. Cucumber	#9. Broccoli	#4. Watermelon
#5. Carrots	#10. Corn	#5. Strawberries

3.3.2.3 Crop Growing Capacity

In hope of gaining a better picture of the food landscape in Washtenaw County to inform current and future efforts in establishing a wholesale component to the WFH, the survey asked respondents about current crop growing capacity [Figure 4]. Data about wholesale pricing were also collected (data not shown). There was high variation in the quantities of products offered depending on the farm size.

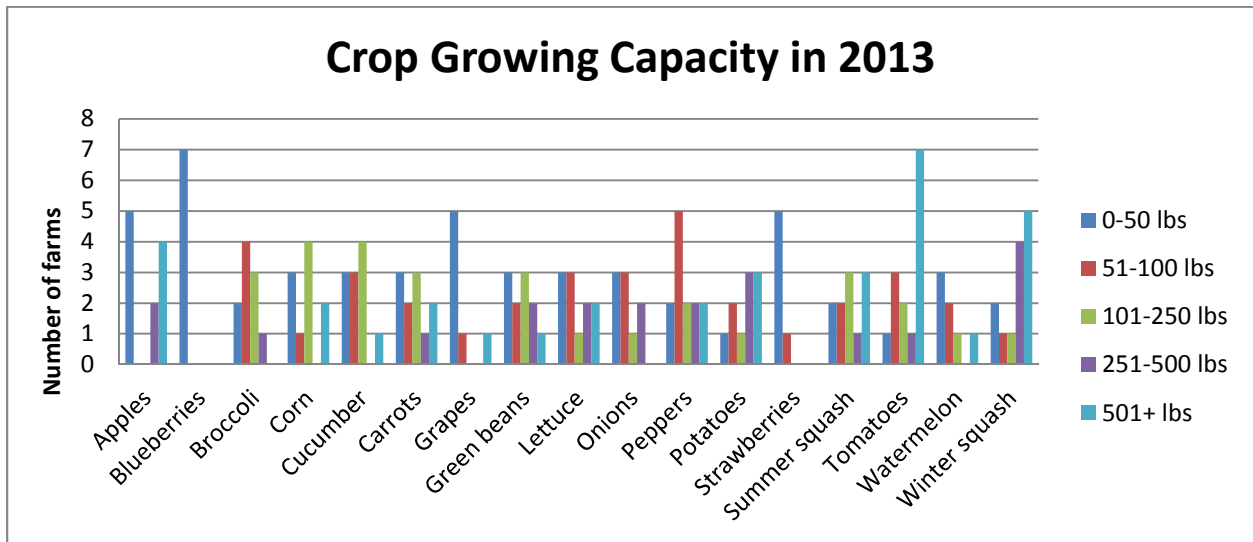


Figure 4 Crop growing capacity in 2013

3.3.3 Employees

From the survey, the average number of years in business for growers is approximately 9 years. 43% of farmers have worked less than 5 years in their current business, 28% of farmers are moderately experienced, and 28% of farmers have more than 10 years of experience in their business.

The composition of workers in each farm at maximum and minimum production levels are shown in Figure 5.

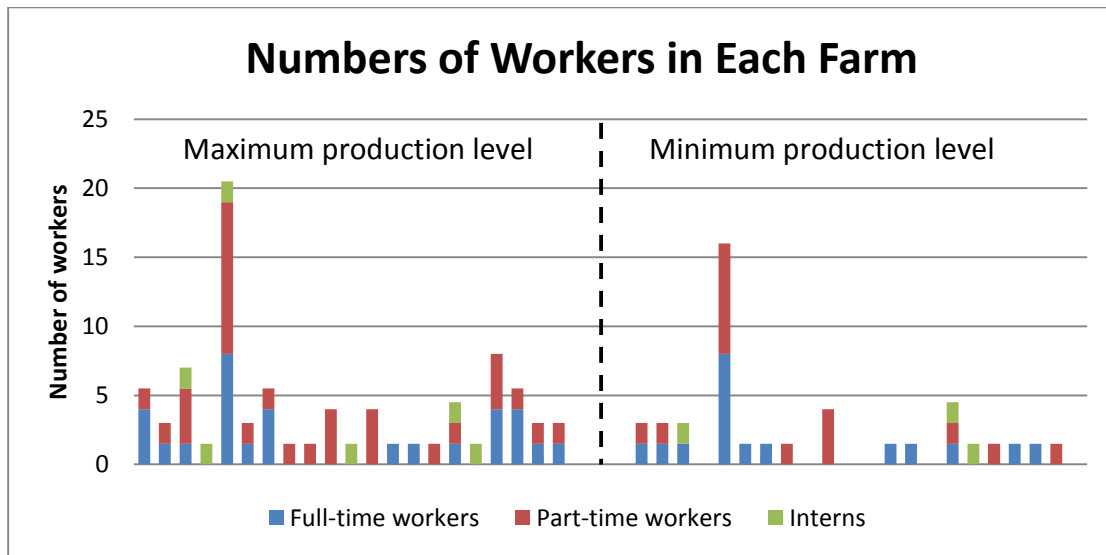


Figure 5 Employee statistics in each farm

Most of the farms do not have full-time employees in both peak and low seasons. At maximum production levels, part-time workers are the major type of employees. The most common composition of the employee types is 1 to 2 full-time workers, 1 to 2 part-time workers, and a few interns. On average, 3.1 workers are needed during maximum production. At minimum production level, full-time workers are the most common type of employees, and the most common composition of employee types is 1 full-time and 1 part-time worker. Very few interns are hired. On average, 1.7 workers are needed during the low production.

When comparing maximum seasonal production to minimum seasonal production, 85.6% more positions are open. The increase in full-time positions is 57%, 114% for part-time positions, and 100% for intern positions.

Only 2 out of 48 farms employ a marketing/sales specialist.

3.3.4 Marketing and Sales

3.3.4.1 Finance and Business Models

The WFH is interested in helping small- to mid-sized farmers grow their businesses, and thus has an interest in learning the current state of grower practices in marketing and sales. The survey sought to identify ways to facilitate connections between buyers and growers and improve grower access to markets of interest.

Estimated Total Revenue in 2012

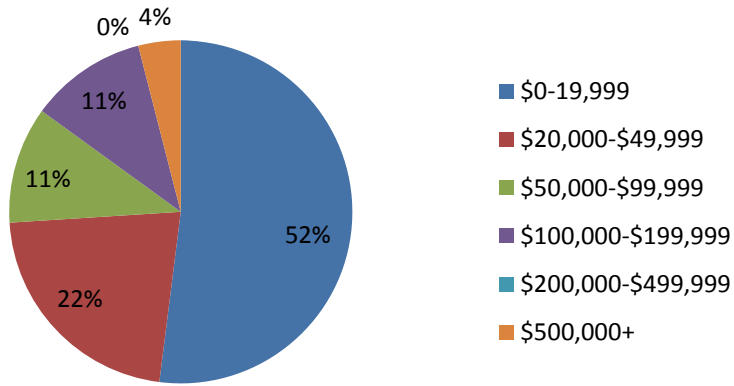


Figure 6 Estimated total revenue in 2012

Of the growers and producers surveyed, the largest proportion were relatively small businesses with \$0-19,999 of total revenue in 2012. Most grower business models were based on supplies of what they choose to grow or produce.

Grower Business Models

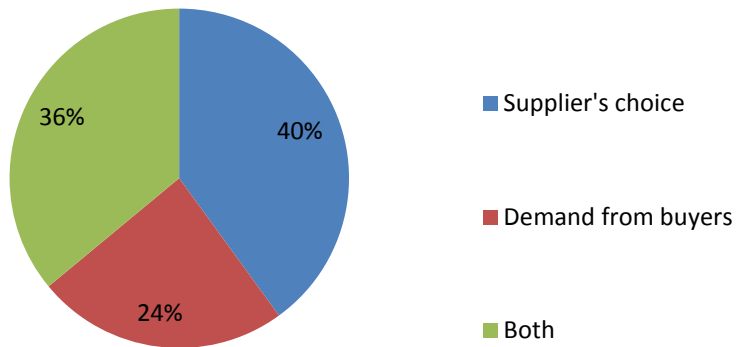


Figure 7 Grower business models

3.3.4.2 Distribution Path and Expansion

The following were the markets where survey participants sold their goods most often.

Table 2 Top markets for goods distribution

Top 5 Markets	Percent of respondents listing market as their 4th or 5th largest
#1. Farmers' Market	75%
#2. Community Supported Agriculture	55%
#3. On-site Market	29%
#4. Grocery Stores	21%
#5. Wholesale Distributors	20%

Other markets surveyed include Restaurants, Institutions (school, hospital, and university), Online or Mail-order, and Small Businesses.

The vast majority of participants (92%) reported being “somewhat” or “very” interested in increasing productivity or expanding their business within the next 3 years. The areas where survey respondents reported the most interest in increasing market sales were the following:

Table 3 Interest of markets for business expansion in next 3 years

Top 5 Markets of Interest	Percent of respondents expressing interest in increasing market sales
#1. Restaurants	52%
#2. Farmers' Market	43%
#3. On-site Market	39%
#4. Wholesale Distributor	39%
#5. Small Businesses	26%

Interest in other markets included grocery stores (22%), online or mail-order (22%), CSA (22%), and institutions (13%).

3.3.4.3 Marketing and Promotion Methods

There often is high variation in the types of marketing and promotion that growers use depending on the size of their farm, the types of markets they use, and the number of staff that are dedicated exclusively to marketing and sales. The most extensively used marketing and promotion methods included the following:

Table 4 Top marketing and promotion methods

Top 5 Marketing and Promotion Methods	Percent of respondents who use method “often” or “extensively”
#1. Word of Mouth	92%
#2. Signage at the Farmers’ Market	73%
#3. Social Media	57%
#4. Company Website	48%
#5. Business Partnerships	36%

Other methods of marketing and promotion included advertising, through a sales/marketing manager, donations to special events, grocery store demonstrations, and email marketing.

3.3.5 Current Barriers

3.3.5.1 General Major Barriers

In exploring potential roles that the WFH could play in the future, the survey examined grower’s barriers to increasing productivity or business expansion.

Table 5 General barriers to expansion

Barriers to Increasing Productivity and Business Expansion	Percent of respondents who said it was a “moderate,” “considerable,” or “significant” barrier
#1. Labor	71%
#2. Capital	63%
#3. Resources and facilities	55%

#4. New market channels	37%
#5. Land	30%
#6. Food Safety certification	30%
#7. Increased demand	26%

3.3.5.2 Resources and Techniques

The use of season extension techniques is a valuable way that growers can improve their ability to access markets year-round and increase productivity. Often using these methods requires access to capital for initial investments in the required infrastructure, such as hoop houses or classes for more effective implementation of techniques. Thus, the WFH has identified season extension as one that would be useful to support.

A notable proportion of surveyed growers currently use season extension techniques, and many others express interest in expanding their use. Nearly 50% of survey respondents expressed an interest in using hoophouses. Apart from the methods listed below, other forms of season extension include low tunnels, cold frames, and winter forages.

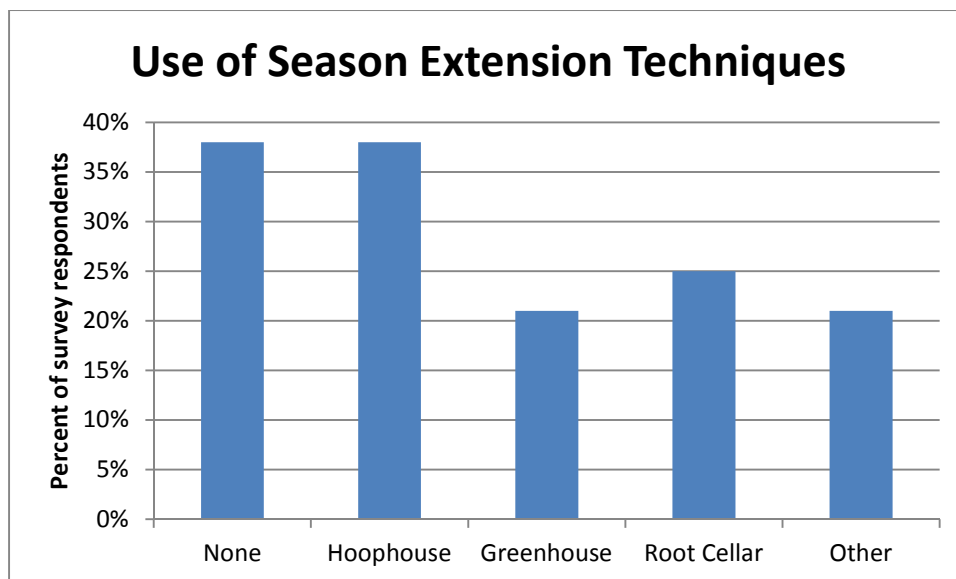


Figure 8 Current season extension techniques

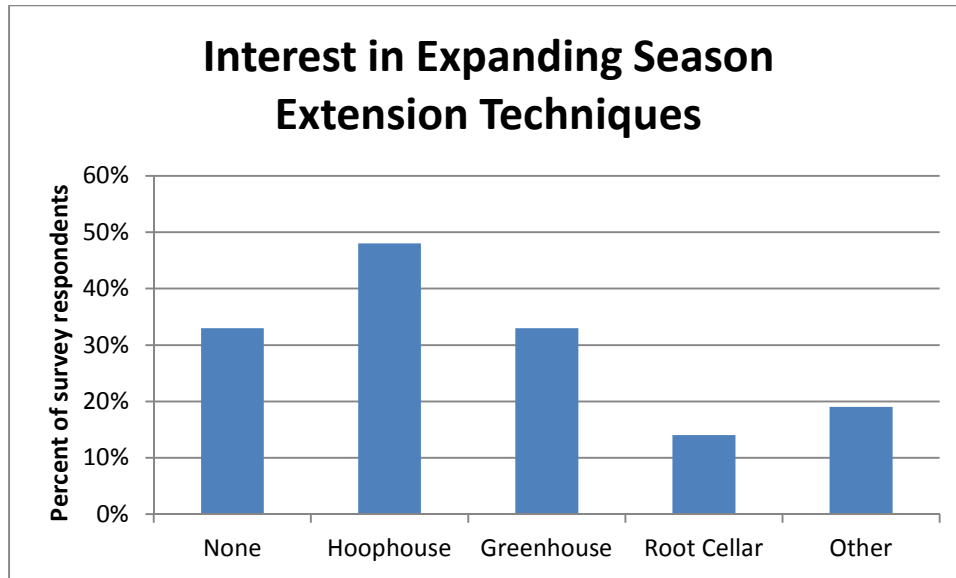


Figure 9 Interest in expanding season extension techniques

The WFH plans to serve many different roles, including providing a variety of different facilities, resources, and services. This portion of the survey will be useful when identifying which of these will be most useful to offer.

Table 6 Top needed facilities, resources, and services

Top Needed Facilities, Resources, & Services	Percent of respondents with “some” or “extensive” need
#1. Storage	45%
#2. Washing and packing	43%
#3. Acquiring capital	38%
#4. Distribution and logistics	29%
#5. Commercial kitchen	27%
#6. Accounting	26%
#7. Liability insurance	25%
#8. Bulk buying supplies	24%
#9. Bean and seed cleaning	21%
#10. Grain milling	21%

Other services not in the top 10 include honey extraction, tractor repair, root cellar, food safety training, traceability, cooperative aggregation, co-branding, legal services, and customer service.

3.3.5.3 Certifications

A current area of exploration for the WFH is whether to require any certifications for producers who participate in wholesale distribution, and whether growers would be interested in receiving training or other assistance with certifications. Common certifications that growers may be interested in include Organic Certification, Good Agricultural Practices (GAP)/Good Handling Practices (GHP), and the Michigan Agriculture Environmental Assurance Program (MAEAP). Organic Certification regulates standards of farming through approved methods that integrate cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity. GAP and GHP are auditing programs that seek to minimize microbial contamination in the production, packing, handling, and storing of produce. They are sometimes required by wholesale retailers or institutions (e.g. the University of Michigan) and are often cost prohibitive to smaller farms. MAEAP is a voluntary program created by the State of Michigan to prevent or minimize agricultural pollution. It is an inexpensive alternative to Organic Certification, which makes it attractive to smaller farmers, but it is less well-known.

Survey participants were asked about their interest in acquiring various certifications and current certifications. Survey participants were also asked why they are or are not interested in these certifications. The reasons cited for interest in certification included marketing, establishing credibility and trust, and buyer requirements. Reasons for lack of interest included the cost, time, lack of customer recognition of some certifications, perceived quantity of paperwork, and customer skepticism.

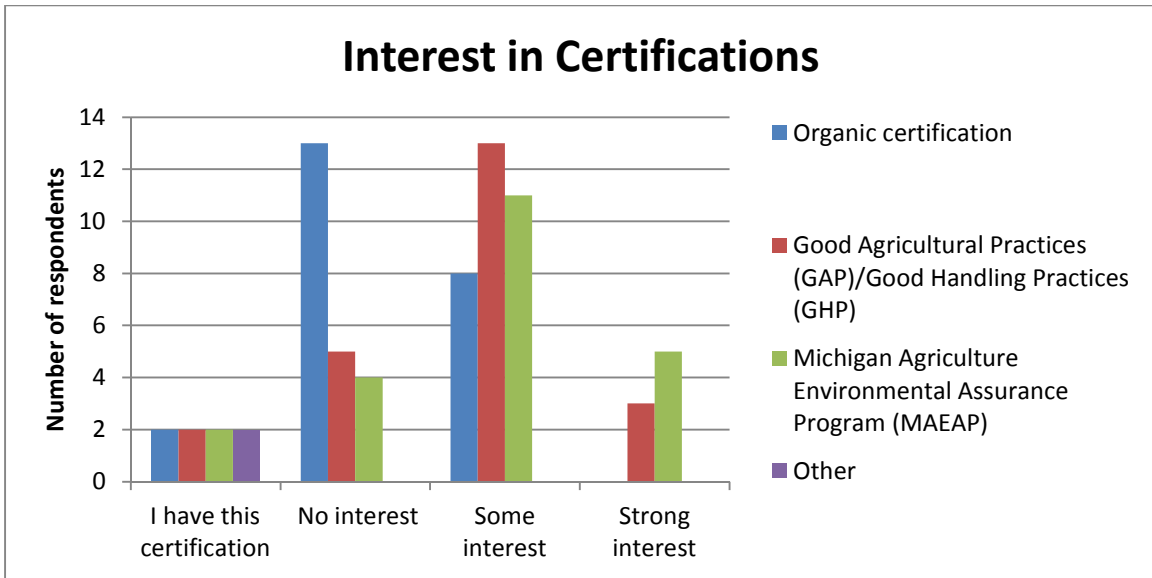


Figure 10 Interest in certifications

3.3.6 Interest in Working with WFH

3.3.6.1 General Interest

The survey sought to identify current grower interest in working with the WFH in various capacities with a focus on wholesale distribution.

Given that the business model for the WFH is still in development, the WFH was interested in the feedback, factors, and concerns that affect respondents' interest in collaboration. One of the greatest factors was the WFH price for goods. The top concerns include profitability of working with the WFH, being able to produce sufficient quantities of produce for wholesale distribution, and signing contracts with the WFH.

Important Factors in Decision to Work with the WFH

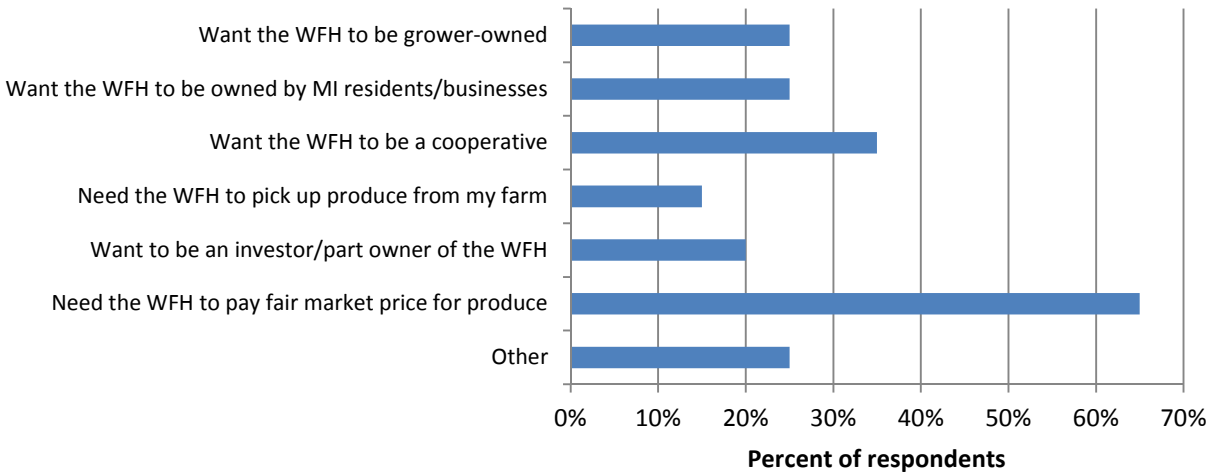


Figure 11 Important factors in decision to work with the WFH

Other important factors include wholesale pricing, distance from farm, supplies offered, production quantities.

There are also some concerns that prevent local farmers from participating in selling wholesale produce to the WFH.

Concerns that Prevent Participation in Selling Wholesale Produce to the WFH

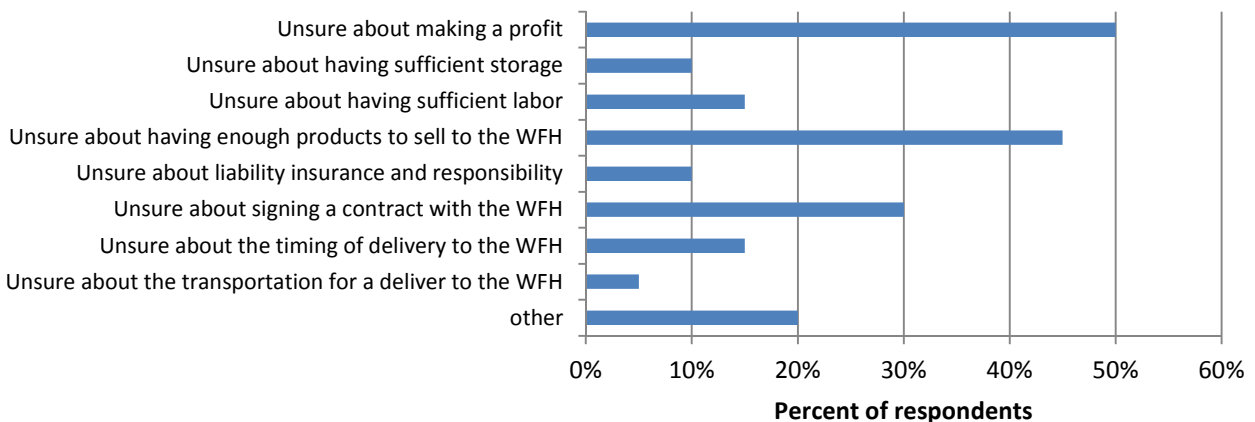


Figure 12 Concerns that prevent participation in selling wholesale produce to the WFH

Other concerns discussed include participation as a meat, poultry, and egg producer, crop production variability, narrow profit margins, loss of close contact with customers, and concerns about moving toward wholesale from other focuses.

3.3.6.2 Interest in Sharing Staff with WFH

WFH is potentially capable of providing a staff-sharing service, therefore enabling better adaptation to the seasonal changes in human resources. In the survey, 27% of participants showed different degrees of interest in sharing staff with WFH, and 40% of participants did not show interest in this idea, as shown in Figure 13.

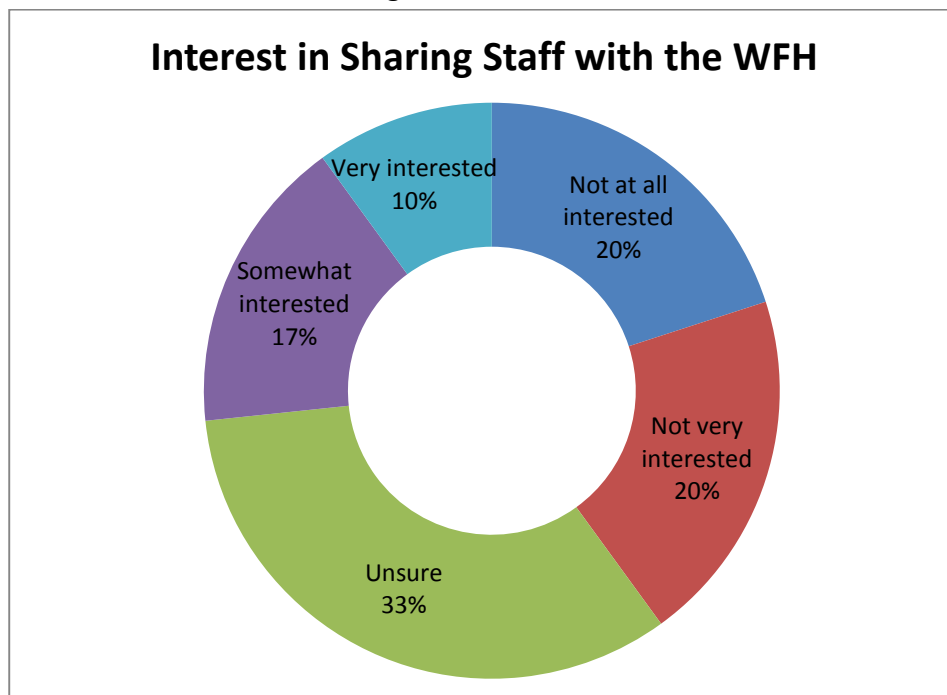


Figure 13 Interest in sharing staff with the WFH

Survey respondents were asked about their interest in sharing particular types of staff. Namely, 45% reported interest in sharing staff for harvesting, 23% for processing, 10% for marketing and sales, and 7% for distribution. There are also some other specific roles mentioned, including maintenance, tasting room staff, weeding, and dairy workers [Figure 14].

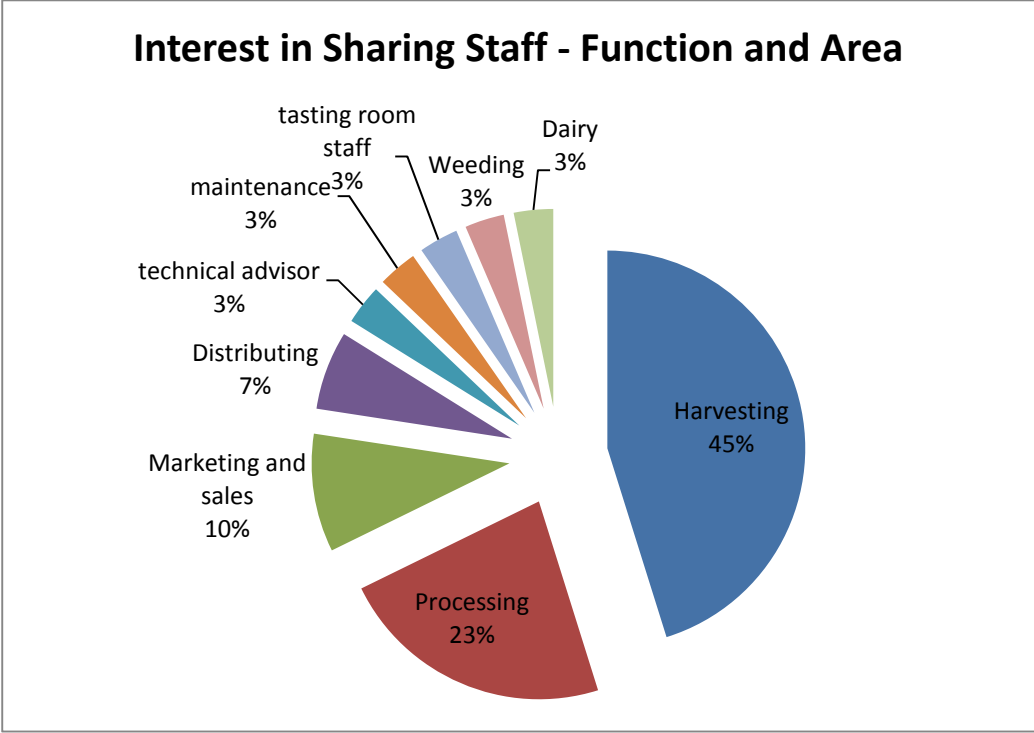


Figure 14 Interest in sharing staff—function and area

3.3.6.3 Crop Availability

When asked about the quantities of crops that could be made available to sell through the WFH in 2014, the vast majority of respondents, said they could provide 0-50 lbs.

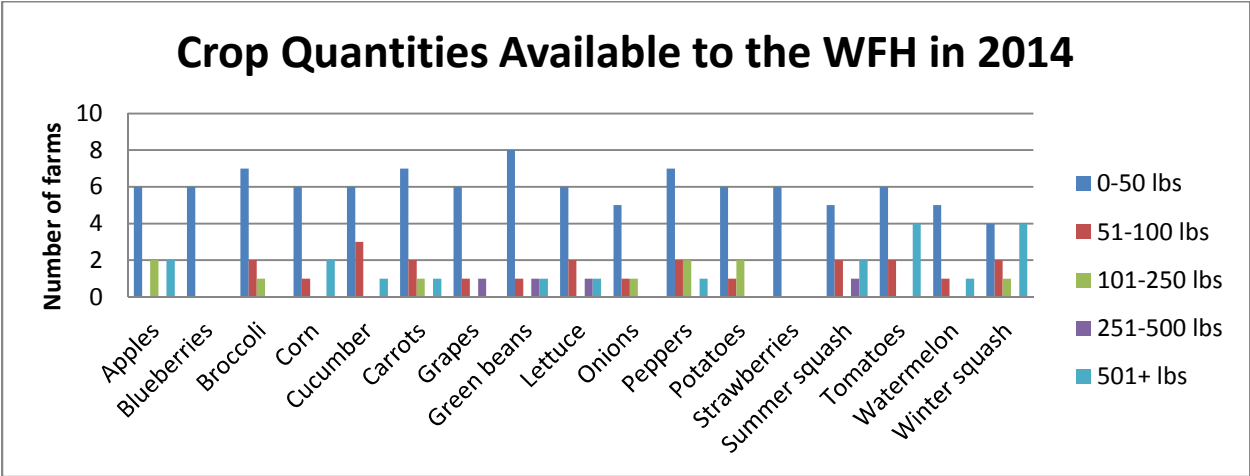


Figure 15 Crop quantities available to the WFH in 2014

3.4 Focus Group Results

In this section, we will analyze the data that were gathered from WFH focus group. The focus group included farmers and value-added producers from Washtenaw County. The goal was to assemble many of the current and potential stakeholders in the same room for an open discussion and to query their needs beyond what the survey could tell us. We discussed topics regarding what participants expect of the WFH, what services they both desire and could offer, and likely timelines for working with the WFH. For the full list of discussion questions and procedures, see Appendix C.

3.4.1 Shared Infrastructure and Resources

Growers identified diverse infrastructure and resource needs in their respective businesses, though some overlap was observed. A sizable consensus of growers expressed strong interest in using the WFH for shared equipment and for bulk-buying goods. In addition, they identified an interest in using the WFH as a location for equipment maintenance and repair services, and as storage space for items such as grains, beans, grain silo, and mushrooms, and freezer storage space was also identified as a possible need. They further identified the kitchen as a potential site for creating value-added goods, such as bean processing, pickled items, packaging salad mixes, jarring, canning, and producing different types of sauce. Several growers also expressed interest in having meat-processing capabilities at the WFH, including turkey delivery for a buyers' club and USDA certified meat smoking and meat processing facilities.

Table 7 Desired equipment/inputs for the WFH

Desired shared equipment	Root washers, milling equipment, garlic and bean harvesters, greens washer, onion topper, wash and pack station, honey house/extracting tools, combines, and one row corn pickers
Desired inputs for bulk-buying	Compost, topsoil, flats, seeds, plastic mulch, drip tape, cover crop seed, tillage radishes, green sand, basic farming supplies, soil amendments, organic fertilizer, honey bottles, CSA boxes, quart and pint boxes, other packaging, and inputs for credits to get biodiesel

3.4.2 Coordination of Aggregation and Distribution

Other desired functions of the WFH included coordination of aggregation and distribution of produce and coordination of special groups and food system stakeholders. Many of the focus group participants agreed that there often is a gap between farmers and buyers in the

community, and that the WFH could play a vital role in connecting all the stakeholders of the local food system, from growers to institutions, farm-to-school programs, and farmers markets. The WFH could serve as an aggregation and/or distribution spot for extra produce or grains, and could transport this excess to other cities or regions in bulk.

Additionally, most participants were interested in using the WFH to access larger institutional buyers. Many seemed amenable to the idea of contract growing with an institution, where each contracting farm is responsible for only a portion of the requisite volume. Similarly, some expressed interest in using the aggregate supply and transportation to service underserved communities and food deserts in the area. They were interested in both exploring food stamp capabilities and donating extra produce. Some farmers, however, were concerned with the WFH managing wholesale accounts, but said this could be overcome by establishing trust between the producers and account managers.

3.4.3 Shared Services

The groups also showed interest in shared labor, marketing, and a cooperative membership program. The topic of shared labor yielded mixed results – many growers were enthusiastic about the possibility of accessing temporary manual labor provided by the WFH, but were more reluctant to agree to shared accounting services. They voiced concern that a hired accountant may not be well versed in small farm practices and therefore not suited to growers' needs. Moderate interest was expressed in certification and education programs, such as efficiency assessments; exploring methods of knowledge sharing; USDA safety law workshops; inspection guidance; and assistance pertaining to GAP/GHP, FSMA, MAEAP, and organic certification. Several growers also proposed that the WFH run as a membership program or cooperative to provide these services to members.

3.4.4 Shared Knowledge

A consensus of participants was interested in creating an online directory or network that could be used for sharing knowledge between farmers on growing conditions, networking, equipment sharing and maintenance, and as a market for goods and services. They described the idea as a way to “connect the right people with the right people,” meaning linking farmers and consumers of specialized produce, trading labor, and farmers looking to sell excess farm inputs to other farmers or to share expensive machinery already owned by another in the area. The desired website, “a Craigslist for farmers,” could be updated by the user-farmers and could be as basic as a chat forum or message board.

Many growers were hesitant to lend resources or skills to the development of the WFH due to commitment demands and lack of time. However, a Detroit area distributor expressed interest in working with underserved populations to help distribute local foods bought wholesale from farms, and offered to help organic farmers standardize product prices and diversify revenue stream to make higher profit margins. One grower offered assistance in managing the WFH kitchen, while others offered to teach annual classes on topics regarding farm finance and productivity. The consensus of participants, however, was interested in beginning a relationship with the WFH as soon as possible, and in particular immediately with the online directory/network. In addition, many showed interest in bulk-buying soon and in the prospect of using the WFH kitchen as soon as it is completed and certified, which is estimated for December 2013.

Not many of the farmers said they were currently working with value-added producers. However, some expressed interest in using the WFH to facilitate relationships among growers, producers, processors, and end users. This could be done by classes at the WFH on adding value by, for instance, pickling and canning, using WFH members for networking and advice, and by using the online directory/network for vetted producers, resources, and consultation.

4 Conclusions

Survey results were used to build a knowledge base of grower demographics, crop yields, and needed resources, as well as to provide an assessment of grower interest in working with the WFH and existing barriers to doing so. Focus group findings indicated strong interest in shared resources, including equipment, materials and labor; WFH as a source of information and education for local growers; and WFH as a center of regional food activity and directory of stakeholders and community groups. Focus group participants expressed a strong interest in continuing in-person and online communications and indicated need for an online network to better connect the WFH, producers, and purchasers to each other, something that the WFH could possibly facilitate.

Next steps include exploring models for how needed services, facilities, and resources could be integrated into the community and the WFH business model, and initiating and maintaining the connections made with survey and focus group participants. Recognized barriers or concerns about participation in WFH activities should be considered and addressed moving forward. The WFH will use these results to shape the direction of its future goals and missives as it supports, shapes, and helps to build a strong regional food system in Washtenaw County.

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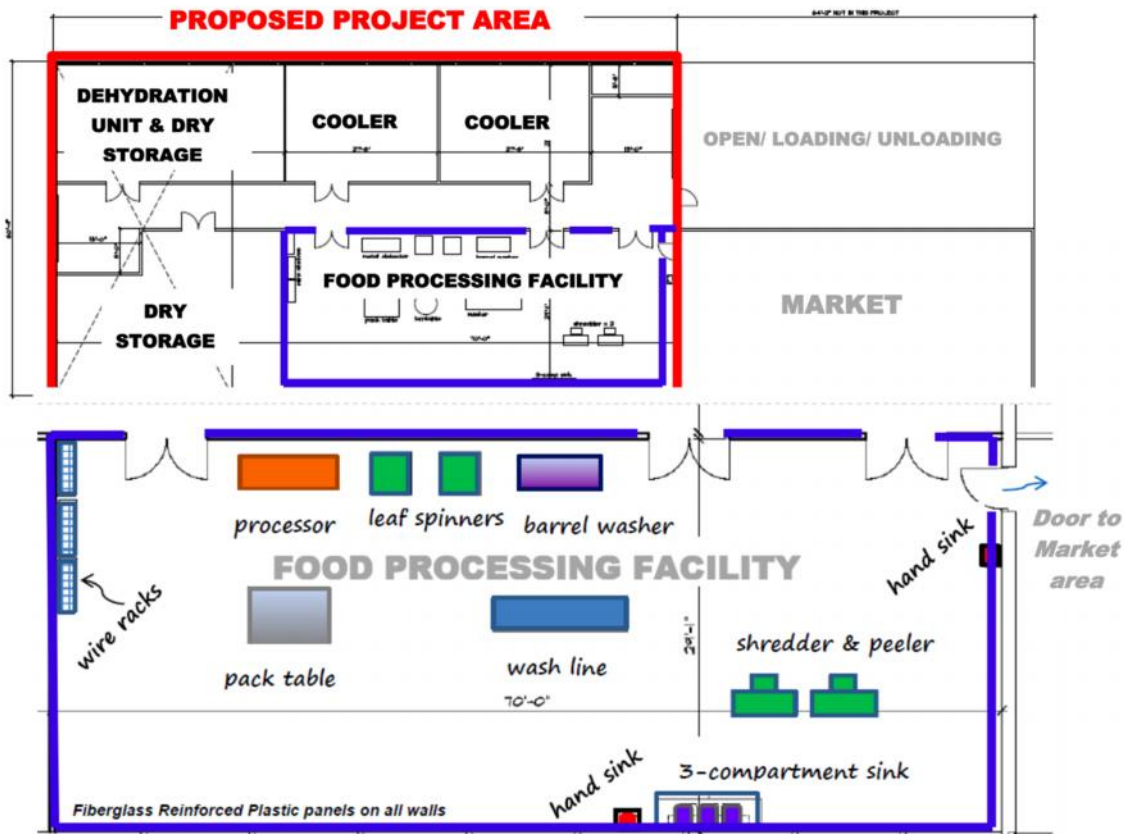
Appendix A: Washtenaw Food Hub Layout Schematic

The following schematic comes from Richard L. Henes and the WFH's Value-Added/Regional Food Systems Grant Application Proposal (FY 2013) to the Michigan Department of Agriculture and Rural Development.



THE PROPOSED PROJECT involves improvements to an existing structure for the construction and operation of:

- two 18'x 36' refrigerated food storage units (COOLERS)
- a food dehydration unit using exit heat from these coolers
- dry storage rooms, and
- a produce washing and packaging facility (FOOD PROCESSING FACILITY)



Appendix B. Washtenaw Food Hub Grower Survey

Grower Survey Consent Form

Background and purpose:

The Washtenaw Food Hub (WFH) is a limited liability corporation formed by successful organic growers, local food advocates, and professionals supporting the development of an environmentally and economically sustainable food system. Students from the University of Michigan have designed this survey for the Washtenaw Food Hub with the goal of understanding the capabilities and needs of area growers. Survey responses will assist the WFH in developing its mission and in fostering relationships between growers, producers, and potential buyers in the area. The study is being administered by Masters students studying sustainability issues through a Dow Fellowship who are supervised by Dr. Lesli Hoey, Assistant Professor of Urban and Regional Planning at the University of Michigan. Visit the Washtenaw Food Hub website to learn more <http://washtenawfoodhub.com>.

What will be done:

You are being invited to complete a survey, which will take 20-25 minutes to complete. The survey includes questions that will ask growers about the prices of certain types of produce as well as general questions about the current capacity and needs of growers.

Compensation and benefits of this study:

You will be contributing to knowledge about the design, operation, and sustainability of the Washtenaw Food Hub to better meet the need of local farmers. This information will be used to inform future activities of the WFH and efforts to strengthen the local food system. In addition, you will be compensated for your participation in the study with a \$10 gift card from Amazon. To receive this gift, it is important that you provide contact information in the section following the survey, titled "Identifying Information."

Risks and option to quit at any time:

No risks or discomforts are anticipated from taking part in this study. Your participation is voluntary; you are free to withdraw your participation at any time. If you do not want to continue, you can simply leave this website. You also may choose to skip any questions you do not wish to answer.

Confidentiality:

Your responses will be kept completely confidential. We will ask for identifying information at the end of the Internet survey so that we can contact you if are interested in partnerships with the WFH. However, this information is only for WFH use and will not be shared publicly. Only the researchers will see your individual survey. Published data will only be available in an aggregate report of answers across all respondents.

Contact information:

If you have concerns or questions about this study, please contact Amanda Gallaher at acgallah@umich.edu. Visit <http://washtenawfoodhub.com/> to learn more about the Washtenaw Food Hub.

The University of Michigan IRB (Internal Review Board) reviewed the study on October 1st, 2013 and determined it to be exempt from continuing review.

By beginning the survey, you acknowledge that you have read this information and agree to participate in this research, with the knowledge that you are free to withdraw your participation at any time without penalty.

Q1 What items does your business produce? Select all that apply.

- Meat (1)
- Vegetables (2)
- Fruit (3)
- Dairy (4)
- Eggs (5)
- Processed or value-added items (if yes, please list your most popular items) (6) _____
- Flowers/plants (7)
- Other (8) _____

Q2 How many years have you been in business?

- Less than 2 years (1)
- Between 2 and 5 years (2)
- Between 5 and 10 years (3)
- More than 10 years (4)

Q3 In which county or counties is your farm located?

- Calhoun (1)
- Clinton (2)
- Eaton (3)
- Genesee (4)
- Hillsdale (5)
- Ingham (6)
- Jackson (7)
- Lenawee (8)
- Livingston (9)
- Macomb (10)
- Monroe (11)
- Oakland (12)
- Shiawassee (13)
- Washtenaw (14)
- Wayne (15)
- Other (16) _____

Q4 How many acres do you have in production?

- 1-9 (1)
- 10-49 (2)
- 50-199 (3)

- 180-499 (4)
- 500+ (5)

Q5 How many full-time workers does your business employ at its maximum production level (in peak season)?

- 0 (1)
- 1-2 (2)
- 3-5 (3)
- 6-10 (4)
- 11+ (5)

Q6 How many part-time workers does your business employ at its maximum production level (in peak season)?

- 0 (1)
- 1-2 (2)
- 3-5 (3)
- 6-10 (4)
- 11+ (5)

Q7 How many interns does your business employ at its maximum production level (in peak season)?

- 0 (1)
- 1-2 (2)
- 3-5 (3)
- 6-10 (4)
- 11+ (5)

Q8 How many full-time workers does your business employ at its minimum production level?

- 0 (1)
- 1-2 (2)
- 3-5 (3)
- 6-10 (4)
- 11+ (5)

Q9 How many part-time workers does your business employ at its minimum production level?

- 0 (1)
- 1-2 (2)
- 3-5 (3)
- 6-10 (4)
- 11+ (5)

Q10 How many interns does your business employ at its minimum production level?

- 0 (1)
- 1-2 (2)
- 3-5 (3)
- 6-10 (4)
- 11+ (5)

Q11 Do you employ a marketing/sales specialist?

- Yes (1)
- No (2)

Q12 If yes, how many individuals do you employ as a marketing/sales specialist?

- 1 (1)

- 2-4 (2)
- 5 or more (3)

Q13 Many farms and other food businesses function on a seasonal basis with peak growing season in the warmer months and peak processing the cooler months. Sharing staff can ensure consistent job opportunities for workers and can enable businesses to retain trained staff. The WFH is potentially interested facilitating these opportunities. Please indicate your interest in sharing staff through the Washtenaw Food Hub:

- Not at all interested (1)
- Not very interested (2)
- Unsure (3)
- Somewhat interested (4)
- Very interested (5)

Q14 Please indicate in which areas, if any, shared staffing would be useful to your business.

- Harvesting (1)
- Processing (2)
- Distributing (3)
- Marketing and sales (4)
- Other (5) _____

Q15 Use the matrix to: A) select the crops that you are growing/have grown this season B) provide maximum capacity growth for each crop in 2013C) provide the average price/lb of each crop or specify if using other units) indicate the quantity of each crop that could be made available for purchase by the Washtenaw Food Hub.

	Maximum capacity for each crop in 2013:	Quantity of each crop which could be made available to WFH:	Average price/lb of each crop:								
	0-50 lbs (1)	51-100 lbs (2)	101-250 lbs (3)	251-500 lbs (4)	501+ lbs (5)	0-50 lbs (1)	51-100 lbs (2)	101-250 lbs (3)	251-500 lbs (4)	501+ lbs (5)	Please enter the average price/lb or specify if using other units. (1)
Apples (1)											
Blueberries (2)											
Broccoli (3)											
Corn (4)											
Cucumber (5)											
Carrots (6)											

Grapes (7)																				
Green beans (8)																				
Lettuce (9)																				
Onions (10)																				
Peppers (11)																				
Potatoes (12)																				
Strawberries (13)																				
Summer squash (14)																				
Tomatoes (15)																				
Watermelon (16)																				
Winter squash (17)																				

Q16 Are there other crops that you would be interested in selling through the food hub? If so, please: A) indicate other crops you would be interested in selling B) provide maximum capacity growth for each crop in 2013 C) provide the average price/lb of each crop or specify if using other units) indicate the quantity of each crop that could be made available for purchase by the Washtenaw Food Hub.

Q17 What was your estimated total revenue in 2012?

\$0-19,999 (1)

\$20,000-\$49,999 (2)

\$50,000-\$99,999 (3)

\$100,000-\$199,999 (4)

\$200,000-\$499,999 (5)

\$500,000+ (6)

Q18 Please select the option that best fits your business model:

My business model is based mainly on existing supplies of what I choose to grow or produce (1)

My business model is based mainly on demand from buyers (2)

My business model is a fairly even balance of supply and demand (3)

Q19 Please indicate to what extent you use the following methods of marketing and/or promoting your produce or products:

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Extensively (5)
Word of mouth (1)					
Signage at					

Farmer's Market (2)					
Advertising (print or other media) (3)					
Partnerships with other businesses (4)					
Sales/marketing manager (5)					
Company website (6)					
Social media (e.g. Facebook, Twitter) (7)					
Donations to special events (8)					
Other (9)					

Q20 Please select and rank your top 5 markets for your produce or products using the following scale (only select one value for each market): 1 – smallest market; 5 – largest market

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)
On-site market (1)					
Farmer's market (2)					
Wholesale distributor (3)					
Small businesses (4)					
Restaurants (5)					
Grocery stores (6)					
Institution (school, hospital, university) (7)					
Online or mail-order (8)					
CSA (9)					
Other (10)					

Q21 Are you interested in increasing your sales to any of the following markets? Select all that apply.

- On-site market (1)
- Farmer’s market (2)
- Wholesale distributor (3)
- Small businesses (4)
- Restaurants (5)
- Grocery stores (6)
- Institution (school, hospital, university) (7)
- Online or mail-order (8)
- CSA (9)

Q22 Are you working with a value-added producer?

- Yes (1)
- No (2)

Q23 If yes, is there a possibility that this value added producer would be interested in working with WFH? You may include their name and contact information if applicable.

- Yes (1) _____
- No (2)

Q24 Which forms of season extension do you use currently? Select all that apply.

- None (1)
- Hoophouse (2)
- Greenhouse (3)
- Root Cellar (4)
- Other (5) _____

Q25 Do you have an interest in using/expanding any form of season extension in the next 5 years? Select all that apply.

- None (1)
- Hoophouse (2)
- Greenhouse (3)
- Root Cellar (4)
- Other (5) _____

Q26 Do you have an interest in increasing your productivity or expanding your business in the next 3 years?

- Not at all interested (1)
- Not very interested (2)
- Somewhat interested (3)
- Very interested (4)

Q27 If yes, please identify the extent to which of the following factors are potential barriers to increasing your productivity or expanding your business.

	Not a barrier (1)	A minor barrier (2)	A moderate barrier (3)	A considerable barrier (4)	A significant barrier (5)
Labor (1)					
Resources and facilities (2)					
Capital (3)					

New market channels (4)					
Increased demand (5)					
Land (6)					
Food Safety certification (7)					
Other (8)					

Q28 Cooperatives CSAs are multi-farm organizations that can have benefits such as shared marketing, equipment, purchasing, or other resources. Are you interested in participating in a cooperative CSA?

- Yes (1)
- No (2)

Q29 Indicate your need for acquiring the following resources, facilities, or capacities for your business:

	No need (1)	Minor need (2)	Some need (3)	Extensive need (4)
Storage (1)				
Washing and packing (2)				
Distribution and logistics (3)				
Bean and seed cleaning (4)				
Grain milling (5)				
Honey extraction (6)				
Tractor repair (7)				
Root cellar (8)				
Food safety training (9)				
Traceability (10)				
Commercial kitchen (11)				
Cooperative aggregation (12)				
Co-branding (13)				
Bulk buying supplies (14)				
Liability insurance (15)				
Legal services (16)				
Customer service (17)				
Acquiring capital (18)				
Accounting (19)				

Q30 Please indicate whether you have the following certifications or have any interest in acquiring them.

	I already have this certification (1)	I have no interest in obtaining this certification (2)	I have some interest in obtaining this certification (3)	I have strong interest in obtaining this certification (4)
Organic certification (1)				
Good Agricultural Practices (GAP)/Good Handling Practices (GHP) (2)				
Michigan's Agriculture Environmental Assurance Program (MAEAP) (3)				
Other (4)				

Q31 Please indicate why or why not you are interested in acquiring any of the above certifications.

Q32 Are you interested in pursuing a growers agreement contract with a value added producer and/or wholesale distributor for the 2014 harvest?

- Yes (1)
- No (2)
- Undecided (3)

Q33 What factors are important in your decision to work or not work with the Washtenaw Food Hub? Select all that apply.

- I would want the WFH to be grower-owned (1)
- I would want the WFH to be owned by Michigan residents and/or businesses (2)
- I would want the WFH to be a cooperative (3)
- I would need the WFH to pick up produce from my farm (4)
- I would want the opportunity to become an investor or part owner of the WFH (5)
- I would need the WFH to pay fair market price for produce (6)
- Other (7) _____
- None of the above (8)

Q34 What concerns do you have that may prevent you from selling wholesale produce to the WFH? Select all that apply.

- I am unsure if I will make a profit (1)
- I am unsure if I have sufficient storage (2)
- I am unsure if I have sufficient labor (3)
- I am unsure if I produce enough to sell to the WFH (4)
- I am unsure about liability insurance and my responsibility (5)
- I am unsure about signing a contract with the WFH (6)
- I am unsure about the timing of delivery to the WFH (7)
- I am unsure about transportation for a deliver to the WFH (8)
- Other (9) _____

Q35 Please use this space to elaborate on any of your concerns.

The following section of the survey is optional. It is only for use by the Washtenaw Food Hub and will not be shared publicly.

Q36 What is your farm or business name?

Q37 What is your full name?

Q38 What is your email address? Remember to please include your email if you are interested in receiving a \$10 gift card.

Q39 What is your phone number?

Q40 The Washtenaw Food Hub may contact me regarding possible partnerships.

- Yes (1)
- No (2)

Q41 I am willing to participate in a follow-up interview or focus group regarding grower capacity and needs. If yes, please provide your contact information above.

- Yes (1)
- No (2)

Q42 Do you have any other thoughts or suggestions for the Washtenaw Food Hub?

Q45 Thank you for your time! You have reached the end of the survey, and selecting the next arrow will submit your answers. If you have any questions about the survey, please contact Amanda Gallaher at acgallah@umich.edu. To learn more about the Washtenaw Food Hub, visit our website at <http://washtenawfoodhub.com/>.

Appendix C. Focus Group Discussion Questions

Washtenaw Food Hub Focus Group Consent Form

November 4, 2013

Purpose:

The goal of this focus group is to help us generate discussion about how the Washtenaw Food Hub (WFH) could best meet your needs, what role growers and buyers may play in the development of the WFH, and the larger role the WFH could play in our local food system. You will be contributing to knowledge about the design, operation, and sustainability of the WFH to better meet the need of local farmers and food businesses. This information will be used to inform future activities of the WFH and efforts to strengthen the local food system.

Background:

The WFH was formed by successful organic growers, local food advocates, and professionals supporting the development of an environmentally and economically sustainable food system by fostering relationships between growers, producers, and potential buyers in the area. Please visit <http://washtenawfoodhub.com/> to learn more about the Washtenaw Food Hub.

The study is being administered by University of Michigan masters students Amanda Gallaher, Kevin Peterson, Lydia Du, and Sarah Reinhardt, all of whom are studying sustainability issues through the Dow Sustainability Fellowship Program under the supervision of Dr. Lesli Hoey, Assistant Professor of Urban and Regional Planning at the University of Michigan. Please visit <http://sustainability.umich.edu/education/dow/masters-professional> to learn more about the Dow Sustainability Fellowship Program.

Confidentiality:

Your responses will be kept completely confidential. Published data will only be available in an aggregate report of answers across all respondents and will not include identifiers.

Contact information:

If you have concerns or questions about this focus group, please contact Amanda Gallaher at acgallah@umich.edu or 918-801-5311.

GROUND RULES

1. **WE WANT YOU TO DO THE TALKING.** We would like everyone to participate. I may call on you if I haven't heard from you in a while.

2. **THERE ARE NO RIGHT OR WRONG ANSWERS.** Every person's experiences and opinions are important. Speak up whether you agree or disagree. We want to hear a wide range of opinions.
3. **WHAT IS SAID IN THIS ROOM STAYS HERE.** We want folks to feel comfortable sharing when sensitive issues come up.
4. **WE MAY BE RECORDING THE GROUP.** We want to capture everything you have to say. We don't identify anyone by name in our report. You will remain anonymous.

Discussion questions

1. What needs do you have that the food hub could fill? Specifically:
 - a. What infrastructure needs are currently missing that the WFH could supply (e.g. kitchen space, vegetable wash/pack, distribution, bean and seed cleaning, grain milling, storage capacity, distribution, etc.)?
 - b. Are there needs for shared services, such as food safety certification assistance, shared staff or professional services (marketing coordination, insurance, accounting, etc.)?
 - c. What products could the WFH supply that would help their current business (organic feed, compost, etc.)?
2. What can you do for the food hub? (i.e. what products or knowledge could you contribute? What role might your business play at the WFH?)
3. Timelines for interest in working with the food hub?
4. Do you work with value-added producers? How could the food hub help facilitate relationships between growers, producers, processors and end users?
5. To what extent are you hoping to work with the food hub? (How much produce might you be able to allocate to the WFH? How much time are you able to invest in developing this partnership?)
6. If you have already completed the Washtenaw Food Hub Grower Survey, are there other comments that you would like to add?