Missouri Coalition for the Environment
St. Louis Food Policy Coalition

St. Louis Farm to Institution Feasibility Study

MCE

STL FPC

This feasibility study is a project of Missouri Coalition for the Environment (MCE), on behalf of the St. Louis Food Policy Coalition (STLFPC), a coalition of organizations working to promote a thriving local food system that supports the health, community, environment, and economy of the Greater St. Louis Area. MCE is the backbone organization for STLFPC and MCE staff led this study.

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Missouri Coalition for the Environment, a statewide environmental advocacy organization working to educate, organize, and advocate in defense of Missouri's people and their environment since 1969.

Additional Credits
MCE interns Jadine Sonoda and Rebecca Pirtle were also invaluable in the development of this study.

Cover Photo Source: HartBeet Farm in Eolia, Missouri

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Source: New Roots Urban Farm in St. Louis, Missouri

Project Background

Following the November 2014 release of Missouri Coalition for the Environment's (MCE) St. Louis Regional Food Study, MCE started its Food and Farm Program. The Food and Farm Program team advocates for food policy issues at both the state and federal level, as well as provides staff support and facilitates work groups for the St. Louis Food Policy Coalition (STLFPC).

The STLFPC is a group of nonprofit organizations, governmental agencies, and passionate individuals working together to address the food system needs of the Greater St. Louis area. The STLFPC bridges the many local efforts addressing hunger, food access, environmentally-responsible farming, nutrition, social justice, community, and economic development to form a coordinated, local food system. The STLFPC envisions a thriving local economy in the Greater St. Louis area where everyone has access to affordable, healthy food from local producers who are stewards of our soil, air, and water resources. Specifically, the STLFPC works to shape public policy and influence decision makers about local food systems and their connections to concerns of health equity, environmental conservation and restoration, social justice, community development, and economic development. The structure of the STLFPC consists of multiple work groups, one of which includes the food hub work group that is dedicated to supporting environmentally-responsible farmers located within 150 miles of the St. Louis region, including assessing the need for a regional food hub. MCE works on local food system issues because MCE believes that the food system is an integral part of our environment and that a healthy food system is both sustainable and equitable—it preserves the integrity of air, land, and water while producing abundant, healthy food that is accessible and affordable across all communities.

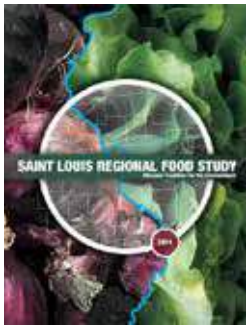
In 2016, MCE food and farm director, Melissa Vatterott and members of the STLFPC food hub work group conducted outreach and polling of regional farmers that use environmentally-responsible practices. MCE partners University of Missouri Extension (MU Extension), Lincoln University Cooperative Extension (LUCE), Fair Shares CCSA, Eat Here St. Louis, Illinois Stewardship Alliance, Slow Food St. Louis, and Foodworks assisted with distributing this survey to farmers they work with. Through this 2016 survey, it was clear

that farmers in the St. Louis region would benefit from access to greater delivery, distribution, aggregation, and processing infrastructure. At the same time, there was a growing desire for more local food in restaurants, stores, and other food-to-consumer spaces. As a result, in 2017, MCE, with support and commitment from the STLFPC food hub work group members, Fair Shares CCSA, and MU Extension, submitted a USDA Local Food Promotion Program grant to hire a staff person part-time to conduct a thorough analysis of the demand for local food products in institutions and the volume of product that could be made available by area farmers. This role has been covered by MCE's local food coordinator, Rae Miller, who took on the oversight role of the food hub work group from MCE's food and farm director upon receipt of this grant.

It is important to note the focus on environmentally-responsible farmers in the region. These farms are mostly under 10 acres and are specifically specialty crop producers (see initial farmer survey in 2016). As farms scale-up, their practices usually shift from using laborers to using chemical inputs and heavy equipment. These small-scale, environmentally- responsible farmers are the focus of this study because of the desire by chefs, consumers, and environmental and public health advocates to see these farmers succeed, despite pressure from industry and incentives from the federal government to raise or grow their products in less safe, less environmentally-responsible ways.

St. Louis Regional Food System Background

In 2014, MCE published the St. Louis Regional Food Study, which illustrates the trends of our food system within a 100-mile radius of St. Louis. After publishing the Food Study, MCE recognized that many farmers outside of this geographical parameter were either selling to the St. Louis area or were seeking to do so. Therefore, in order to best support local food systems across Missouri and Illinois, the focus has been expanded to include farmers within a 150-mile radius of St. Louis. However, due to MCE's extensive background on the food system within the prior parameters of the 2014 Food Study, MCE has outlined on page 5 the state of the local food system based on those findings.



These statistics illustrate that the St. Louis region has a lot of farmland, but the region is not using most of it to produce nutritious foods and few people are employed in farming. Most who are farming are not making a living wage from farming alone. Very little of the money spent on food goes to farmers because most of the food available is grown far away and comes from a supply chain involving many sectors. Individuals in both rural and urban areas face food insecurity. With this study's recommendations, MCE hopes to increase opportunity for environmentally-responsible farmers to sell their products, significantly improve access to nutritious food, boost agriculture employment, and ensure more of the region's food dollars are kept here.

A Snapshot of the St. Louis Region

Location and population

The St. Louis region is home to roughly

4 million people

•

Consumer Spending

In 2013, consumers spent

$16.8 billion

on food.

•

Dollars in the Hands of Farmers

In 2016, farmers received a mere

7.8 cents

for every "food dollar" spent.

•

Employment

In 2012, the region employed only

28,903

hired farm workers,

or 0.8% of the region's adult population.

Poor Diet

Residents are

underconsuming

fruits, vegetables, and dairy while

overconsuming

meat, solid fats, sugar, sodium, and grains (without eating enough whole grains).

•

Poor Health

Of the region's total population in 2009,

9.5%

were diabetic and

30.4%

were obese.

•

Corn and Soy

In 2012,

84%

of the region's cropland produced corn and soy,

95%

of the cropland produced crops used mostly for livestock feed, processed food ingredients, and ethanol.

Fruits and Vegetables

0.01%

of the St. Louis region's cropland produced fruits and vegetables in 2012.

•

Limited Healthy Food Access

Residents of color in the St. Louis region are disproportionately affected by low access to healthy food outlets,

making food access a racial equity issue in our region.

•

Poverty

Meanwhile,

592,510 people,

or 14.7% of the region's population were food insecure in 2013. In the same year,

279,990 people,

or seven percent of the population, were below 130% of the poverty line.

Study Funding & Methodology

Project Partners

MCE local food coordinator, Rae Miller, spearheaded this 18-month farm to institution feasibility study with support from MCE food and farm director, Melissa Vatterott, grant partners Sara Hale and Jamie Choler of Fair Shares CCSA, and Debi Kelly of MU Extension in Jefferson County. Other major partners who provided resources, time, and other support for this project include Miranda Duschack of Lincoln University Cooperative Extension (LUCE), Preston Walker of Eat Here St. Louis, Trina Ragain of Operation Food Search, Gibron Jones of HOSCO, Jenn DeRose of Green Dining Alliance, Ryan Albritton of Sprouthood, Jackson Hambrick of Gateway Greening, Carolyn Cosgrove Payne of Washington University's Environmental Studies Program, and Tom Coudron and Rob Davies of Missouri Farmers Union. Toward the end of the feasibility study period, the Franciscan Sisters of Mary, seeing the value of this work and committing to its success, hired a business consultant, Rhonda Smythe, to assist in developing a business plan for a regional food hub.

Study Funding

Missouri Coalition for the Environment received a USDA Local Food Promotion Program planning grant

Methodology

MCE and partners utilized a myriad of methods to conduct this study. Based on prior experience engaging with communities, farmers, and MCE partners, it was vital that the farm to institution work incorporated a variety of outreach methods necessary for ensuring multi-stakeholder buy-in.

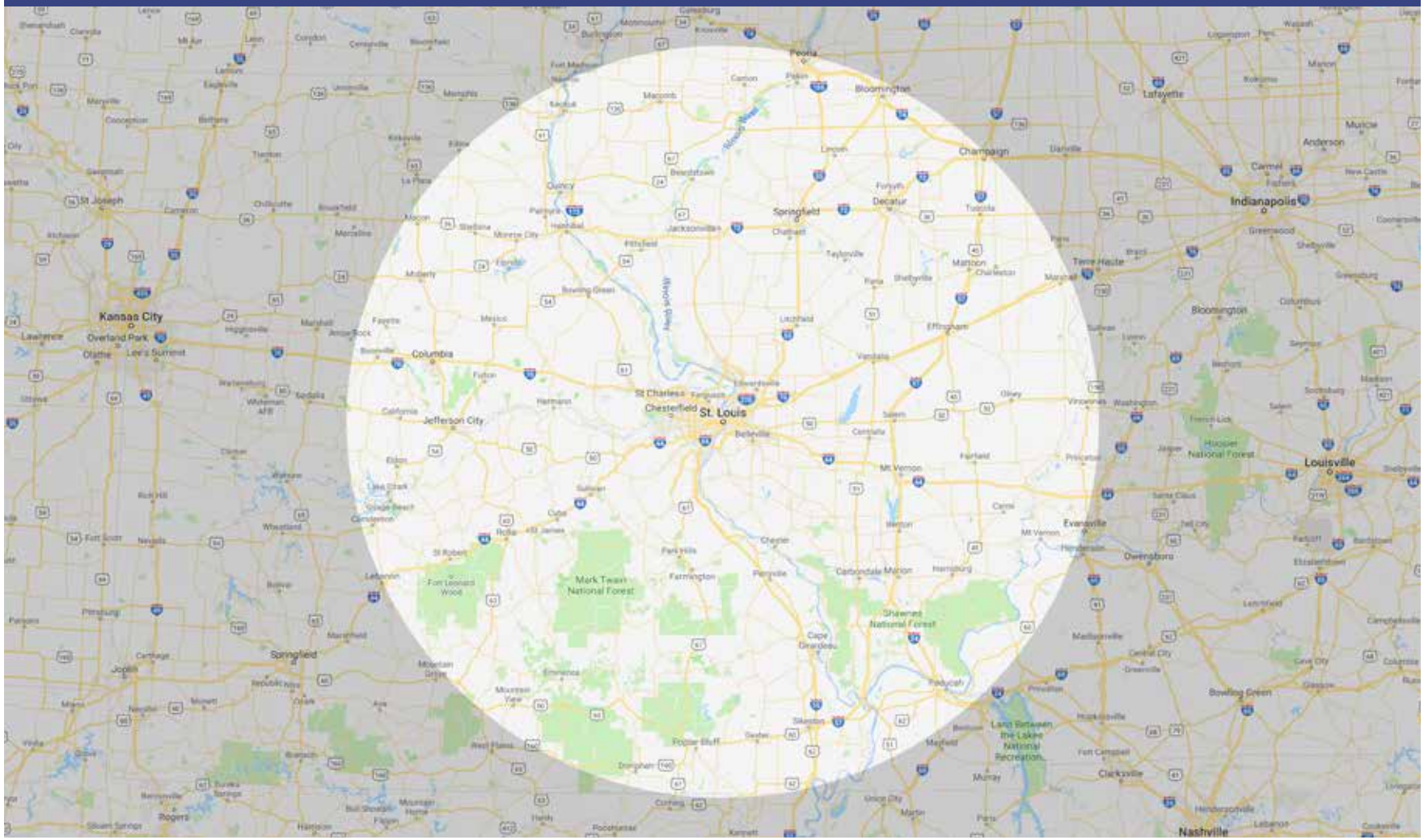
First, MCE and partners used the information provided in the 2016 farmer survey as a base to gauge farmers' interest in selling to various local food buyers. In partnership with Fair Shares CCSA and their network of 65 farms, MCE's local food coordinator Rae Miller focused on strengthening and expanding the network by connecting with partner organizations that work closely with farmers in the region, hosting two regional farmer meetings, visiting farmers on their farms, conducting farmer outreach via phone calls and emails, distributing a subsequent farmer survey in 2018, and hosting statewide farmer outreach events.

To gain information and insight from current and potential local food buyers, aggregators, and distributors regarding local food purchasing in the region, MCE conducted a survey of chefs and held in-person and phone interviews with

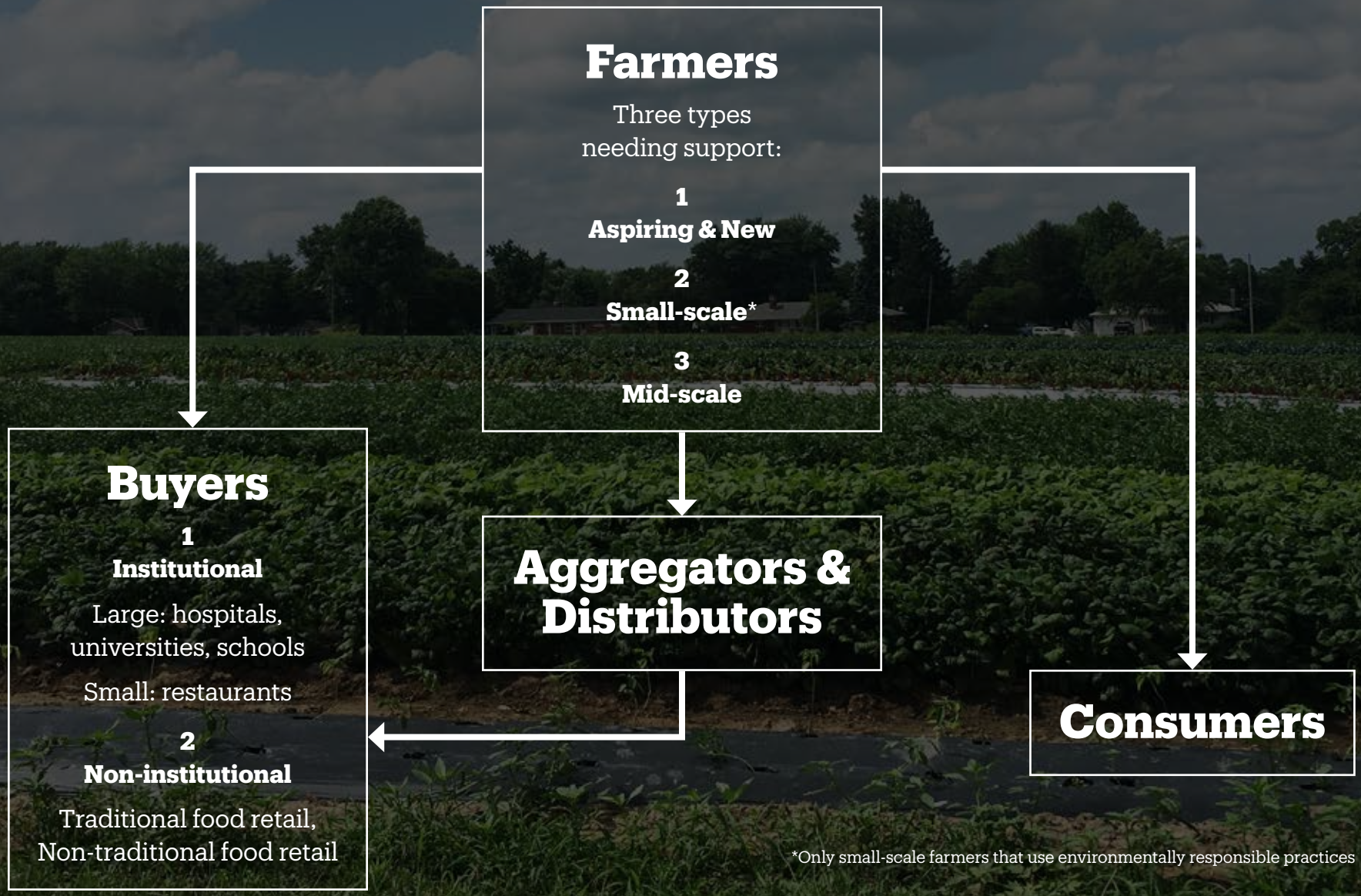
contacts at universities, schools, hospitals, restaurants, and other local food buyers. Eat Here St. Louis, Green Dining Alliance, and Operation Food Search were vital partners in building relationships with many of the buyers.

MCE held regular strategy sessions with the STLFPC food hub work group to assess and determine strategies throughout the study as new information was gleaned from the above mentioned food system actors.

150 miles around St. Louis



Food System Actors



*Only small-scale farmers that use environmentally responsible practices

Source: Terripin Farms in Quincy, Illinois

Summary of Findings

- **Most large institutions are not ready to take on local product from the MCE farmer network due to requirements from their food service providers that most of the farmers cannot meet.**

- **Small institutions are more capable and many are already sourcing from farms in the MCE network. MCE focused much of its energy during the study making connections between farmers and small institutions.**

- **There are several existing aggregators and distributors in the region already moving local product at varying scales and to various buyers. It is critical to work with them to determine the future of farm to institution in the St. Louis region.**

- **There is increased demand for local products grown with environmentally- responsible practices from individual consumers and all types of buyers, and the region needs better ways to communicate how to buy these local products.**

- **Farmers need a variety of resources in order to ultimately sell to institutions and run more profitable businesses overall in the St. Louis region.**

- **The region will ultimately need a food hub that aggregates local product from a number of farmers throughout the region in order to have a successful farm to institution supply chain. However, the immediate needs outlined in this study must be addressed first in order for the St. Louis region to be ready for a food hub within the next five years.**

- **The recommendations in this study must be advanced with all buyers and the following three types of farmers in mind: new and aspiring farmers, small-scale farmers that use environmentally-responsible practices, and mid-scale farmers.**

Summary of Recommended Actions

MCE, grant partners, and other key members of the food hub work group identified the following strategies as critical to filling gaps in the St. Louis regional food system as it relates to aggregation and distribution infrastructure of local products. Through this process, the group also identified other needs of regional farmers that would lead to their success in reaching new buyers.

Farmer-Identified Next Steps

Communication Platform

- *Assess effectiveness of current Google Group for farmer-to-farmer communication*
- *Determine what better method could be used in the next year*
- *When it comes time for the establishment of a physical food hub, determine what communication and ordering software should be used to satisfy all communication needs of the farmer network and the buyers*

Delivery and Distribution

- *Identify optimal routes and the location of sub-hubs*
- *Build sub-hub infrastructure if needed or ensure necessary refrigerated trucks are in the network*
- *Identify and hire transporters of local product*

Marketing

- *Launch marketing program for environmentally-responsible farmers*
- *Secure funds to ensure the in-process regional marketing brand will reach its full potential*

Processing

- *Identify existing commercial kitchens that are available for quick turnaround on both large and small-scale processing of local product into frozen, canned, and prepared foods*
- *Determine resources available or needed (e.g. staff, equipment, storage), which could include a mobile "food truck" type kitchen*
- *Obtain funds for a local food processing coordinator, which may include managing reservations at various locations, staffing, packaging, and sales or distribution of finished products*

Equipment Share and Bulk Ordering

Establish one or multiple places where farms in the MCE network can rent equipment with staff to manage the rentals. The staff could also be available for hire to provide on-farm services with such equipment, such as providing tilling, plowing, and other services that require expensive equipment, expertise, and time to complete. This staff person, using the communication platform set up for farmers, would also assist in placing bulk orders for farm supplies.

MCE-Identified Additional Next Steps

Food Hub

Once resources are established to meet the immediate needs identified by farmers, develop a business plan for how a regional food hub could work alongside or incorporate existing aggregation, processing, and distribution entities already in the region. The food hub planners and investors will need to assess how to incorporate into the food hub model the transporters, delivery systems, processing kitchens, and equipment sharing and bulk ordering systems established in the first few years after this feasibility study. Seek public and private funds for the development of this food hub.

Training and Education

Increase opportunities for peer-to-peer mentorship, business operation and financial literacy, and career farming agricultural training, especially with guidance for selling into available wholesale markets. Increase opportunities for farmers to learn how to transition to more environmentally-responsible practices. Increase opportunities for Genetically Modified (GMO) commodity producers to learn how to transition to non-GMO commodity seeds, connect them to buyers interested in non-GMO grains, and educate them about how to modify practices to preserve soil health on their fields.

Beds recently seeded with dill and cilantro in early spring at La VISTA CSA in Godfrey, Illinois.

Land Access and Land Transfer

Support urban and rural landowners and interested farmers in developing a way to communicate about land available for lease and for sale. Work with the City of St. Louis to develop a process for urban farmers to purchase land for their urban food production endeavors. Work to improve access to resources and funds to assist urban farmers in remediating urban soils from toxins. Establish a land transfer model to connect retiring farmers seeking a way to retire while ensuring farming continues on their land with new farmers needing access to farmland. The establishment of a farmland trust would also help new farmers have access to farmland that they can practice on and purchase at affordable rates.

Financial Support for GAP Certification

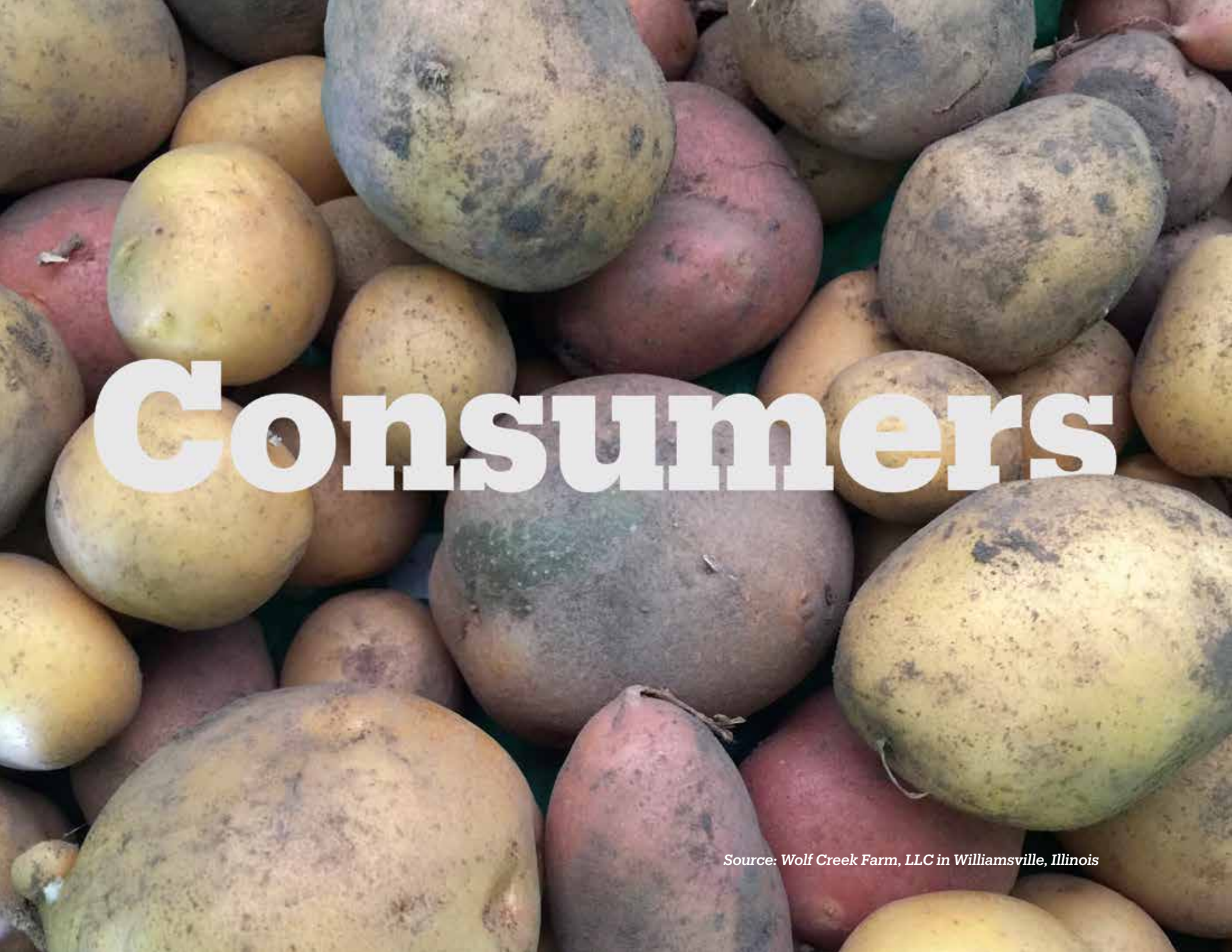
Seek public and private funding to support the MCE farmer network in obtaining GAP certification, both to cover the cost of the certification itself and to hire mentors to assist them in implementing necessary changes on their farm.

Dan Kelly of Blue Heron Orchard in Canton, Missouri, speaks to MCE's Rae Miller and Jadine Sonoda about his apple trees.

The Interconnection of all Food System Actors

The following sections outline the feedback MCE received from the various food system actors: consumers, farmers, institutional buyers, and non-institutional buyers. Each type of actor has its own section below.

Source: Fresh Pasture Farms in Millstadt, Illinois



Consumers

Source: Wolf Creek Farm, LLC in Williamsville, Illinois

Consumer Feedback

As part of MCE's work to support local, environmentally-responsible food systems throughout Missouri and Illinois, MCE's Food and Farm program staff work to ensure consumers have the information necessary to make informed food purchasing decisions. Below are various pieces of information that show consumers in the St. Louis region are interested in having access to local farm products.

Popularity of MCE's Local Food Resources Guide

In December 2018, MCE worked with partners Green Dining Alliance and Eat Here St. Louis to develop a list of restaurants, breweries, and shops that specialize in locally-grown products. When shared on the St. Louis Food Policy Coalition Facebook page, it became the most "viral" post of the page's existence, being shared 132 times and reaching 12,501 people. The popularity of this resource also signaled to MCE that consumers are extremely interested in resources on how to support the local food economy.

Presentations

Food and farm director Melissa Vatterott regularly presents to community groups and concerned consumers about the interconnections between agriculture, the environment, public health, and the local economy. During this feasibility study, Vatterott provided 21 presentations and in every presentation, audience members expressed desire for knowing how to support farmers in the St. Louis region that use environmentally-responsible practices.

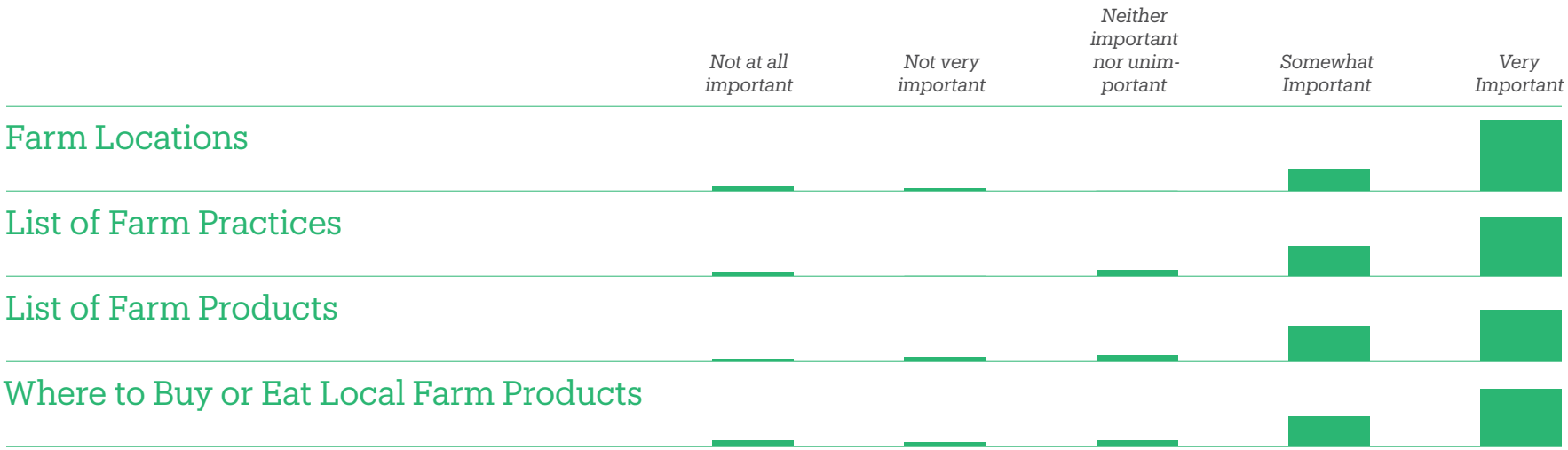
MCE's Interactive Local "Foodshed" Map of St. Louis

MCE has an Interactive Local Foodshed Map (Foodshed Map) for the St. Louis region on its website, illustrating where "local food" resources are within the 150 mile radius around St. Louis, including the locations of farms, gardens, community supported agriculture programs (CSAs), and farmers markets.

The map has been viewed 1,850 times since its creation in the summer of 2015 and 865 times since the beginning of this study in the fall of 2017. In order to ensure the map is meeting viewers' needs, MCE provided a survey for viewers to share what information on the map matters most to them and 64 viewers have taken the survey.

MCE asked survey respondents why they use the map and respondents were allowed to select multiple reasons. Here are the results.

Respondents ranking of the importance of various features on the map



As illustrated above, respondents were most concerned about learning where to buy locally-grown products. After academic purposes and professional research, respondents were most concerned with what farmers grow and what restaurants source their ingredients from area farmers. Respondents also ranked the importance of various features on the map. Here are the results specific to farms and farm products:

Of those who reviewed the farm-related data on the map, 94% believed the location of farms was somewhat or very important, 90% felt the list of farm practices was somewhat or very important, 88% felt the list of farm products was somewhat or very important, and 84% felt the locations of where to buy or eat local farm products was somewhat or very important.

Eighty-four percent of consumers expressed interest in a regional environmental stewardship certification for farms and an eco-label for their products. When asked whether they would like the Foodshed Map to illustrate whether farms meet the proposed certification, 90% wanted to see all farms (certified and non-certified) on the map, but with a special icon for the farms that meet the certification.

The remaining 10% of respondents wanted the map to only illustrate the certified farms. This information indicates that consumers are interested in having a way of knowing about the practices that farmers in the St. Louis region use on their farms and are interested in knowing where to purchase their products.

Source: Three Rivers Community Farm in Elsah, Illinois

MCE's Farmer Network

MCE has a network of over 200 farms within 150 miles of St. Louis, covering much of the eastern part of Missouri, the southwestern portion of Illinois, and the urban growers within the St. Louis metropolitan area. MCE built up this network with the help of partners who distributed MCE's 2016 farmer survey: Slow Food St. Louis, MU Extension, LUCE, Illinois Stewardship Alliance, and Food Works.

Those who completed the 2016 survey began receiving occasional communication from MCE's Food and Farm program. Then with the hiring of Rae Miller, the MCE farmer network expanded through farm visits, phone calls, hosting two farmer meetings, and through the 2018 farmer survey. Most farmers in the MCE network are small-scale, environmentally-responsible, family farms growing fruits and vegetables as well as raising animals on pasture. The network is unlike the majority of farms in the region, which mostly grow GMO corn and soybean commodity crops at large-scale. Around 50% of the farmers in this network grow specialty crops (fruits and vegetables), about 30% raise animals for meat or dairy, some of which also grow speciality crops, and the remaining roughly 20% of farmers raise mushrooms, honey, grains, herbs, or flowers.

For specialty crop production, this means most farms are growing on fewer than 10 acres at a time, with the average farm growing on fewer than 5 acres at a time. For animal production, the number of animals raised by farms in the MCE network varies widely.

Nicki, Beth, and Daryl Morgan of HartBeet Farm stand in front of their hoop house in Eolia, Missouri.

Livestock Production in the St. Louis Region

Unlike environmentally-responsible speciality crop farms, the size of livestock farms is not an indicator of whether the farm uses environmentally-responsible practices. What is more important is the amount of space the producers provide their animals based on the size and spatial needs of those animals, the diet of the animals, and how often the animals rotate on the land, supporting soil health.

Althoff Beef

14
acres

15
cattle

Black Pasture Farm

3
acres

27
goats

Blind Star

160
acres

600-900
laying hens

50
hogs

D&M Farm

112
acres

268
sheep

84
hogs

Buttonwood Farms

65
acres

6,000
laying hens

55,000
broiler chickens

400
turkeys

Five Hen Farm

32
acres

450
laying hens

3,000
broiler chickens

300
turkeys

200
ducks

30
hogs

Fresh Pasture Farm

80
acres

1,200
laying hens

3,000
broiler chickens

300
turkeys

120
hogs

12
cattle

Green Finned Hippy Farms

18
acres

300
laying hens

15
goats

30
hogs

Source: Althoff Farms in La Prairie, Illinois

2018 Farmer Survey Results

MCE sent its farmer network a survey in the summer of 2018 to inform this study and received responses from 67 farms. The information below provides an overview of the size of these farms, their practices, what they grow, where they currently sell, their interest in selling to institutions, and what they need to be more successful.

The Farmers

Seventy-eight percent of the farmers surveyed are either USDA certified organic or use organic practices but are not certified. See the breakdown below.

The majority of farmers currently sell their products through direct-to-consumer markets, such as farmers markets and CSA programs. A few of them already sell to restaurants or small grocery stores.

69%	13%	9%	9%
of farmers use organic practices but are not certified organic	*of farmers use synthetic chemical spray as needed*	*of farmers are certified organic*	*of farmers use conventional practices*

The Feedback

Based on the majority of farmers stating they were somewhat or extremely interested in selling to institutions in MCE's 2016 survey, MCE focused our questions in 2018 on specific resources that would be needed to sell to institutions.

Recognizing the need for greater volume of product to make institutional purchasing possible, MCE asked the farmers if they would be interested in scaling up their production. Ninety-five percent of farmers said they would be interested in growing more food if resources were available to help them do so.

The top need identified through the survey was the establishment of a delivery and distribution system that would take their products into St. Louis markets, saving them time to stay on the farm and do what they love - farming. The resources involved in a delivery and distribution system could include transportation services, sub-hubs, and a central location for products to be aggregated and redistributed to buyers.

Transportation assistance

Forty percent of farmers surveyed said they do not currently sell their products in St. Louis, but they would if transportation of their products into St. Louis was made easier. Another 37% of farmers said they are currently transporting their products into St. Louis but would be interested to learn about transportation assistance opportunities. The remaining 23% of farmers said they are transporting their products into St. Louis and would not be interested in transportation assistance. Several of the farmers not interested in transportation assistance are urban farmers that do not have long distances for transporting their products and several are farmers that are already working as transporters, or farmers that are assisting other farmers with transporting their products into St. Louis.

Sub-hubs

Ninety-four percent of farmers interested in transportation assistance stated they would also be interested in using a drop-off site near their farm that would then pick up and deliver their products to St. Louis for them, which MCE refers to as a sub-hub. These drop off points could have refrigerated shipping containers permanently on site for storage before shipment or they could function as locations for refrigerated trucks to come on a schedule to pick up products from area farmers. MCE has identified several cities in the bi-state area as potential sub-hub locations.

Food hub

Fifty-four percent of farmers said it would be valuable to have access to a central warehouse or food hub that would buy their #1s, #2s, culls, and value-added products. Thirty-six percent of farmers said they would see value in this, but that selling their products at wholesale prices is hard for them to do.

Top three needs identified by farmers:

1
Delivery and distribution assistance

2
Processing local food

3
Marketing

Following delivery and distribution assistance, farmers indicated they would benefit most from access to a processing facility that can pause perishability of food by preserving it through processes such as freezing and canning. The next major need was assistance with marketing of their products and their commitment to environmentally-responsible practices. In fact, 70% of farmers expressed a brand that promotes farmers with environmentally-responsible farming practices would benefit them directly. Twenty percent of farmers said it would not be useful for them. The last of the four major needs was a desire for increased labor to help them expand onto more acreage and increase production on their farm.

Other resources needed based on the survey, but by fewer farmers are:

- *A communication platform to coordinate with other farmers for bulk buying supplies, such as seeds, boxes, and jars.*
- *A closer, more affordable, more informed meat-processing facility*
- *Access to more land*
- *Opportunity to share equipment and tools with other farmers*

Additional Feedback Through Meetings and Farm Visits

Interest Level in Institutional Purchasing Depends on the Type of Institution

After receiving and analyzing the survey responses from farmers, MCE had numerous conversations with farmers—through phone calls, emails, on-farm visits, and at two regional farmer meetings—to learn more about the farmers' interests in and barriers to selling to various institutions. From these conversations, MCE learned that most farmers in the network face the following barriers when they consider selling to wholesale markets:

- *It is not cost effective to go through and maintain Good Agricultural Practices (GAP) food safety certification.*
- *Farmers cannot afford to sell their product at wholesale prices with their current farm operation.*
- *Some farmers have experienced working with wholesale buyers who say they will purchase a farmer's product. However, the wholesale buyer does not follow through on their promise, thereby creating a lack of trust and reliability with the wholesale buyer.*
- *Farmers are not interested in buyer contracts because they do not want to be liable when a crop does not come through due to weather or other environmental factors.*
- *Farmers concerned about their reputation as it relates to the quality of their product, often are uncomfortable with using a transporter to deliver or even selling their product to a wholesaler because they do not have control over what the product will look like when it reaches the end consumer.*
- *Many farmers value the face-to-face interactions they have with consumers and with chefs (if they sell directly to a restaurant) and do not want to lose those relationships.*
- *Farmers are deterred from selling wholesale when many wholesale buyers have additional requirements, such as carrying expensive levels of insurance and requiring frequent water testing.*
- *Farmers need assistance with delivery into St. Louis in order to make scaling up production to meet the large volume demands of whole purchasers easier.*

Farmers face all of these barriers when selling to "large institutions," defined as universities, hospitals, and school districts, many of which require GAP certification through their contracted food procurement and distribution companies. With "small institutions," farmers typically face less barriers because these buyers do not require GAP certification or additional requirements like expensive insurance, and restaurants are often able to pay a higher price than large institutions.

2018 Farmer Survey Results

Barriers Specific to Specialty Crop Producers

In speaking with farmers about their interest and willingness to become GAP certified in order to be able sell to large institutions, most stated that the amount of time and money it takes to become and remain GAP certified is more than they are willing to do, especially as it will only qualify them to sell to institutional buyers, which offer the lowest price for farmers' products. Currently, only farmers with less environmentally-responsible practices are able to meet the GAP certification and volume requirements needed for larger institutions. This is because environmentally-responsible practices require more labor and therefore the end products are more expensive, e.g., hand weeding rather than spraying weeds. When MCE asked farmers what would help them in obtaining GAP certification, they said funds to cover the costs associated with GAP implementation and on-farm audits for GAP (stated also by 52% of 2018 survey respondents) as well as mentorship support from other farmers or farm experts to walk them through making the changes on their farm and helping them to create a Food Safety Plan needed to be GAP certified (stated also by 48% of 2018 survey respondents).

What is FSMA?

Additional requirements that most farmers nationwide are anticipating are the new Food and Drug Administration (FDA) regulations associated with the Food Safety Modernization Act (FSMA). FDA finalized the Produce Safety and Preventive Controls Rules (FSMA rules) in 2015, but concerns and challenges remain that are impacting full implementation of the rules' requirements. MCE and partners had planned to provide educational workshops on FSMA for the MCE farmer network during this study to help them get into compliance with the FSMA rules before they are fully implemented. However, based on how much the farmers in the MCE network produce or where they sell their products, the farmers are mostly exempt from the FSMA rules at this time. If the farmers in the MCE network shift to selling more wholesale, it is possible some of them would no longer be exempt from the rules. Fortunately, FSMA and GAP are fairly similar, so as more farmers become GAP certified, they will not have many additional steps to take to also be FSMA compliant.

Despite MCE's best efforts to provide informative workshops and certification trainings on GAP for the farmer network, it became clear that farmers are not yet ready to make the shift. GAP certification is a major barrier for MCE's farmer network because of the time and cost associated with becoming certified and implementing the needed changes on farm to be GAP compliant. Additionally, because of the complexity of GAP certification and the newness of the process, farmers often find the whole process of becoming certified unclear and overwhelming. Taking these burdens with the uncertainty of whether large institutions are really going to make the purchases from the farmer once they go through all of the steps to become certified, most farmers are not ready to make the shift to GAP certification at this time.

MCE asked farmers if they acquired the resources indicated above and could scale up for institutional selling, which farm products could they grow or raise in volume to sell at wholesale prices and still make a profit. Farmers responded with the following products, in order of popularity:

Produce: tomatoes, cucumbers, cooking greens (spinach, kale, collard, chard), summer squash, winter squash, beets, salad greens (lettuces, spinach, baby cooking greens), sweet peppers, onions, garlic, carrots, turnips, green beans, potatoes, sweet potatoes, cabbage, melons.

Meat: pork, beef, chicken, eggs, lamb, dairy, turkey.

Rainbow chard grows at Seeds of Hope Farm in Spanish Lake, Missouri.

2018 Farmer Survey Results

Despite all of these barriers with large institutions, many of the farmers are interested in selling to small institutions at this time because they typically do not require GAP certification. They were also more interested in selling to large institutions that are self-operated, which allows this subset of large institutions to be more flexible in their purchasing decisions.

Who Requires GAP?

The majority of large institutions in the St. Louis region require local farmers to carry GAP food safety certification. This certification is not federally mandated, but buyer-required. Some institutions are self-operated, meaning they do not have a contract with a food service provider. Since the food service companies are who generally require GAP certification rather than the institutional buyer itself, self-operated institutions often do not require the local farmers they source from to carry GAP certification because they do not work with food service providers. Nearly all restaurants do not require GAP certification unless they are going through a distribution company or food service provider that requires it.

Farmers felt they could more easily provide the volume and variety of product needed for restaurants as compared to large institutions. As a result, MCE spent much of the feasibility study period assessing how to connect farmers to institutions with fewer barriers for farmers, which is generally restaurants and self-operated large institutions. Further, since farm to institution is considered a mostly untapped market opportunity for local farmers, MCE assessed what is needed to get farmers in the St. Louis region to a place where they are capable and interested in supplying to institutional buyers.

Colorful carrots from Rosy Buck Farm in Beaufort, Missouri are bunched together after harvest.

Barriers Specific to Livestock Producers

Livestock producers are facing additional barriers. The major problems livestock producers in the St. Louis region face relate to working with processing plants and they are:

- *Distance to processing plants*
- *Quality of service*
- *Cost of processing and risk of not obtaining all of the producers' animal post-processing*
- *Lack of knowledge and appreciation by staff at processing plants about how animals are raised and the types of cuts that customers of the MCE farmer network want*

Many processing plants do not have the capacity, understanding, or care to provide small-scale livestock producers what they need in terms of consistent cuts of meat, and maintaining a separation between animals raised from other farms with differing practices. Producers reported they often do not get their entire animals back from the processing plant, that the cuts of meat are incorrect, that they are unsure that the meat they are receiving is truly only from the animals they brought in, and that processors use packaging that is not appealing to consumers. Further, many processors use practices that producers disagree with, such as using electric prods to move animals, tying animals up outside for extended periods of time without access to shade, warmth, food, or water. Additionally, farmers face difficulty selling their meat products across state lines if the processor they use is only state-inspected.

Dave Huelsmann prepares to feed his sheep at D&M Farm in Breeze, Illinois.

Currently, many animals are being raised with farming practices that go above and beyond what is required to do what is best for the environment and for the welfare of the animal, which in turn results in the healthiest meat to consume. Unfortunately, many of these well-raised animals are being sent to sale barns because they face too many obstacles when selling them to markets that would be interested in purchasing from farms that have such practices. At sale barns, these higher quality meat products are being sold right alongside concentrated animal feeding operation (CAFO) meat products and thus, the higher quality meat only sells at CAFO meat prices. Some of the obstacles livestock producers face that lead them to resort to selling at sale barns are the cost of processing an animal into cuts that wholesalers or consumers would want, including the cost of packing these individual cuts, time and resources needed to market the product to buyers, and delivering the product to buyers. Meanwhile institutions say they cannot find humanely raised products to buy in enough volume.

2018 Farmer Survey Results

All farmers in the MCE network, and similarly situated farmers, face an additional barrier to reaching new markets due to lack of buyers' education about how these farmers' practices differentiate them from conventional farmers. This is particularly true for the livestock producers, who nearly all, as stated previously, raise and finish their animals in pasture. Most consumers lack understanding as to how the meat they eat is grown or raised, where it comes from, and what type of farming practices they are supporting when purchasing their food. Most consumers are not aware of the various environments, welfare practices, and restrictions animals raised for human consumption can face. For example, many animals in the United States raised for human consumption live indoors, whereas the animals raised by producers in the MCE network are raised outdoors. Some of the animals raised outdoors are raised on permanent dirt lots and some are rotated on pasture monthly, weekly, or daily. Similarly, the diets of these animals vary. Some animals eat Genetically Modified (GMO) grain while others eat non-GMO grain; others eat grain-free or grass-only diets. Furthermore, some animals are manipulated in various ways, such as through dehorning, docking tails, removing beaks, putting rings in hog noses to reduce rummaging, and various castration practices.

Wayne Hall of Iron Will Farm stands in front of his herd of cattle in Cape Girardeau County, Missouri.

The difference in practices coupled with the increased labor required for pasture/open air livestock production vs. livestock production in concentrated animal feeding operations (CAFOs), contributes to the higher prices of meat products produced by the farmers in the MCE network. Thus, livestock producers have expressed a great need for assistance in spreading the word about their practices and why they should be valued by buyers who are not used to paying higher prices for better quality meat products.

Additional Needs to Support St. Louis Farmers in Farm to Institution

There is a series of additional needs identified by both specialty crop and livestock producers that, if met, will enable the St. Louis region to ensure farmers have the resources, expertise, and networks needed to allow them to grow more food, expand their businesses, and ensure the next generation of farmers can thrive in a local farm to institution system.

Trainings and Education

GAP Support

Farmers interested in selling to institutional buyers would greatly benefit from support in obtaining and implementing the changes needed for GAP certification.

Environmental Education

Given increased demand from consumers, and some institutions, to purchase products grown with the environment and public health in mind, regular trainings or peer-to-peer information exchange about how to use environmentally-responsible practices or how to transition from conventional practices to environmentally-responsible practices, would assist current farmers and the next generation of farmers to reach new buyers—individual consumers, institutional buyers, and non-institutional buyers.

Business Education

Farmers would greatly benefit from increased access to resources, knowledge sharing, and trainings on how to best operate their farm businesses.

Education for Conventional Producers

Additionally, as the demand for local, environmentally-responsible product grows among all types of buyers, it is possible that commodity producers will be interested in learning how to diversify their farm to include specialty crop production or transition to using non-GMO seeds for their commodity crop production.

EarthDance Organic Farm School alumni recently stated that they would like access to farmland that is available to rent, secondhand tools, and continued education or workshops.

CHELSEA BURDGE, PROGRAMS COORDINATOR, AT EARTHDANCE

2018 Farmer Survey Results

Examples of ugly fruit and vegetables seen in CSA shares from Fair Shares CCSA.

Gleaning the "Ugliest" Fruit and Vegetables for the Greater Good

Currently, specialty crop producers in the MCE network have some product they cannot sell either because: 1) based on the product size, shape, or number of blemishes, the farmers already know their customer base will not accept it or it will be rejected; or 2) the anticipated buyer does not purchase all that is available, such as having excess product at the end of a farmers market day. These products, despite not appealing to certain buyers, are of good nutritional quality and are completely usable for value-added products or prepared meals, such as at restaurants or even non-institutional buyers like soup kitchens. To ensure these products get into the hands of those who can make use of this food, farmers would benefit from a network of volunteers that can: 1) come to their farm, glean unwanted food, and connect it to hungry people or a processing facility; or 2) come to the farmers market at the end of a market day to glean unsold product. This volunteer coordination for processing and alternative use would help reduce food waste, increase food access, provide tax credits to farmers for their donated food, and help farmers with unpaid labor.

Farmland Protection and Land Access for the Next Generation

Many MCE network farmers are near retirement and do not have family members to carry on their farm operation. At the same time, new urban farmers in the St. Louis region are looking for opportunities to become career farmers and need access to land. These urban farmers are both individuals learning to farm for the first time and immigrants seeking to bring their native farm practices to new soil in St. Louis. With urban sprawl continuing to threaten the existence of prime farmland as farmland, and new farmers lacking capital to compete with land developer prices, there is a need to coordinate between soon-to-retire farmers in the MCE network that would value the continuation of farming on their property and the new farmers seeking access to land so that a land transfer model can be established. This land transfer model should support rural farmers seeking a sound financial retirement and the continuation of their legacy, as well as new farmers seeking a place to begin their farm journey.

Farmers would benefit from the ability to purchase supplies in bulk together, such as glass jars and plastic containers used to store honey, butter, jams, and other value-added products.

Bulk Buying of Supplies and Equipment Share

Many MCE network farmers need many of the same basic supplies each season, such as seeds, starter plants, animal feed, packaging supplies (like jars, boxes, and bags), and certain equipment. Rather than continuing to purchase these supplies individually, farmers would benefit from coordinated ordering of supplies. This would assist in bringing the cost of supplies down, as well as potentially reduce the environmental impact of the transportation of those products. Additionally, there are pieces of equipment that individual farmers could use to greatly impact the productivity of their farm, but that are too expensive to invest in given the size of their current operation. Farmers have expressed interest in a way to borrow or rent equipment from other farmers or from an entity that provides services to a network of farmers, thereby reducing the cost of access to certain equipment and improving the effectiveness of farmers in the St. Louis region.

Know Some of the People in St. Louis Moving Local Products

Eat Here St. Louis

Eat Here St. Louis is located in St. Louis, Missouri and aggregates locally-grown and locally-raised fruits, vegetables, grains, nuts, meat, dairy, eggs, honey, and value-added products from approximately 125 farms within 175 miles of St. Louis. Eat Here St. Louis sells primarily to restaurants in the St. Louis region, along with a few institutions like schools and universities, catering companies, and small non-traditional food retailers. Farmers generally deliver their products to the Eat Here St. Louis warehouse, but they do offer farm pick-up on a case-by-case basis. Customers can pick up orders from the Eat Here St. Louis warehouse, but most orders are filled by next-day delivery.

Compared to the national average of 7.8 cents of every "food dollar" going to farmers, farmers who work with Eat Here St. Louis receive 68 cents of every food dollar.

Fair Shares CCSA

Fair Shares Combined Community Supported Agriculture (CCSA) is located in St. Louis, Missouri and supports over 65 area farmers and small producers through their CSA program. CSAs are an alternative economic model in which consumers pay in advance to a local farmer in exchange for weekly or bi-weekly shares of the farmer's spring to fall harvest, typically seasonal produce. Fair Shares CCSA, by aggregating products from over 60 local farmers, provides a combined CSA program including produce, eggs, meat, dairy and a plethora of value-added products on a nearly year-round basis. Farmers who sell their product to Fair Shares CCSA deliver directly to the their warehouse. Customers of Fair Shares CCSA pick up at one of several locations around the St. Louis region.

Double Star Farms

Double Star Farms aggregates products from several farms based in Benton, Illinois, approximately two hours southeast of St. Louis. Double Star Farms sells into a variety of different markets in the St. Louis region. They sell direct to consumer at farmers markets, and wholesale to restaurants, non-traditional food retailers, and have recently started selling to institutions. They move a large volume of locally-grown product in the St. Louis region.

Buyers

Source: Rosy Buck Farm in Beaufort, Missouri

Buyers

Through this feasibility study, MCE interacted with several existing or potential buyers of local product. MCE categorized these various buyers for the purposes of sharing their feedback, which is displayed below.

MCE determined that all institutional buyers have some level of untapped potential. Non-institutional buyers informed this work based on their relationships with farmers in MCE's network or their connections with institutional buyers. It was also critical to understand the broad local food system landscape so that MCE's efforts would complement existing efforts and could potentially support all pieces of the local food system.

As indicated below, there were certain barriers—whether communication with the institutions, amount of volume needed, various requirements, or other—that signaled there was no need to engage with other institutions of the same subset because their barriers would be the same.

Institutional Buyers

Large Institutional Buyers (universities, schools, hospitals)

Small Institutional Buyers (restaurants)

Non-Institutional Buyers Currently Sourcing Locally

Non-Traditional Food Retail

An existing smaller- scale food hub, Eat Here St. Louis

An existing multi-farm CSA operation, Fair Shares CCSA

Large Institutional Buyers

Large institutional buyers include hospitals, universities, school districts, and other large entities that move a significant portion of food to residents in the St. Louis region.

To place and receive food orders, large institutions can either sign a contract with a food procurement company like Compass or Food Buy or they can be self-operated. In St. Louis, nearly all of the large institutions MCE engaged with have contracts with food procurement companies. These food procurement companies typically work with specific food distribution companies, such as Sysco or Ole Tyme Produce. When an institution has a contract with a food procurement company, this typically means they place and receive a significant amount of their food orders through the distribution companies designated in their contract. This means the institution needs to follow guidelines and requirements set forth by both the food procurement and food distribution companies they are ordering through. In the case of self-operated institutions, they can choose which distribution companies they want to order with.

Farm to Hospital

MCE communicated with eight hospitals around the St. Louis region, including the three major hospitals networks in the region: SSM, BJC, and Mercy. MCE approached hospitals with the invitation to support them in joining a Farm to Hospital program in partnership with Missouri Department of Agriculture (MDA). The hospitals were asked about their current local food sourcing efforts, their interest in sourcing more, and what barriers they face when sourcing local food. MCE also offered information on the benefits local food has on

Large Institutional Buyers

public health, the environment, the economy, and animal welfare and offered to assist them in sourcing more local food for their main dining facilities and smaller cafes.

In speaking with hospitals across the region, the barriers to local food sourcing quickly became clear. The majority of the hospital food service directors, chefs, and managers that MCE spoke with were enthusiastic and interested in supporting local farmers and getting the farmers' high quality product into the hospital dining services. However, nearly all hospitals in the St. Louis region have contracts with food procurement and distribution companies that mandate specific farmer requirements including GAP certification, annual liability insurance premiums of around $4,000, hold harmless agreements, and other resources such as dock-high refrigerated trucks. These food contracts state that nearly all (typically around 90%) of the food purchased by the hospital must be provided through the the contracted distribution company that mandates these farmer requirements. Hospitals can make small purchases outside of their food contracts, as the contracts do not typically require 100% of purchases to be made through their distribution companies, but this pathway is not one that would allow for very significant local food purchasing, and most importantly would not allow for growth over time or could easily encroach on contract requirements.

A large harvest of beets lies on the back of a truck before being transported from Stuckmeyer Plants and Produce Farm in Waterloo, Illinois.

From the hospital's perspective, if it were to increase local food purchasing, it would require the hospital to work with its existing contracted food procurement and distribution companies to identify and connect with more local farmers that can provide the volume, price, product type, and quality standards the hospital is used to. Most local food is not delivered in the same packaging or ready-to-use state that its non-local counterpart does. For example, most conventionally-grown produce arrives prewashed, chopped, and ready to use, whereas most local food is delivered washed, but still in whole food form, requiring additional time to peel and chop. This additional labor cost is often on top of the higher price of most local food. Therefore, for a large institution like a hospital to increase its local food sourcing, they need passion for the value of local food purchasing in order to spend the time it requires to adjust budgets and work with staff from several departments to make the change. Even if farmers could access processing and packaging resources from a food hub, there are still certain levels of preparation that would need to be done in-house at hospitals to ensure the products do not begin to perish before reaching the trays of the hospital dining customers.

The hospitals with which MCE spoke do not at this time have the time, funding, and internal support to make additional local food purchases, especially given the limited supply of GAP certified farmers in the St. Louis region who can work with the contracted distribution companies.

Chris Wimmer, farmer and owner of The Farm at Kraut Run, gives Mercy staff an educational tour of his farm.

As part of MCE's efforts to help educate hospital staff on the benefits of sourcing from local farms, MCE hosted an educational farm tour of The Farm at Kraut Run for Mercy Hospital St. Louis and Mercy Hospital South staff on July 24, 2018. The farm tour included an educational discussion lead by farmer Chris Wimmer on the benefits of local food and environmentally-responsible farming practices. On this interactive tour, Mercy staff were invited to ask questions about how the food was grown and learn about the barriers local farmers face when selling their products.

Large Institutional Buyers

Ultimately, MCE gleaned the following needs from large institutions in order to purchase more from local farms. First, local farms need to be selling to the institution's current contracted food procurement and distribution companies, which means adhering to these companies' requirements as outlined above. Further, the local food product would need to meet some or all of the following parameters as compared to what the institution is currently sourcing: comparable price, quality, consistency, volume, and level of ready-to-use as the non-local counterparts currently being purchased. If marketing of local products were taking place so that hospital dining customers knew when they were eating menu items with local ingredients and when they have the choice to purchase items with local versus non-local ingredients, this could help increase demand and inform the hospital of how important it is or is not that they offer local food in their dining facilities.

Farm to University

MCE has communicated with eight universities during the time of this study, many of which face the same barriers to local food sourcing as the hospitals in the region. However, MCE found that Washington University in St. Louis (WashU) is leading the farm to university work in the region with the goals and procedures they have in place for sourcing locally with their food service provider, Bon Appetit, which does not require farmers to uphold GAP certification. WashU is successful in sourcing over 20% of their food and beverage purchases from local farmers, producers, or processors. Because Bon Appetit does not require farmers to uphold GAP certification and because sourcing from local farmers is part of Bon Appetit's mission, it makes it much easier for WashU to buy from farmers and for farmers to sell to them.

Similar to hospitals, universities in the region are mostly interested and enthusiastic about supporting local farmers and sourcing more local food for their dining facilities but do not know just how to make it happen and most do not have the required capacity to execute farm to university programming. Through existing relationships MCE has with sustainability offices at universities, MCE began convening a farm to university intern network in the fall of 2018. The goal of establishing this network is to provide an opportunity for universities to share information and resources about their individual

processes in approaching and working through local food sourcing and to build power and momentum region-wide around farm to university programming. Four universities have joined this network, called the St. Louis Farm to University Intern Network (FUIN), which brings together students and staff from universities in the St. Louis region to share information on challenges they have faced, best practices for overcoming them, and general collaboration and problem solving. The University of Missouri St. Louis, Washington University in St. Louis, Harris Stowe State University, and Southern Illinois University at Edwardsville are the initial universities in FUIN. Missouri Botanical Gardens, as the leading organization for the Higher Education Sustainability Consortium, also plays a supporting role in the network.

Through FUIN, MCE has learned that when it comes to working with universities, it is often the sustainability department, or a professor with personal interest in sustainability or agriculture that will be the initial champion of farm to university. However, the ultimate decision maker is the food service director, which is the person who manages food ordering and makes decisions about changes within the dining facility. For this reason, universities joining the FUIN set out to develop relationships with their dining services staff and management. Universities generally face the same barriers in local food sourcing as those faced by hospitals.

Maplewood Richmond Heights School District chefs Chris Coggins and Nelson Corliss

Farm to School

MCE engaged with several schools or school districts during this study through in-person meetings, phone calls, the Missouri Department of Agriculture's Meet the Growers farm tour on June 14, 2018, and from speaking at Operation Food Search's Farm to School event on April 2, 2018. MCE created and dispersed educational documents explaining the benefits of sourcing local food in school cafeterias and joining a farm to school program.

The schools with contracted food procurement and distribution companies face the same barriers in sourcing local foods as the hospitals and universities with which MCE spoke. It is more common for schools, compared to

Large Institutional Buyers

hospitals and universities, to be self-operating. Therefore, they do not typically have a contract with a food service provider. One of the school districts leading farm to school programming in St. Louis is the Maplewood Richmond Heights School District (MRH). MRH has been sourcing local food for their school for several years, but has had to change their supply chain multiple times due to issues and closures with commercial kitchens they have used. MCE has been working closely with MRH to create an economically sustainable farm to school supply chain that includes processing at the soon to open North Sarah Food Cooperative. MCE coordinated local food purchases from several local farmers in the fall of 2018 for MRH. This spring, MCE and the STLFPC will be supporting MRH with a marketing campaign about the district's local food purchases to educate students, staff, and parents on the benefits of local food and the work that the school district is doing.

MCE has been working closely with the Maplewood Richmond Heights School District to create an economically sustainable farm to school supply chain that includes processing at the soon to open North Sarah Food Cooperative.

Other Large Institutions and Food Service Providers

MCE spoke with institutional buyers that fall outside of the main categories of hospitals, universities, and schools. For example, the St. Louis Zoo Food and Beverage Procurement Manager, Mike Engelken, was enthusiastic about local food sourcing and supporting local farmers and the local economy. He shared similar barriers to sourcing local food that other institutional buyers did. Their ability to source more local products is limited due to the small supply of local products offered through their current distribution companies and the additional time and cost it takes to place separate orders with Eat Here St. Louis or individual farmers.

There are several distribution companies that supply to large institutions in the St. Louis region. MCE reached out to ten of these food service providers in the region and was able to connect with four companies: Ole Tyme Produce, Sysco, Kuna Food Service (Kuna), and Bon Appetit. Amongst the distribution companies that supply significant volume to both large institutions and small institutions in the St. Louis region, Ole Tyme Produce and Sysco lead the local food sourcing efforts. In 2018, both companies started working with Double Star Farms once they received their GAP certification and became eligible to sell to these food service providers. Ole Tyme Produce and Sysco also purchase from a few other local farmers that uphold GAP certification. Kuna also works with local farmers that uphold GAP certification and provide to many small institutions in the St. Louis region, including restaurants like The Royale. Farmers that work with Ole Tyme Produce are able to apply for Greener Fields Together, a program that helps farmers cover the cost of GAP certification and can provide assistance with the process of becoming GAP certified. Greener Fields Together is offered through the national company PRO*ACT, of which Ole Tyme Produce is the only purveyor in the St. Louis region.

Kuna Food Service delivery truck

Outside of standard distribution companies, there are catering companies that also supply food to both large and small institutions in the St. Louis region. MCE spoke with St. Louis Catering company about their interest and efforts in sourcing from local farmers for their institutional buyers. They expressed desire to source from more local farmers and said they currently do source from some individual farmers directly, as well as through Eat Here St. Louis. While St. Louis Catering does not require farmers to uphold GAP certification, they do still face the barriers of cost, volume, ease of ordering, and reliability of local products.

Small Institutional Buyers

Small Institutional Buyers

During this study, MCE communicated with 28 restaurants through telephone, email, survey, and in-person meetings. MCE also worked closely with partners Green Dining Alliance and Eat Here St. Louis, both of whom have close relationships with many restaurants in the region, to capture restaurant interests and needs. To the right is the list of all restaurants who informed this study.

Chef Survey

In the summer of 2018, MCE, with support from Green Dining Alliance and Eat Here St. Louis, created and dispersed a chef survey that received responses from 22 chefs. This survey captured information on chefs' current interests and ability to source local food at their restaurant or institution. Several chefs were willing to increase their overall purchasing from local farmers with MCE's help, as illustrated in the pie chart.

Percentage of overall ingredient purchasing restaurants could pledge to buy from local farmers with MCE and STLFPC's help, 2018

Between 5–10%	13.6%
Between 10–20%	18.2%
Between 20–30%	13.6%
More than 30%	54.5%

Restaurants who informed this study

5 Star Burgers
Baileys' Restaurants
Cafe Osage
Companion Bakery
Farmtruk
Frida's
Guido's Pizzeria and Tapas
J. Devoti Trattoria
Kakao Chocolate
Kitchen House Coffee
Kounter Kulture
Milque Toast Bar
Olio
Onesto
Perennial Artisan Ales
Retreat Gastropub
Sardella
Scarlett's Wine Bar
Seed Sprout Spoon
Squatters Cafe*
The Dam
The Gramophone
The Magic House Cafe
The Pat Connolly Tavern
The Royale
Urban Chestnut
Whittemore House
Winslow's Home & Farm

**During the time of this feasibility study, Chef Rob Connoley from Squatters Cafe informed this survey. Since completion of the feasibility study, Rob has closed Squatters Cafe and opened a new restaurant, Bulrush.*

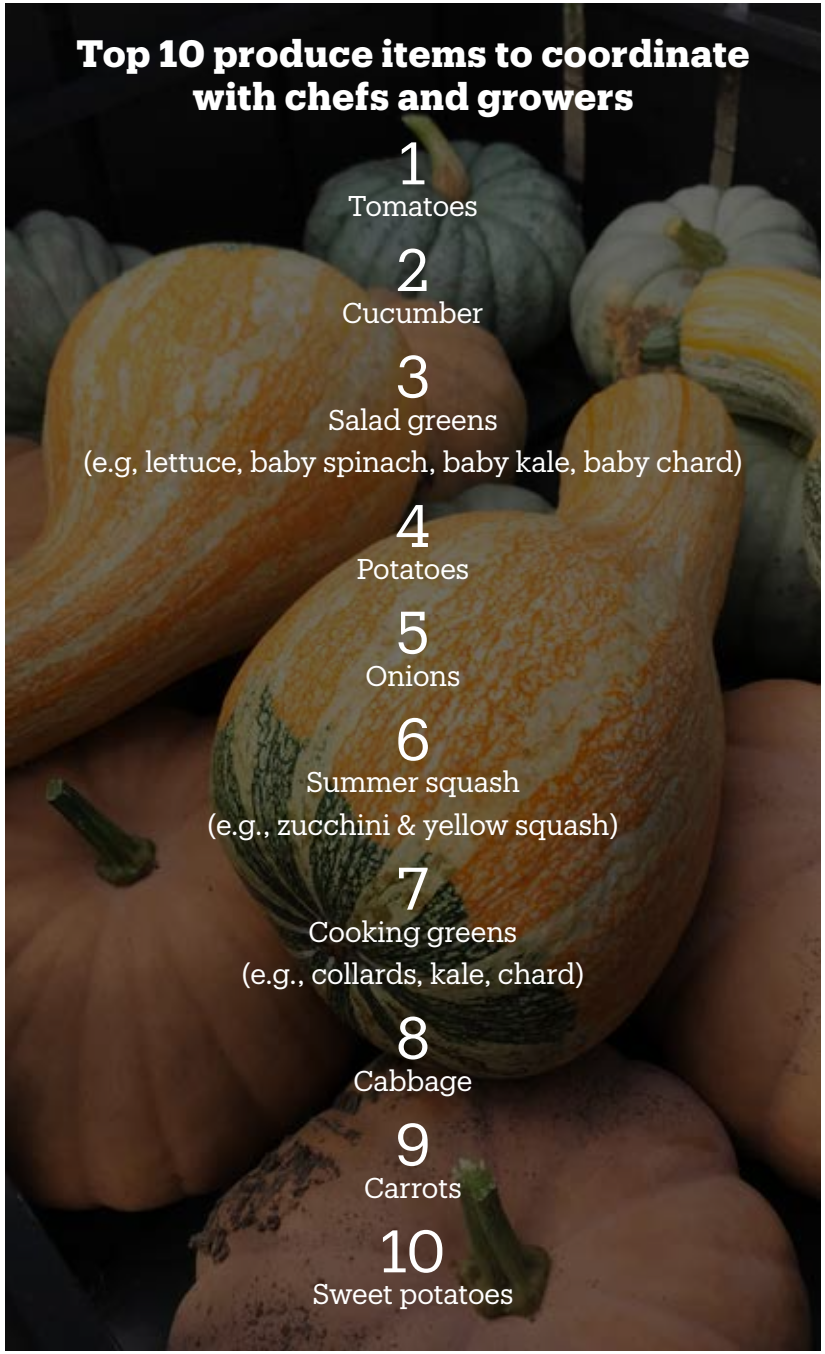
Chefs indicated they are most interested in purchasing the following specialty crops locally, listed in order of popularity: salad greens, tomatoes, cucumbers, potatoes, onions, summer squash, sweet potatoes, carrots, cabbage, cooking greens, winter squash, melons, and turnips. The chefs' desired animal products in order of popularity are dairy, eggs, beef, chicken, pork.

Chefs reported that they could receive most of the above mentioned local crops without them needing to be washed, cut, and ready to use.

In order to determine what products should be prioritized for farm to institution, MCE compared which products farmers said they could increase production of and which products chefs were interested in purchasing more of in large volumes.

As evidenced by the list of products desired by most farmers and chefs in the region, MCE concluded farmers should focus on growing the following 10 produce items in greater volume to scale up for farm to institution.

Based on the information gathered from both farmers and chefs, farmers scaling up for institutional purchasing may do best by prioritizing increased production of tomatoes, cucumbers, and salad greens. In regards to animal products, the most common correlations between supply and demand were for eggs, beef, pork, and other chicken products.

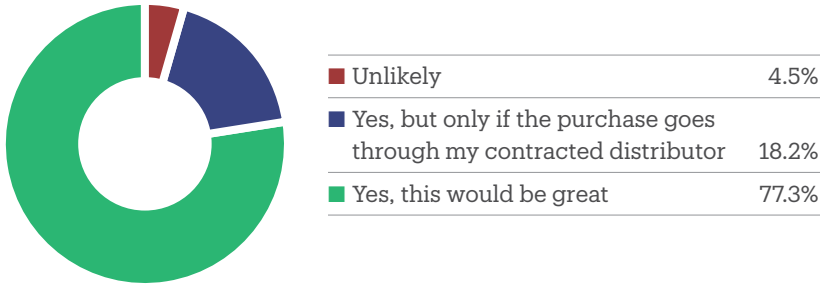


Source: 3 Girls and a Tractor in Marthasville, Missouri

Small Institutional Buyers

MCE also asked chefs about their interest in purchasing from a central warehouse of local products that can fill and deliver large orders, such as a food hub. Seventy-seven percent of chefs said that if a central warehouse is created that can store products from many local farmers and can fill and deliver large orders, they would be interested in purchasing from this warehouse for their establishment. Eighteen percent of chefs said they would purchase from this warehouse, but only if their current distribution company was able to fill the orders. Five percent of chefs said they would not use this type of warehouse.

Interest in purchasing from a central warehouse that stores products from many local farmers and can fill and deliver large orders



Chefs also stated in the survey that the resources they need most in order to source more local food for their establishments are as follows: relationships with more farmers, an easier method for placing orders, an easier method for receiving deliveries, a greater variety of local products for sale, a greater volume of local products for sale, better prices, and, ideally, a system that would manage all of the above for chefs.

Examples of when local product is actually cheaper than conventional product from a large distributor:

Chicken wings for
$1.60/lb
from Buttonwood Farms, while
$2.40/lb
from large distributor

Whole milk,
$4.29/gallon
for Rolling Lawns and
$6.43/gallon
from large distributor

Input from Chefs and Restaurant Owners Through Conversations

MCE had conversations with representatives from five restaurants in the St. Louis region to get a better understanding of barriers to local sourcing. These conversations were with Marla Hare Griffin from The Royale, Cassy Vires of Winslow's Home, Colleen Clawson of Milque Toast Bar, Brian Miller of Onesto, and Evan Buchholz of Perennial Artisan Ales.

All of the restaurants expressed that ordering is one of the biggest barriers chefs face when trying to obtain local products. It is time-consuming having to place several orders and receive various deliveries. Producers often do not give restaurants enough notice about what products they have available, making it difficult for chefs to plan ahead and use local product as much as they would like.

To address some of these concerns, Vires and Clawson recommended that restaurants use food aggregators, like Eat Here St. Louis and Double Star Farms, to ease the ordering process and find a larger variety of products in one place. Some restaurants expressed satisfaction with the reliability and ease of ordering through Eat Here St. Louis, but they do not always buy from Eat Here St. Louis because its prices are sometimes much higher than food service companies that also offer some local options, like Kuna. While it is true that Eat Here St. Louis's prices and those of Kuna are sometimes quite different, this is because the types of local farms they source from can also be quite different. Eat Here St. Louis is committed to purchasing as much as possible from small-scale farmers in the St. Louis region that use environmentally-responsible practices since Eat Here St. Louis's entire

MCE has created a resource to assist consumers and restaurants in understanding the various ways restaurants can participate in the farm to table movement and which efforts have the most impact on the local food economy.

business model is focused on supporting local farmers. Kuna's business model, however, is more focused on providing quality product to its customers with less of an emphasis on the product's source. Thus, Kuna sources from local farmers that can meet the price, volume, and consistency that it needs and therefore Kuna tends to source from some of the mid-scale, local farms in the region. As stated previously, farms that use environmentally-responsible practices are typically more expensive for several reasons including increased amount of labor associated with lack of chemical spray.

Even though sourcing from environmentally-responsible local farms is often more expensive, there are cases where it is not. Miller, of Onesto, has found a few instances where local and environmentally-responsible options are actually much cheaper.

Small Institutional Buyers

It is important to note that distributors and farms do not always use the same units when providing pricing to purchasers. For example, product can be listed in ounces, pounds, bushels, or bunches. Comparing prices between different farms and distributors and often converting the prices to the same unit (e.g., lb, bunch, or bushel) is another step in sourcing local that most buyers have to take, which makes local sourcing sometimes more time consuming.

Food Service Providers Who Work with Restaurants

Restaurants have the ability to work with food service providers, source from farmers directly, or source from an aggregator like Eat Here St. Louis or Double Star Farms.

Outside of Eat Here St. Louis, Double Star Farms, and Kuna, the main food service providers that restaurants can purchase from are the same companies that also provide to large institutions and were described in the Large Institutions section above.

Many of the food service providers that work with restaurants expressed desire to source more locally but also acknowledge that it is hard to find local farmers that can meet their requirements. Some challenges food service providers face are as follows: identifying farmers to work with, being able to pay farmers the price the farmers need, and getting the consistency in quality and volume of produce the companies need to fill their customers' orders.

Autumn Sij of Such and Such Farm of Desoto, Missouri brings a truck load of product to Preston Walker of Eat Here St. Louis, who then distributes the product to area restaurants.

A Discussion of Local Product Marketing and Communication to Restaurant Customers

Need for Increased Transparency amongst Local Food Buyers

One of the discrepancies with local farm sourcing efforts is the advertising of local products that is misleading or outdated. Often the restaurants that advertise that they are farm to table or receive the most press for sourcing from local farmers are not, in fact, the restaurants supporting the most farms or sourcing the most volume from farms in the St. Louis region. This may be because local magazines and newspaper outlets lack understanding of what it means to be farm to table.

In addition, some restaurants that prioritize purchasing as much product as possible from farmers in the St. Louis region struggle to market this fact to the region at large. It is common to find local farm names listed on chalkboards or websites of restaurants and other institutions for weeks or even months when it is near impossible that those farms' products are consistently available on the menus due to frequently changing menus and varying availability of farm product. Lack of transparency about what is truly on the menu each day negatively affects the local food system on the whole as it disrupts the consumer's ability to make informed decisions when making purchasing decisions. MCE understands that it is difficult for restaurants and other institutions to constantly provide the best information to consumers about what they have available from local farmers.

Some of these reasons are:

- *Cost to print new menus*
- *Time and skillset issues with updating their website or social media*
- *Misunderstanding of terms such as "natural," "cage free," "farm raised/farm fresh," "local," "earth-friendly," or "free-range," that may lead consumers to believe the restaurants are sourcing from local farms or farms with environmentally-responsible practices*
- *Training across front of house and back of house staff on when product is available and why it is important to communicate that to customers*
- *Disruptions in ordering of local product, including turnover with chefs (the new chefs may not be given the information right away to know how to place orders with farmers or may not value local product), product availability (seasonality impacts the volume and variety of product farms can sell to restaurants), and switching food service providers (who may not work or be willing to work with local farms)*

Another reason restaurants and other institutions cannot always communicate when they do or do not have a farm's product on their menu is when the product has sold out that day (or earlier in the week) and the restaurant does not have time to update their communication material or inform their staff that the product has run out and is being replaced with another source. Restaurants also struggle with finding a way to quickly inform a given farm that they are out of the farm's product and that they could benefit from a new delivery.

Small Institutional Buyers

MCE recognized the need to support farmers in promoting when their product is actually used by restaurants as well as the need to support restaurants in navigating effective avenues to communicate to customers when they are sourcing ingredients locally. Thus, MCE and several STLFPC members came together during the feasibility study to develop criteria for a regional food system marketing campaign or "brand" and MCE acquired additional funds to design the brand logo and website. The brand website will promote environmentally-responsible farms in the St. Louis region that meet the brand's set of criteria. The website will include a farm profile for farmers to tell their story and educate consumers about their practices. The brand website will also allow consumers to learn where they can find branded farm products in the region and will provide tips for buyers on how to best market to consumers when they source from these branded farmers. One specific resource MCE is developing for buyers is a "farmer narratives template" that MCE encourages institutional buyers to display in their facility so consumers can learn about the farms the buyers support and the farms' practices at the time of purchase. With time, the brand will expand to also promote both institutions and non-institutions that purchase a significant portion of their products from the branded farmers. MCE hopes that the brand will help raise consumer awareness of which restaurants prioritize sourcing a large amount of their ingredients from local farmers. Further, as mentioned in the consumer section, consumers are excited to know which restaurants these are, as evidenced by the widespread excitement about MCE's Local Food Resources Guide.

An example of local food marketing to restaurant patrons.

Restaurants are Concerned about Farm Practices but Not as Interested in "Organic" Products

Preston Walker from Eat Here St. Louis shared with MCE that his restaurant customers are not willing to pay more specifically for his organically-grown ingredients. He said, "I've tried selling certified organic green beans, tomatoes, radishes, and carrots with less than a 5% markup. Some of the radishes sold but I did not have a single restaurant order (not one order) the green beans, tomatoes, or carrots. I ultimately just sold the organic items at the [non-organic] price. I think this is an enormous barrier."

Despite restaurants indicating their unwillingness or financial inability to pay the added price for a certified organic product, MCE's conversations with and survey results from area restaurant owners and chefs indicate that owners and chefs are interested in supporting local farms and they are interested in knowing the farms' practices. Therefore, MCE believes with the creation of the brand for farmers that use environmentally-responsible practices that will not have an extensive certification process like USDA organic certification, the region's restaurants will be well positioned to support these farmers and know how to best communicate their support of the farmers in a way that accurately informs their customers.

MCE staff, with assistance from intern Nick Hawkins, created farmer narratives to display in restaurants and dining halls to inform consumers about the farms they can support when they order a meal. Above is the farmer narrative for Green Finned Hippy Farm in Pocahontas, Illinois.

Buyers *(continued)*

Non-Institutional Food Outlets

In addition to institutional buyers of local food products, there are several food retail outlets either currently offering or capable of offering local food products to their customers. MCE communicated with both traditional and non-traditional food retail outlets to learn about their existing local food purchasing behaviors and their interest in and limitations to purchasing more product locally.

Traditional Food Retail

Schnucks is one of the major grocery store chains in the St. Louis region. MCE connected with staff at Schnucks following the launch of Double Up Food Bucks (DUFB) at their stores in 2017, a public-private partnership-funded program that subsidizes local fruits and vegetables to be more affordable for Supplemental Nutrition Assistance Program (SNAP) recipients. Given that DUFB prioritizes the purchasing of local products by SNAP recipients, MCE sought to learn how to assist Schnucks in sourcing more local products from the MCE farmer network. From that conversation, MCE learned Schnucks was not in a position to increase local food purchasing. However, in the fall of 2018, a new startup company, Foodshed.io, reached out to MCE to seek their support on a pilot program with Schnucks to help them increase their local food purchases. In early 2018, Schnucks hosted a training

Eat Here St. Louis receives a delivery of turnips and leafy greens.

for farmers on GAP certification as it began requiring local farmers it works with to obtain and uphold this food safety certification. Foodshed.io is a company that has been working in New York for several years, helping farmers deliver and distribute their product to markets in New York City. MCE connected Foodshed.io with several GAP certified farmers in the region that were eligible to sell to Schnucks. Foodshed.io is working closely with these farmers and Schnucks to create a system that can be built upon over the coming seasons and ultimately work into the supply chain development for farm to institution in the St. Louis region. MCE is hopeful that the pilot program between Foodshed.io and Schnucks will be successful in supporting more local farmers by purchasing more of their products.

Non-Traditional Food Retail

The non-traditional food retailers that MCE spoke with are smaller-scale compared to traditional grocery stores, often offering less product and less variety, but they source local products as much as possible and provide access to local food for SNAP recipients in the region by participating in the DUFB program. Most of these stores are also located in communities where a large percentage of residents are low-income and live more than a half mile from a grocery store. MCE refers to these communities as communities with limited food access. MCE spoke with Local Harvest Grocery, Link Market, St. Louis MetroMarket, and City Greens Market. While these non-traditional food retailers are relatively small-scale, they are significant entities in St. Louis's local food system because of their prioritization of local food purchasing and because of their commitment to broader food system issues, bringing nutritious food into communities of limited food access.

These non-traditional food retailers value the practices of the environmentally-responsible farmers in the MCE network and prefer to purchase from these farmers when they can. However, due to the higher price often associated with products from environmentally-responsible farmers, they can be limited in their ability to do so and sometimes must resort to purchasing products from local farmers that use more conventional practices.

The life of chickens raised outdoors versus raised in CAFOs

"CAFOs raise their broilers completely indoors, no sunshine, fresh air, grass, or insects. A strict grain only diet finishes them in 5-7 weeks (35-49 days). We process at 8 weeks 2 days old (58 days)."

ANDREW BANKS,
FIVE HEN FARM IN BUNCOMBE, ILLINOIS

Environmentally-responsible farm products can require more resources, such as more labor (e.g., picking off pests from crops by hand rather than spraying pesticide or moving livestock throughout pasture rather than keeping animals in confinement), as mentioned previously. As a result, farms who use these environmentally-responsible practices have invested more hours and human resources into their product by the time their product is ready for sale and therefore, the price per unit is often higher.

Buyers *(continued)*

When farms and aggregators in the region are less concerned with the environmental, public health, and wage impacts of their farm practices, they are able to sell and distribute their products at a cheaper price than those farms and aggregators who prioritize practices that have minimal to no adverse environmental, public health, or wage impacts. Unfortunately, farmers and aggregators do not always provide information about the practices involved in the products they sell. As a result, non-institutional buyers and even some small institutional buyers have purchased local products without understanding the practices used to grow those products and even when the buyers learn about the less conscious practices, understandably, they sometimes cannot afford to purchase products from more conscious farmers and aggregators. MCE expects that the regional marketing brand will incentivize farms and aggregators to be transparent about the practices behind the products they sell and ultimately increase their interest in supplying product grown with environmentally-responsible practices.

Price comparison per pound from a mid-scale, local farmer vs. a small-scale environmentally-responsible farmer in the St. Louis region

	Price from mid-scale, local farmer	Price from small-scale, environmentally-responsible local farmer
Potatoes	$0.40	$2.75+
Tomatoes	$1.00	$3.00+
Greens	$0.40	$4.00+
Beets	$0.50	$2.50+
Onions	$0.25	$2.00+
Brussels	$2.00	$4.50+
Cucumbers	$0.50	$2.50+

How Price of Products Relates to Policy

This issue of varying prices relates to the overarching framework of the United States's federal food and farming policies that provide uneven financial support to farm operators who have large-scale agricultural production on their properties as opposed to farm operators who focus on small-scale production with less of an impact on the environment and provide better treatment to animals and farm workers. To learn more about how federal policy impacts the food system in the United States at the "local, state, and federal levels, MCE encourages readers to review resources about the federal Farm Bill either from MCE or other entities that work on federal food and farm policy.

How does the government provide uneven financial support for different types of farmers?

The Commodity and Crop Insurance Titles of the Farm Bill encourage large-scale production of commodity crops, which has led to the significant drop in specialty crop production in the region and nationwide in the last 90 years. These two titles make up the second largest portion of the Farm Bill budget, after the Nutrition Title.

Additionally, the grants available that directly or indirectly support farmers growing fruits and vegetables do not add up even close to the amount of money in the Commodity and Crop Insurance Titles. Examples of these programs that support fruits and vegetable producers are the Farmers Market Promotion Program, Local Food Promotion Program, Value-Added Producer Grants Program, Specialty Crop Block Grant, Organic Transitions Program, Organic Certification Cost Share Program; all of these programs part of the Farm Bill.

Lastly, the Conservation Title of the Farm Bill provides funds to farmers for using environmentally-responsible practices on their farm. However, there is not enough funds in the title to support as many farmers that apply for the funds and for many farmers, without financial support they are not willing to make the transitions from chemical pesticide spray to integrated pest management methods for pest control, for example.

Discussion of Needs

Source: Three Springs Farm in Perryville, Missouri

Discussion of Needs

After analyzing the interest from both growers and buyers in the farm to institution movement and other buyers of local product in the St. Louis region, their barriers to either selling or purchasing more local products, and what the region needs to support local farmers into the future to create a successful local food economy, MCE concluded the following needs.

Does the St. Louis Region Need a Food Hub? Yes, But Not Now

While many farmers see the value in ultimately having a regional food hub for the St. Louis local food system, they feel the region is not quite ready and that there are other more immediate, intermediate needs that would more appropriately address the barriers farmers currently face, ultimately gearing them up to be part of a long-term plan for a regional food hub.

Thoughts from Farmers

Farmers feel that they need assistance reaching more small institutions before they will be ready and able to scale up for large institutions. The resources they need to reach small institutions are assistance with delivery and distribution, marketing, a stronger network of farmers they can communicate with about a variety of topics, and access to processing facilities. These needs should be addressed before working to develop a food hub to aid in selling to large institutions.

Discussion of Needs

When the time comes to aggregate local farm products at a food hub, some farmers shared concerns around how their farm's name would stay intact when it may be used to fill part of an order. For example, they would want a food hub to ensure it could keep certified organic product separate from non-certified organic product in order to avoid eliminating transparency of the products' farm origin when sold together with product from several farmers with different practices or quality of product. Farmers are also concerned about competing with other farmers that are growing the same products and selling them at a lower cost to the same food hub. Another concern was raised related to how a food hub may level the playing field in a way where farmers that have put in years of work establishing relationships with buyers are suddenly undercut by new or other farmers that do not have those previous relationships.

Thoughts from Large Institutions

Large institutions are interested in local products but the products need to go through the large institutions' existing food procurement and distribution companies. Therefore, the food procurement and distribution companies would need to work with the hypothetical food hub in order for the large institutions to purchase from the food hub. Large institutions are interested in processed local food, especially if it is available during the off season. Many institutional buyers are interested in the idea of a food hub creating a supply chain for processed, local foods. Most food distribution companies have processing facilities but do not have an easy way to process local food and keep them separate from the non-local food. Thus, the food hub would also need to be able to store processed local food until the distribution companies are ready to deliver the product to the institutions. To ensure that local products can be easily identified from non-local products that food distribution companies deliver to large institutions, a food hub would need to provide distinct packaging that signals the products come from a local food hub and from the individual farms providing product to the hypothetical food hub.

Thoughts from Small Institutions

Small institutions currently have a smaller-scale food hub to purchase from: Eat Here St. Louis. Small institutions feel Eat Here St. Louis provides a trusted, reliable service that many restaurants around the region enjoy using and that supports many farms within the St. Louis region. Therefore, if a regional food hub is created to reach large institutions, it must work collaboratively with Eat Here St. Louis to ensure Eat Here St. Louis can continue to provide its current services. Small institutions have also expressed interest in the ability to purchase processed, local foods.

Thoughts from Non-Traditional Food Retailers

Non-traditional food retailers stated several potential benefits of having access to a food hub. They said being connected to a larger volume and greater variety of local foods from more farmers would be great for their businesses. Further, a more streamlined purchasing system that would allow these retailers to place a single order and receive a large volume of local products from a number of participating farms would help save them time. It would also be beneficial for farmers to have a place to offload their extra product after the farmers market rather than trying to sell it to each individual non-traditional food retailer.

These buyers also mentioned several considerations to be made in regards to establishing a new food hub. Some buyers fear losing relationships with the farmers they currently purchase from if those farmers were to solely sell to the food hub. At the same time, buyers recognize that many of the farmers they are currently buying from would need to participate in the food hub in order for the buyers to benefit from a more streamlined purchasing system. They are concerned that they may not be able to purchase from and support the same farmers they are buying from now if their product is part of a large aggregation of other farm products. They are also concerned that competition with other buyers may result in their inability to get what they need to stock their stores and they would lose their ability to be exclusive carriers of certain local products. Additionally, pricing, volume, and quality of products would need to match what they are currently experiencing. Lastly, recognizing that there are existing efforts around delivery, aggregation, and group ordering at various scales, these buyers stated that any new food hub development must consider whether working alongside or incorporating those existing efforts into the larger model would be best for the local food economy in the St. Louis region.

Overarching Considerations for a Regional Food Hub

The creation of a food hub will affect the entire local food system. Such an entity could support the region's farmers beyond just institutional buyers. Creating this farm to institution supply chain is a building block for the local food system and requires a strong base to be successful. If a regional food hub is unsuccessful, it will negatively impact the entire local food system. Therefore, farm to institution considerations require looking at the whole local food system.

Discussion of Needs

New and Improved Means of Communication

The MCE farmer network stated their most immediate need is a way to communicate with each other about coordinating deliveries to St. Louis, as well as inquires with one another about where to buy non-GMO animal feed or interest in partnering to place a bulk supply order. Buyers also expressed interest in being able to communicate with farmers about their excess product availability. Other communication needs include an online platform for the regional food hub once it is created that can monitor inventory between farmers and buyers and facilitate ordering and deliveries. Farmers also need a web application, or preferably a mobile application, that manages delivery and distribution efforts and can provide traceability.

Farmers also need a stronger communication platform that provides a space for them to share information on available farmland and job postings to help capture interested farmers that are looking for land or jobs and are unsure where to find it. This will help farmers have better access to skilled farm labor.

Jamie Choler, co-owner of Fair Shares CCSA, stands in their warehouse with a large delivery of farm products.

Delivery and Distribution Assistance

Farmers need assistance getting their product from their farm to St. Louis buyers. Farmers are interested in having access to sub-hub locations where they can drop off their product and have it delivered to St. Louis buyers by someone else. This would give the farmers more time on the farm to focus on farming. This would also reduce the number of vehicles on the roads. The sub-hub locations and the trucks hauling their products would need to be up to appropriate temperatures, tracking, and food safety regulations. The delivery system would need to include traceability and address liability concerns. Based on the number of farms in the MCE network, estimations on the amount of product these farms produce, their locations, and the desire to establish shortest delivery routes possible, MCE is exploring four cities in the bi-state area as potential sub-hub locations: Morrison, Missouri, St. Genevieve, Missouri, Centralia, Illinois, and Virginia, Illinois. In addition, MCE also anticipates that farms closest to the regional food hub would drop their products at the regional food hub. The potential sub-hub locations and regional food hub location are indicated by the black pins on the following map. The locations of many farms in the MCE network are color-coded into groups that would drop their products to the same hub. MCE thanks Ashish Kambli, a Masters in Industrial Engineering student at the University of Missouri, for assisting with determining these potential locations.

Map of Farms in the MCE Network and Potential Sub-Hubs Locations

Discussion of Needs

Delivery and distribution assistance is especially needed for Amish and Mennonite farmers that do not own and use vehicles for transportation. Many of these farmers are the most capable of providing large volume of local products at competitive prices for institutional buyers and are willing to get GAP certified, but they are currently selling their product at auction because they are not able to deliver their product to institutional buyers. Further, institutional buyers are not typically able to pick up product from farmers but rather need the product delivered to their respective warehouse locations. It is important to note that despite what some consumers believe, Amish and Mennonite farmers do not always use environmentally-responsible practices. However, with education and training, MCE hopes that these farms could transition their practices and be a major asset in providing moderate volumes of product to institutions seeking environmentally-responsible products.

With delivery and distribution assistance available, more farmers around the region like those in the Little Egypt Alliance of Farmers (LEAF) would be able to get more product to buyers in the St. Louis region. LEAF is a farmer-owned food hub cooperative and online marketplace based near Carterville, Illinois. The cooperative is comprised of around 10 farmers who aggregate their product together so they are able to meet demand and deliver fresh, healthy, locally-grown and locally-produced food to individual customers and wholesale buyers in southern Illinois.

There are other entities like LEAF aggregating farm products in rural areas within the St. Louis region and if MCE created a coordinated network for delivery and distribution it would open pathways to get these aggregated products into St. Louis. Creating this distribution line would provide these farmers with access to new institutional and non-institutional buyers. Farmers need access to new buyers to justify increasing production on their farms, which would increase the overall volume of local food being produced and purchased in the St. Louis region.

Processing and Storage

Farmers, current local food buyers, and potential local food buyers such as large institutions have expressed interest in access to processed, local foods. Local food processing refers to different ways to "pause perishability" of local food, such as washing, chopping, and freezing a local farm product before it is sold to the buyer. Other examples of local food processing are the making of salsa, pickles, marinara, and applesauce out of local farm products. Farmers want access to processing services in order to reduce food waste and to create opportunities to make a profit from their "ugly" produce that may otherwise not be purchased. Buyers want access to processed, local foods so that they can also help reduce food waste and help farmers make more money from products they have already grown and do not have a buyer for otherwise. Buyers are also interested in access to processed, local foods so they can access local foods during the off season of December through March. Universities and schools are especially interested in processed, local foods because they are closed during the summer months when many local foods like tomatoes and cucumbers are at their prime. Other local food buyers, like Fair Shares CCSA, are interested in greater access to processed, local foods so they can offer more variety during the winter months in their CSA membership boxes.

Creating a "pause perishability" local food supply chain would:

- *Help reduce local food waste*
- *Help farmers get paid for everything they grow, which would in turn help farmers grow more food each season knowing they have an outlet for excess food*
- *Increase ability of buyers of all types and sizes to purchase more local food than before*
- *Create jobs in food processing*

Vegetables from Wolf Creek Farm, LLC in Williamsville, Illinois are being processed into value-added product for Kathy's Kitchen in Virginia, Illinois.

Discussion of Needs

Marketing

Farmers need marketing assistance for their products. Most farmers do not have adept skills in all aspects of running a farm business, such as managing social media accounts for their farm and creating marketing materials for their products. Most farmers also do not have the time needed to work on marketing for their farms or on educating consumers about their practices, where and how to buy their product, and other useful information.

Given these facts and the high interest in marketing support by both specialty crop producers and livestock producers, MCE secured additional funds during this study to develop a local regional marketing campaign, or brand, in service of MCE's larger goal of building up the farm to institution supply chain and increasing purchases by other local food outlets for the MCE farmer network. MCE spent much of 2018 receiving input from farmers, chefs, consumers, and partners that work with local farms to determine what a marketing brand could look like for the St. Louis region's environmentally-responsible farmers. Based on this input, MCE is developing a brand that will address several areas of need in the St. Louis local food economy by providing the following opportunities:

Consumers will be able to:

- *Learn more about where their food comes from*
- *Learn about different farming practices farmers in the St. Louis region use and why they matter*
- *Learn where to purchase products from branded farmers*
- *Learn about opportunities to participate in farm tours, field trips, attend events related to local farming, or participate in other forms of agritourism*
- *Take pride in supporting St. Louis regional farmers that are growing and raising food with practices that are best for the environment, for the crops and animals, and for human health*

Farmers will be able to:

- *Increase their customer base and therefore increase sales and have the opportunity for increased production*
- *Share their stories and passion for what they do and the extra work they put into growing crops and raising animals in ways that are best for the environment, for the crops and animals, and for human health*
- *Address accurate labeling of local food throughout the region, including increasing transparency and up-to-date labeling in stores, restaurants, and institutions*

The brand will serve to help articulate the values and stories of the St. Louis region's farmers and their environmentally-responsible farming practices. It will also help incentivize local buyers and individual consumers to purchase products from environmentally-responsible farmers in the MCE farmer network and MCE hopes it will encourage farmers outside the network to transition their practices in order to be a part of the brand.

This marketing presence would also create a central space to help build a community of farmers and interested buyers and inform the public about where and how they can buy local food, including upcoming events and activities happening in the local food economy.

Equipment Share and Bulk Orders

Farmers could reduce their on-farm costs if they had the ability to share equipment with one another. The MCE farmer network would benefit from a physical space in St. Louis and at rural sub-hubs where equipment was available to rent. Moreover, farmers could also benefit from these locations having staff available for hire to provide on-farm services with the equipment, such as providing tilling, plowing, mowing and other services. If a non-farm entity owned, insured, and maintained this equipment, that would help the region's farmers save from having to invest their own money and labor into maintaining equipment. Additionally, farmers in the network with expertise in maintenance could be hired to work on equipment as needed, creating another revenue stream for farmers in the MCE network.

Farmers could benefit from the ability to place bulk orders for supplies such as boxes and crates, as seen above.

Farmers would also benefit from bulk ordering, which could be managed by the same entity that manages the equipment sharing. Having one entity manage bulk ordering would help take the responsibility off any one farmer for ensuring the timely placement, receipt, distribution, and payment of orders.

Discussion of Needs

Support for GAP Certification

There is currently a program through Greener Fields Together, managed by PRO*ACT, that helps farmers cover the cost of becoming GAP certified if the farmers will sell to PRO*ACT's partner organization in St. Louis, Ole Tyme Produce, one of the food service providers mentioned previously. Outside of this program, farmers need assistance with the cost of hiring an expert GAP mentor, the cost of supplies needed to become GAP compliant, such as stainless steel tables, and the cost of the GAP audit itself.

New Americans in the IISTL Global Farms program weigh and sort their produce for sale.

Training and Education

Farmers at all stages of their farming experience would benefit from greater training and education opportunities and resources in the St. Louis region.

New Farmer Education

New farmers need access to agricultural training programs that will prepare them to become career farmers. Two of the main training programs in the St. Louis region that fulfill some of this need are described below.

EarthDance Organic Farm School (EarthDance) in Ferguson, Missouri offers an apprentice program each growing season. Their apprentices are taught how to grow and raise a diversity of vegetables, fruits, and eggs for wholesale, CSA, and farmers market buyers. EarthDance uses a permaculture-based model and grows on less than two acres of land at a time. They typically enroll 25-35 apprentices a year, with most graduates reporting they continue to grow food beyond their apprenticeship. However, only 25% of them report to be growing food for profit. EarthDance has goals to increase this percentage as well as promote the development of career farmers. EarthDance sees a need for more business planning resources for aspiring farmers. EarthDance also sees a need to connect new farmers with experienced farmers as well as

an overall more connected local farming community that can share information about events, programs, job opportunities, land opportunities, and other opportunities.

The International Institute of St. Louis (IISTL) Global Farms Program in the City of St. Louis trains immigrants resettled in St. Louis on how to grow their native foods in the local climate as well as how to grow crops common to the St. Louis region. Over the course of the year long program, immigrant farmers are given a small plot of land on which to grow food. IISTL has more immigrants interested in farming than they are able to connect with land, training, and resources. Many of the immigrant farmers are interested in becoming career farmers but are not able to do so due to limited access to land. Joel Walker, the Global Farms manager, says in regards to the immigrant farmers in Global Farms' program, "many new Americans—refugees and immigrants—arrive in America with traditions in agriculture. They are passionate about farming, are accustomed to the hard work and are seasoned professional farmers upon arrival. New American farmers have great potential to save small-to medium-sized farms [from sale to development] and to supply to the local food movement." The farmers within the Global Farms program have also expressed interest in having access to land and resources on which to raise animals but currently do not have the ability to do so because the City of St. Louis prohibits most types of livestock animals and because the cost of land needed to raise animals outside the City of St. Louis is often cost prohibitive.

Maplewood Richmond Heights Early Childhood Center displays a banner about children growing food and offers seedlings for sale during a "Food Revolution Day" on its campus.

Enhanced training is needed to help current farmers thrive and to help new farmers get into available markets like institutions. It is clear from both EarthDance and IISTL that new farmers need more than what these two programs can provide. Coordination between EarthDance, IISTL, and other organizations like MU Extension and LUCE that are providing farmer support in urban and rural areas would facilitate a greater impact on St. Louis's local food economy.

Discussion of Needs

New and Current Farmer Education

Farmers would benefit from workshops to strengthen their business operations. Topics could include the various farming business models and financial literacy. Farmers would also benefit from assistance in determining how to run their business optimally based on the amount of land and other resources they have and what products local food buyers currently demand. This would allow for new farmers to learn how to farm at the scale and grow the type of products demanded by interested buyers like institutions from the start of their careers, rather than learning how to farm for saturated direct-to-consumer markets. This would also help farmers adjust or enhance their current business model to be more successful and therefore less likely to go out of business. According to the USDA Census of Agriculture, in 2012, the average net cash income per farm operation within 100 miles of St. Louis was $38,451, with many farms having net losses. Thus, it is clear that farmers of all sizes and practices are struggling to be profitable and the low profits can lead new farms to close after only a few years.

Farmers also expressed interest in learning from expert farmers on various topics that would help them enhance their farming practices. This could be accomplished through webinars or on-farm workshops. In order for a food hub and its associated network of farmers to be successful, the individual farms need to be successful. The more training resources available to farmers, the better chance a food hub would have at succeeding, especially over time.

Farmers would also benefit from access to training on how to transition from conventional farming practices to environmentally-responsible farming practices. Many farmers are interested in transitioning their practices to those that are better for their health and for the health of the region's environment, but they do not have resources and support to implement these changes and risk decreased crop yields in the process. This type of training could be for specialty crop and livestock producers.

Bob Lober of St. Isidore Farm in Moscow Mills, Missouri delivers farm products to Fair Shares CCSA.

Consumer Education

All this programming and work is dependent on consumers in the St. Louis region having an understanding of the local food system as it relates to the global food system and the different farming and labor practices they are supporting when they purchase food. Without additional educational opportunities for consumers, other programming that enhances the supply side will only go so far. For example, when children become more connected with how their food is grown through gardening education programming, they remember it and often educate their families when they go home. Field trips to farms are a great form of both child and adult education. Agritourism programming and farm tours are great opportunities for education. An educational campaign for consumers accompanying a marketing campaign for farmers with environmentally-responsible practices could be incredibly impactful.

Land Access

New farmers need access to land available to farm. This land can be both rural or urban land that is either currently farmland or is suitable to become farmland.

Both retiring farmers and non-farmer landowners need ways to advertise their land is available to be farmed; MCE knows individuals from both categories of landowners that are interested in providing their land to new farmers. This need can be better addressed with the existence of an entity that is facilitating these connections and has a web presence.

Rural Land

Prime rural farmland relatively close to dense urban populations needs protection from suburban residential or commercial development and from being purchased by international industrial agribusinesses. One tool for this is a farmland trust. A farmland trust for the region or the entire bi-state area would help ensure the St. Louis region can grow food to feed its dense and increasing urban population. Prime rural farmland is becoming too expensive for new farmers to afford as cities sprawl, causing the purchase price and taxes of nearby rural farmland to rise.

Discussion of Needs

Urban Land

The City of St. Louis has seen an increase of urban growers over the last couple of decades. Currently, most urban growers garden or farm on land leased from the City of St. Louis's Land Reutilization Authority (LRA). While these leases are affordable and facilitate an increase in access to local food, they pose threats to long term food production because the leases can be terminated with only a 30 day notice upon approved sale of the parcels to developers.

There is a citywide effort to address the issue of land vacancy called the Vacancy Collaborative. MCE, STLFPC, and partners are working with the Vacancy Collaborative on improving access to land for food production with members of the Vacancy Collaborative that are interested in supporting alternative land uses on vacant lots.

Missouri passed the Urban Agricultural Zone Act (UAZ) in 2013 that incentivizes the use of urban land for food production. Other cities in Missouri have implemented the UAZ Act at the local city level and MCE, STLFPC, and our partners are exploring how to do the same in order to facilitate increased resources for aspiring farmers and current farmers on leased land in the City of St. Louis.

New Roots Urban Farm in St. Louis, Missouri is in the midst of peak season.

Farms of Various Scale Need Simultaneous Support

Addressing the needs identified in this section will support the following three types of farmers, who are critical to building up the farm to institution movement and the broader St. Louis local food economy. Those three farm types are defined by MCE as:

- *New and aspiring farmers, which are individuals farming less than 10 years or individuals seeking to begin farming*
- *Small-scale farmers that use the most environmentally-responsible practices. For specialty crop production, these farms do not use synthetic chemicals and usually grow on less than 10 acres and for livestock production, these farms raise their animals on open fields or pasture*
- *Mid-scale farmers, which are speciality crop producers that use synthetic chemicals and often grow on ten acres or more, and livestock producers that raise their animals on dirt lots or with less acreage per animal compared to small-scale farmers*

Aspiring and new farmers need opportunities to get the resources required to become career farmers such as education and training, access to land and equipment, and access to available markets. If aspiring and new farmers are not able to get the resources they need to become career farmers, then St. Louis's farmer workforce will diminish in the coming years as more and more farmers retire without being replaced.

Small-scale farmers are at the highest risk for going out of business. They need opportunities to get the resources required to stay in business and thrive such as marketing assistance, delivery and distribution assistance, farmer-to-farmer communication, and access to training, equipment sharing, bulk ordering, and processing kitchens. If small-scale farmers are not able to get the support they need, many of them will go out of business or struggle to increase production and the region needs increased production for farm to institution to be successful. Since most aspiring and new farmers start their careers as small-scale farmers, then they would also directly benefit from support to small-scale farmers.

Mid-scale farmers generally need the least amount of support to thrive. However, these farmers still face challenges in overcoming the complexity of barriers in the farm to institution supply chain. Since these farmers are best suited to meet the current demand from institutional buyers, the region needs to support them in obtaining GAP certification and in creating long-lasting, trusting relationships with institutional buyers.

Recognizing the need to support these three types of farmers in the St. Louis region, it is imperative that the farm to institution infrastructure and resources developed in the coming years are built with all three farmer types in mind. This way, mid-scale farms can begin meeting the demand of current institutional buyers with an infrastructure and delivery system that can also support new, aspiring, and small-scale farms when they are ready and able to enter the farm to institution pipeline.

Next Steps and Recommendations

Source: Eat Here St. Louis in St. Louis, Missouri

Next Steps and Recommendations

We have outlined next step recommendations based on feedback from farmers, MCE's insight in speaking with actors throughout the local food system, and with guidance on which needs require immediate attention and which are more long-term.

Farmer-Identified Next Steps

The St. Louis region is in need of five intermediate resources to make selling to new local food buyers easier for farmers in the MCE network:

- **Establishment of a communication platform**
- **Establishment of delivery and distribution support**
- **Identification of commercial kitchens and coordination of local food processing**
- **Launch of marketing program about the MCE farmer network, their products, and their practices**
- **Establishment of equipment share and bulk ordering processes**

Communication Platform

Farmers say their most immediate need is a way to communicate with each other, including the development of a stronger network for farmers to share knowledge and resources.

In order to address the variety of needs within the communication platform space, MCE looked into different application and online software systems that would address the needs outlined previously. In order to begin satisfying this communication need, MCE established a farmer Google Group in February 2019 that provides a space where farmers can communicate with each other within a variety of topic threads of their choosing. This Google Group has over 40 farmer members and is managed and moderated by MCE, Eat Here St. Louis, and Fair Shares CCSA.

This Google Group is expected to fill the immediate need for a communication platform, but it is not expected to fill a long-term need for communication between farmers and other people in the local food system, such as individual consumers and both institutional and non-institutional buyers.

Next Steps and Recommendations

MCE believes farmers and institutional and non-institutional buyers need a website that can perform as many of their communication needs as possible. Ideally, this website is designed in a way that works well for most current local food buyers, including consideration of the programs currently being used to order, track inventory and deliveries, and communicate between farmers and buyers at wholesale markets, such as Eat Here St. Louis, Fair Shares CCSA, Local Harvest Grocery, City Greens Market, and others. MCE and partners will assess the effectiveness of the Google Group over the next six months to one year and use what is learned to inform what the next phase of an online communication platform, including a website, should provide.

The same or other communication platform can be used to address the need to connect farmers looking for land or work to farmers that have land available to be farmed or are hiring.

A delivery of several varieties of tomatoes arrives at Eat Here St. Louis's warehouse in St. Louis, Missouri.

Delivery and Distribution Assistance

MCE and partners will work to implement a delivery and distribution assistance program that helps farmers in rural areas get their product to buyers in the St. Louis region. This program will work to:

- *Identify transporters in different locations around the region that are interested in helping deliver other farmers' product into St. Louis*
- *Identify farmers in different locations around the region that would like to have their product delivered by a transporter to St. Louis buyers*
- *Coordinate efforts between existing entities like LEAF, other transporters, and farmers and determine parameters needed for successful outcomes for the farmers, the transporters, and the local food buyers*
- *Spread awareness to more farmers throughout the region about their ability to participate in this program*

As certain pick up and drop off sites and routes becomes more popular, MCE will work with transporters and farmers to establish sub-hub locations in rural areas outside of St. Louis. This program will also determine when and if refrigerated trucks are needed to further assist delivery and distribution efforts. If trucks, collective insurance, upgrades to existing vehicles for food safety or other needs are required, this would best be managed by an entity separate from any single farm.

Depending on how the delivery and distribution assistance program progresses, additional funds may be needed to purchase refrigerated trucks and build sub-hub sites. The sub-hub sites could be existing buildings retrofitted into temperature controlled hubs, or they could be simple structures like CoolBot trailers.

Processing and Storage of Crops

MCE and partners will seek to determine if there are kitchens in the St. Louis region that are capable of taking on processing of local products. This investigation will look into the equipment and storage availability compared to the equipment and storage needs based on the local products farmers have in excess. MCE and partners will seek to understand the staffing needed to coordinate and execute this pause perishability process. Once kitchens and products are identified, testing of different processing techniques will be able to begin.

Inside the commercial kitchen at North Sarah Food Cooperative in St. Louis, Missouri.

Next Steps and Recommendations

MCE will be working with Eat Here St. Louis and Fair Shares CCSA to collect data on what local products are in need of processing throughout the next growing season. Product testing will begin once enough information is available about 1) the types of products to anticipate for processing, 2) the types of products buyers are most interested in, and 3) the availability of kitchen space, equipment, and staff to do the processing. Product testing will consider the different processing methods that can be used for different local items, how much each one costs in regards to labor, equipment, and supplies, and also ongoing costs like the need for refrigeration and freezer space.

Once the product testing is complete, MCE and partners will determine the best delivery methods and routes needed to move local product to these kitchens for processing. Once the processing is underway, MCE and partners will assess how product is moving: which products buyers demand most, the volume of product moving, and the effectiveness of the current storage and equipment being used at these kitchens. This work will inform the need for a larger, centralized processing facility inside of a regional food hub and what kind of equipment, storage, and staff capacity is needed for such a facility.

Marketing of Environmentally-Responsible Farmers

During this study, MCE and partners within STLFPC heard from the MCE farmer network that marketing support was greatly needed, specifically around the types of practices farmers use. MCE and partners received additional funds to begin developing a regional food system marketing brand for environmentally-responsible farmers in the St. Louis region. The brand is in development and will have a logo and a website with profiles for each farmer certified as part of the brand. Once the brand is underway with the initial set of branded farms, the brand will also promote institutions and non-institutions that purchase significant portions of their products from branded farmers.

MCE needs additional funds to help communicate the brand's messaging and values through various avenues and to increase consumer education about the brand. The more that consumers recognize, understand, and take pride in the brand, the more effective the brand will be at supporting environmentally-responsible local farmers and facilitating a more robust local food economy.

Equipment Share and Bulk Ordering

MCE and partners need to determine the following information as steps towards creating an equipment share program:

- *What types of equipment farmers would like to share or rent*
- *How much interest do farmers have in hiring someone to do the labor compared to renting the equipment to use themselves*
- *What entity would own, store, and maintain this equipment*

MCE believes it would be best for the St. Louis region to have the same entity manage both equipment sharing or renting and bulk ordering. Once such entity is determined, a bulk ordering process can begin by using the MCE farmer network Google Group to find farmers that are interested in placing orders.

MCE also believes that it would be most effective for the entity that manages the eventual food hub to also manage the equipment share and bulk buying processes. In this proposed model, farmers can drop off their farm products at the food hub and can "check out" the shareable or rentable equipment as well as pick up their bulk supply orders.

A typical commodity crop farm growing corn. Source: USDA

Though MCE has not yet worked with many commodity producers, MCE sees equipment share as a resource that could potentially help farmers currently growing corn and soy, typically GMO, to switch to specialty crops. As stated previously, less than 1% of the farmland within 100 miles of St. Louis currently grows specialty crops. One barrier that commodity producers face when considering switching from corn or soy to a vegetable is that they have invested so much in equipment specific to corn and soy that it does not make sense to invest in more equipment specific to vegetable crops. Further research and outreach to commodity producers is needed to determine how many are interested in transitioning to specialty crop production and to confirm what resources they would need to make the transition.

Next Steps and Recommendations

MCE-Identified Additional Next Steps

There are additional immediate needs that MCE has identified to support the growth of a thriving local food system. The first need is to help farmers that are interested in but not yet selling to institutional buyers with the process of becoming GAP certified. The additional needs MCE has identified will require a longer planning period to be implemented, and therefore need to be explored and worked on now in order for them to be up and running in two to five years time. One of these needs is the development of a more robust agricultural training program to build up the farming workforce, with training specific to selling to institutional buyers, and training to help current farmers thrive. The other need is specific to increasing access to both rural farmland and urban vacant land that can be farmed. Filling these needs will require advanced planning periods and working with MCE partners in St. Louis City, across the state, and throughout the St. Louis region. In order for a food hub to be successful, programs addressing these concerns need to be underway so that the supply of local food can increase over the coming years and help the region meet the volume of food needed by institutions.

MCE and partners well suited to develop these programs will require significant funds to increase capacity and expand existing programming, which is critical for meeting the identified needs.

Once systems are in place satisfying the needs for farmer communication, delivery and distribution, marketing, resource sharing, processing, training, and land access, MCE and partners will be able to begin addressing the aggregation and physical food hub infrastructure needs.

Support for GAP Certification

Farmers interested in selling to large institutions will need funds to cover the costs associated with obtaining GAP certification. These costs include hiring expert GAP mentors, supplies needed to become compliant such as stainless steel tables or specific washing equipment, and the cost of the audit itself. Currently, farmers in the St. Louis region are able to apply for GAP certification financial assistance through the Greener Fields Together program offered through PRO*ACT and Ole Tyme Produce, but there are not similar opportunities for farmers that want to sell to institutional buyers other than through Ole Tyme Produce. GAP certified farmers in the region have recently agreed to work as mentors to help demystify the GAP certification process by providing one-on-one assistance with preparation for a GAP audit, including but not limited to help with writing a food safety plan and performing a mock GAP audit. Farmer-mentors will also need funds to cover their time.

Training and Education

The St. Louis region ultimately needs a more robust farmer training program so that new and aspiring farmers can learn the skills they need to become career farmers and provide the region with a farmer workforce that can continue to grow fruits, vegetables, nuts, grains, and raise animals for its residents. MCE recommends developing an agricultural training program that expands or adds to the existing agriculture training programs at EarthDance and IISTL. This would involve working closely with EarthDance, IISTL, and other organizations working with farmers to identify gaps in their programming in regards to aspiring farmers' eligibility to enroll, access, and ability to afford the programs, and the level of career farming readiness graduates have once they complete the training.

EarthDance apprentices harvest and carry greens off the farm in Ferguson, Missouri.

Most of the farmers in the MCE network are used to operating diversified vegetable farms for direct-to-consumer markets, which is one of the barriers to entry into the wholesale institutional market. Therefore, MCE also strongly recommends agriculture training that is specific to growing for the available institutional markets. A training program that includes 1) how to grow specific crops in large volume, 2) limit labor, time, and steps in harvesting and packaging, and 3) how to grow according to GAP certification procedures would best prepare farmers to sell to institutional markets. MCE anticipates working with partners such as MU Extension and LUCE on this and funds will certainly be needed to develop or expand existing farmer training programs.

Many farmers in the St. Louis region are new farmers, socially disadvantaged farmers, or a combination of both. These farmers are interested in selling to institutional buyers and would be capable of doing so if provided additional resources through outreach, mentorship, training, and education. With additional funds, EarthDance, IISTL, LUCE, and MU Extension are some of the MCE partners well suited to assist these farmers in scaling up to fill the farm to institution supply needed.

Further, MCE recommends training opportunities are made available for current farmers to:

- *Increase their business literacy*
- *Learn from peer farmers on skill development, new techniques, and best practices*
- *Transition to more environmentally- responsible practices*
- *Transition from commodity crop production to specialty crop production*

Next Steps and Recommendations

Providing current farmers with information needed to run a successful farming business will increase security for current farmers to keep their farms in operation. The St. Louis local food system will only be able to expand to a level where a farm to institution supply chain is achievable if our current farmers are able to thrive and stay in business.

The region also needs greater educational opportunities for consumers to learn about where their food comes from, what farming practices they are supporting when they make food purchases, and how that affects the environment, public health, and the economy. Educational opportunities could include:

- *Farm tours and field trips for children and adults*
- *On-site gardens or farms at institutions like schools, universites, and hospitals for students, staff, and visitors*
- *Classes on growing and preserving food*
- *Workshops and speaker series for adults*

These needed educational opportunities will require funds to allow existing organizations involved in food and farming education to offer additional opportunities.

MCE hopes that the brand website will also provide a place for consumers to learn about events and opportunities offered by farms in the St. Louis region and by MCE's many partners that work in education.

Maplewood Richmond Heights Early Childhood Center school garden

Land Access

MCE and its partners are in the initial stages of assessing strategies to create pathways for increasing food production in the City of St. Louis, including working with St. Louis's Vacancy Collaborative and other partners interested in alternative land use, creating local farming jobs, and increasing access to nutritious, locally-grown food. There is also need for resources and funds to assist urban farmers in remediating urban soils from toxins. Current methods are cost prohibitive for urban farmers, many of which are new farmers.

MCE and partners have begun discussion about the development of a farmland trust or expansion of existing conservation trusts in Missouri to support protection of rural farmland from development and to enhance connections between retiring farmers and new farmers. MCE and partners will need funds to launch or expand such a trust once a framework is developed and interested retiring and new farmers are identified.

There is a need for landowners and interested farmers in both urban and rural parts of the St. Louis region to be able to communicate in order to facilitate leases and sales of this land. MCE believes such a communication mechanism can be integrated into the overarching communication platform needed to assist with delivery and distribution, placing bulk orders, and sharing equipment. There will be additional funds needed in order to continue to expand this central communication platform as the efforts identified in this section move forward.

Andrew Bachmann, Jacob Bachmann, and Bryan Meyers stand together on their farm, Three Springs Farm, in Perryville, Missouri.

Next Steps and Recommendations

Food Hub

The future of a thriving St. Louis local food system requires the creation of a food hub that enables a successful farm to institution supply chain. Many of the recommendations outlined in this study include initiating programming that is managed by an entity, including the following: equipment share, bulk ordering, development of a communication platform, managing a network of delivery trucks, coordinating processing needs between farmers and commercial kitchens, and running programming for the regional brand which MCE and partners in STLFPC are currently managing. The programs will be most efficient, reliable, and successful if as many of them as possible are housed under the same entity. This centralization will streamline the supply chain and make it more cohesive as well as strengthen all efforts in the local food system.

The St. Louis region has a vast number of organizations playing different roles in the local food system. From the perspective of a farmer, buyer, or consumer, it is hard to know where to go to get your needs met or questions answered. The easier it is to engage in the local food system, the more likely these stakeholders will increase their contribution to the local food economy of the St. Louis region. Aside from being a central resource for farmers and buyers, the food hub would ideally also be a resource for consumers looking for opportunities to engage with the local food system. For example, the food hub could offer tours to the public, include a small urban farm that provides agritourism opportunities, house the regional brand and an associated swag store, and house a local brewery or restaurant that specializes in sourcing from branded farmers. It could also host speakers series events, workshops, and trainings for farmers and the public. The STLFPC food system stakeholders would also benefit from a space where they can regularly meet and advance shared goals. By also providing information on what other local food organizations are currently offering in the St. Louis region, this would create one physical and online local food resource space for farmers, buyers, and consumers.

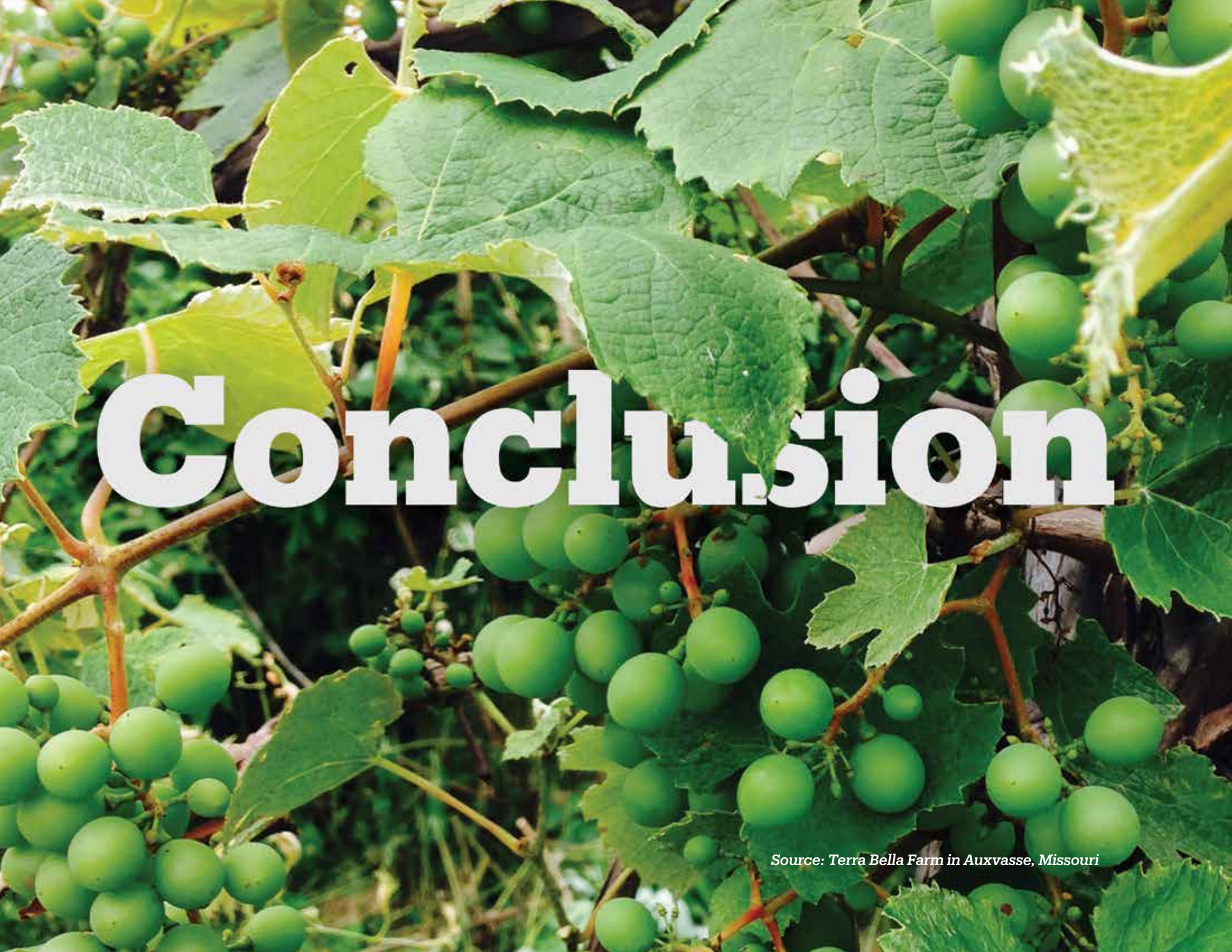
It is critical that the planning of a food hub model for the St. Louis region incorporates or works closely with many of the existing local food aggregation and distribution companies already doing this important work on smaller scales. This would ensure the food hub does not duplicate but complements existing efforts. MCE and partners are aware that a local producer recently closed a food hub model in a rural part of the region started only a few years ago. MCE and partners will seek to glean best practices and lessons learned from this farmer and other food hub operations in similarly situated regions in the United States as part of the process of developing a business plan for a St. Louis regional food hub.

Additional considerations in regards to the food hub business plan include ensuring the food hub ordering and delivery methods will suit the needs of the contracted food procurement and distribution companies that many institutions use, as well as the methods that self-operating institutional buyers and other local food buyers use.

Chives delivered to Eat Here St. Louis in St. Louis, Missouri

If a food hub is built without understanding lessons learned from the programming needed to address the farmers' immediate needs, the food hub may be built in a way that does not benefit all three types of farmers identified previously. Several food hubs have begun and closed within several years of opening across the country when the business was developed at a large scale immediately, rather than developing in stages. MCE wants to ensure a system is built that is accessible for both small-scale and mid-scale farmers, therefore supporting a local food economy with opportunities for both scales of farmers.

Conclusion



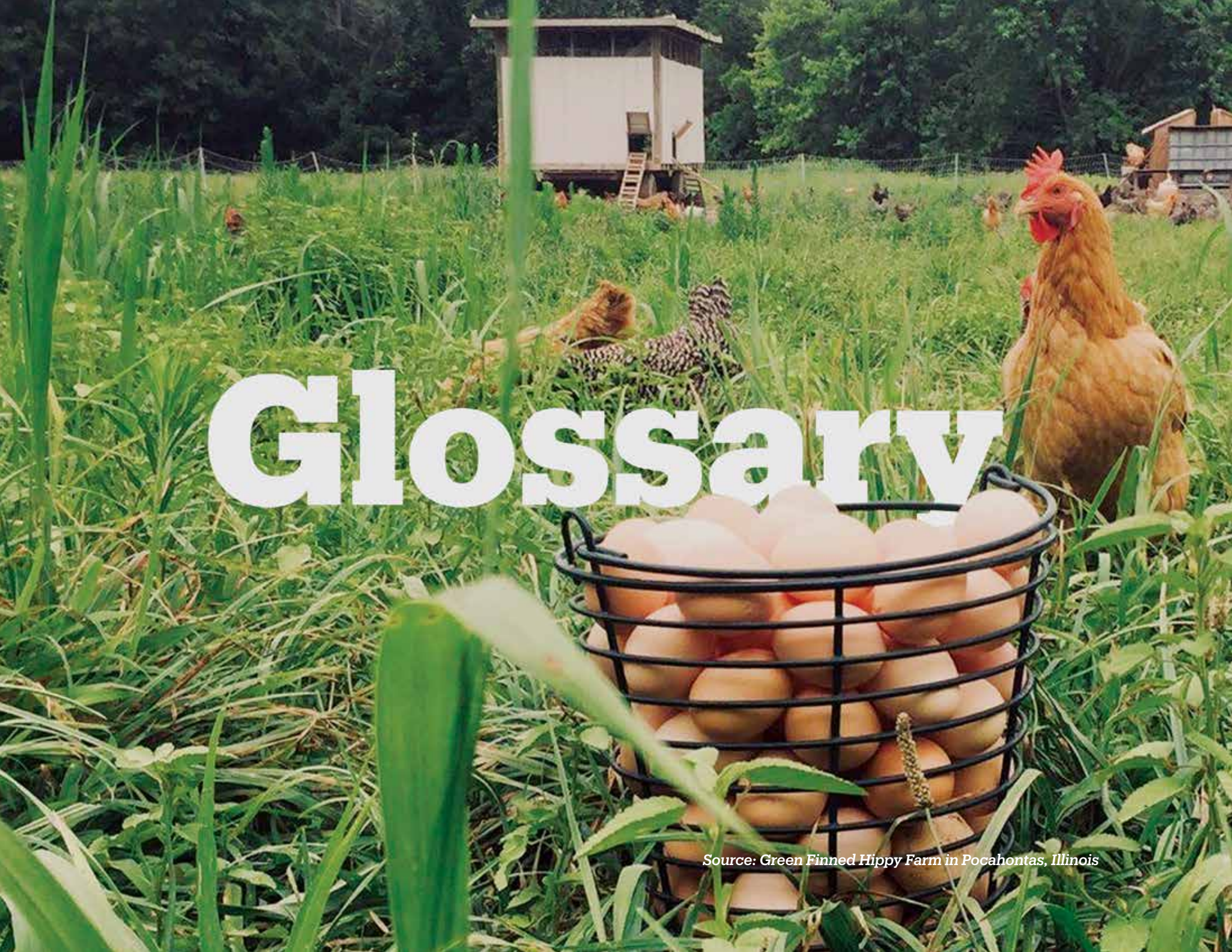
Source: Terra Bella Farm in Auxvasse, Missouri

Momentum is growing. MCE, STLFPC member organizations, the MCE farmer network, and partners share a vision of a thriving local food system that supports the health, community, environment, and economy of the Greater St. Louis Area.

These committed entities are well suited for and capable of moving these recommendations forward but are in need of increased financial support to do so. Recognizing that the region needs an entity separate from any individual farm to manage efforts, projects, and programs that will address the identified needs, MCE and partners will work to determine whether an existing entity can do this work or a new entity must be established.

With the knowledge and partnerships gained over the past 18 months, the St. Louis region is more connected and motivated than ever before to create real and lasting change for our local food economy.

Glossary



Source: Green Finned Hippy Farm in Pocahontas, Illinois

#1s, #2s, and Culls

Categories of farm produce based on their desire from local food buyers. #1s are the most desirable, whereas #2s and culls are less likely to be bought due to being misshapen, too small, having blemishes, and for other reasons.

Aggregation

Collection of farm products from several individual farms before distributing them to buyers.

CoolBot

"CoolBot transforms any well-insulated room into a walk-in cooler by harnessing the cooling power of a standard air conditioner."[1]

Commodity Producers

Agricultural producers who grow commodity crops covered by the Commodity Title of the Farm Bill, which according to the U.S. Department of Agriculture, are "wheat, oats, and barley (including wheat, oats, and barley used for haying and grazing), corn, grain sorghum, long grain rice, medium grain rice, pulse crops, soybeans, other oilseeds, and peanuts."[2] The majority of commodity producers and the majority of producers generally within 150 miles of St. Louis grow corn and soybeans.

Commodity Title of the Farm Bill

The Title of the federal Farm Bill that works to ensure that farmers growing major commodities like corn, soybeans, wheat, peanuts, and other "covered commodities" are successful.

Community Supported Agriculture (CSA)

A CSA is an alternative economic model in which consumers pay in advance to a local farmer in exchange for weekly or bi-weekly shares of the farmer's spring to fall harvest, typically seasonal produce.[3]

Concentrated Animal Feeding Operation (CAFO)

"A CAFO is [an Animal Feeding Operation] with more than 1000 animal units (an animal unit is defined as an animal equivalent of 1000 pounds live weight and equates to 1000 head of beef cattle, 700 dairy cows, 2500 swine weighing more than 55 lbs, 125 thousand broiler chickens, or 82 thousand laying hens or pullets) confined on site for more than 45 days during the year."[4] By raising animals in confinement, the manure generated from these animals must be handled in a different way than when animals are raised with access to pasture. Animal products from CAFOs are significantly cheaper than pasture-raised or other non-CAFO animal products because of the decreased upfront costs associated with cheap labor and maximizing animal production per square feet.

1 How the CoolBot Temperature Controller Works, Store It Cold, https://www.storeitcold.com/how-it-works/.

2 10 C.F.R. § 1412.3 (2018), https://www.govinfo.gov/content/pkg/CFR-2018-title7-vol10/xml/CFR-2018-title7-vol10-part1412.xml.

3 *Community Supported Agriculture*, U.S. Department of Agriculture, National Agricultural Library, https://www.nal.usda.gov/afsic/community-supported-agriculture.

4 *Animal Feeding Operations*. U.S. Department of Agriculture, Natural Resources Conservation Service, https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/plantsanimals/livestock/afo/.

Conservation Title of the Farm Bill

The Title of the federal Farm Bill that "provides assistance to agricultural producers and landowners to adopt conservation activities on agricultural and forest lands to protect and improve water quality and quantity, soil health, wildlife habitat, and air quality."[5]

Conventional Practices

For speciality crop production, these practices aim to maximize crop yield aim to maximize crop yield and often use synthetic chemicals, fertilizers, and other inputs to do so. For livestock production, these practices maximize the number of animals produced, which can involve keeping animals in confinement and feeding them grain over grass. Conventional practices are applied to most large-scale farming operations because they are less labor intensive.

5 *Conservation*, U.S. Department of Agriculture, Economic Research Service, https://www.ers.usda.gov/agriculture-improvement-act-of-2018-highlights-and-implications/conservation/.

Crop Insurance Title of the Farm Bill

The Title of the federal Farm Bill that "provides insurance products through the Federal Crop Insurance Program (FCIP) to indemnify producers against losses in yield, crop revenue, margin, whole farm revenue, and other types of losses." The major crops covered by FCIP are corn, soybeans, wheat, rice, and cotton.[6]

Direct-to-Consumer Markets

Markets where farmers engage directly with the end consumer of the product, such as farmers markets, on-farm stands, and Community Supported Agriculture programs.

Distribution

The parsing out of farm products into individual orders and have them delivered to the buyer.

6 *Agriculture Improvement Act of 2018: Highlights and Implications—Crop Insurance*, U.S. Department of Agriculture, Economic Research Service, https://www.ers.usda.gov/agriculture-improvement-act-of-2018-highlights-and-implications/crop-insurance/.

Environmentally-Responsible Practices

Practices that take into account environmental and ecosystem health and aim to minimize the negative impact on them as much as possible.

Farm to Institution

A process in which local farm products are sold to institutions, including schools, hospitals, universities, and restaurants.

Farm to Table

A phrase used to describe when a food establishment, typically a restaurant, sources ingredients for its menu items directly from farmers or from a distributor that purchases products from farmers in the local area.

Federal Farm Bill

The federal omnibus bill, renewed roughly every five years, that provides over 200 programs, grants, and loans to support nutrition, agriculture, natural resource conservation, and rural economies throughout the United States.

Food Distribution Company

A company that institutions can order food from that delivers whole or processed foods to the institution.

Food Dollar

Total annual market value for all purchases of domestically produced food by persons living in the U.S.[7]

Food Hub

A central warehouse that aggregates local farm product from multiple farms and then distributes to various buyers, both institutional buyers, non-institutional buyers, and sometimes individuals. A food hub, depending on how it is set up, can provide processing, packaging, and freezer storage for local farm product and may also have a storefront.

Food Hub Work Group

The St. Louis Food Policy Coalition has organized a work group of coalition members since 2015 to assess the infrastructure and other needs of farmers within a 150 mile radius of St. Louis. The selection of "food hub" in the work group name was to illustrate what STLFPC thought farmers may need long term but the work group explores several other resources for farmers besides the building of a food hub.

7 *Glossary—Food Dollar Series,* U.S. Department of Agriculture, Economic Research Service, https://www.ers.usda.gov/data-products/food-dollar-series/glossary/.

Food Procurement Company

For the purposes of this study, this term refers to food service companies that large institutions contract with to purchase the majority of the food they need for their dining facilities, cafeterias, and other dining spaces.

Food Service Provider

This generally refers to companies that provide food to institutions of all sizes in the form of whole or processed foods that are usually delivered but can also be catered. Some of these companies also staff the kitchens of large institutions.

Genetically Modified Organism/ Genetically Modified (GM)

"Genetically modified organisms (GMOs) can be defined as organisms (i.e. plants, animals or microorganisms) in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination. The technology is often called 'modern biotechnology' or 'gene technology,' sometimes also 'recombinant DNA technology' or 'genetic engineering.' It allows selected individual genes to be transferred from one organism into another, also between nonrelated species. Foods produced from or using GM organisms are often referred to as GM foods."[8]

Gleaning

The process of harvesting or collecting excess produce from a farmer, typically with the goals of reducing food waste and maximizing sales of farm products, even if at a lower price than usual, in mind.

Good Agricultural Practices (GAP) Certification

"A voluntary audit that verifies that fruits and vegetables are produced, packed, handled, and stored as safely as possible to minimize risks of microbial food safety hazards."[9]

8 *Frequently asked questions on genetically modified foods*, World Health Organization, https://www.who.int/foodsafety/areas_work/food-technology/faq-genetically-modified-food/en/ (May 2014).

9 *Good Agricultural Practices (GAP) & Good Handling Practices (GHP)*, U.S. Department of Agriculture, Agricultural Marketing Service, https://www.ams.usda.gov/services/auditing/gap-ghp.

Hold Harmless Agreement

A Hold Harmless Agreement is a legal agreement that states that one party will not hold another party liable for risk, often physical risk or damage. The Hold Harmless Clause can be one-way (unilateral) or two-way (reciprocal) agreements and can be signed before or after an activity takes place.[10]

Institutional Buyers

Food buyers that are either large institutions (e.g., hospitals, universities, and schools) or small institutions (restaurants), providing the end consumer prepared meals.

Land Reutilization Authority (LRA)

"The LRA (Land Reutilization Authority) owns and manages vacant land and buildings in the City of St. louis for Purchase, Lease, or community projects."[11] LRA is the City of St. Louis's land bank.

Large Institutions

For the purposes of this study, this term refers to universities, hospitals, and school districts, many of which require GAP certification through their food purchasing contracts with food service providers.

Non-Institutional Buyer

Food buyers that provide the end consumer with whole product through retail sales, such as traditional grocery stores and non-traditional smaller-scale retail outlets.

Organic Production

"A production system that is managed in accordance with the Act and regulations in this part to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity.[12]

Pause Perishability

The term used to describe the process of canning, preserving, freezing, or otherwise processing fresh food to stop it from going bad and to decrease food waste.

Processing

The action of pausing the perishability of fresh foods by using equipment to freeze, cook, pickle, or create sauces or other value-added products.

Sale Barn

A location where livestock are sold through bidding in whole animal form.

Small Institutions

For the purposes of this study, this term refers to restaurants, which do not require GAP certification.

Specialty Crops

"Specialty crops are defined as 'fruits, vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture).'"[13]

10 *Hold Harmless Agreements*, Rocket Lawyer, https://www.rocketlawyer.com/form/hold-harmless-agreement.rl#/.

11 *Real Estate: Purchasing LRA Property*, City of St. Louis, https://www.stlouis-mo.gov/government/departments/sldc/real-estate/purchase-lra-property.cfm.

12 7 CFR 205.2, Terms Defined, https://www.law.cornell.edu/cfr/text/7/205.2.

13 *Specialty Crop Block Grants*, U.S. Department of Agriculture, Agricultural Marketing Service, https://www.ams.usda.gov/services/grants/scbgp.

Sub-Hubs

Physical locations in rural areas that are connected to a food hub in an urban area where farmers can drop off their products to then be delivered into the urban center by trucks associated with the food hub or by farmers in a network that have agreed to take turns bringing all of their products into the urban center. A sub-hub can have refrigerated shipping containers permanently on site for storage before shipment, or they could function as locations for refrigerated trucks to come on a schedule to pick up products from area farmers.

Supplemental Nutrition Assistance Program (SNAP)

"SNAP offers nutrition assistance to millions of eligible, low-income individuals and families and provides economic benefits to communities. SNAP is the largest program in the domestic hunger safety net."[14] SNAP is the largest funded program in the federal Farm Bill.

Synthetic Chemical Spray

A synthetic substance is one that is not "manufactured, produced, or extracted from a natural source." It may also have "undergone chemical change" not "created by a naturally occurring biological process."[15] Synthetic chemicals are often sprayed on crops to get rid of pests or weeds.

Transporter

An individual that transports products from several farms to one or multiple buyers.

Ugly Produce

Produce that gets discarded for being too big, small or misshapen. Ugly produce is otherwise perfectly good and can be recovered and used or sold to prevent food waste. #1s and culls are often viewed as "ugly" produce.

USDA Certified Organic

The USDA certifies agricultural products as "organic" when the product is grown in compliance with the specific laws and regulations pertaining to organic production. "Organic is a labeling term that indicates that the food or other agricultural product has been produced through [USDA] approved methods. The organic standards describe the specific requirements that must be verified by a USDA-accredited certifying agent before products can be labeled USDA organic. Overall, organic operations must demonstrate that they are protecting natural resources, conserving biodiversity, and using only approved substances. The organic standards are captured in the Organic Food Production Act, USDA organic regulations, and the National Organic Program Handbook."[16]

14 *Supplemental Nutrition Assistance Program*, U.S. Department of Agriculture, Food and Nutrition Service, https://www.fns.usda.gov/snap/supplemental-nutrition-assistance-program-snap.

15 *Guidance Decision Tree for Classification of Materials as Synthetic or Nonsynthetic*, U.S. Department of Agriculture, Agricultural Marketing Service, https:// www.ams.usda.gov/sites/default/files/media/NOP-Synthetic-NonSynthetic-DecisionTree.pdf

16 *Organic Standards*, U.S. Department of Agriculture, Agricultural Marketing Service, https://www.ams.usda.gov/grades-standards/organic-standards.

MCE

Missouri Coalition for the Environment (MCE) is Missouri's independent, citizens' environmental organization for clean water, clean air, clean energy, and a healthy environment.

With the help of our members and allies we are making the world a better place. We believe our air, water, and land are gifts to sustain all life and we believe these resources should be available to serve the public interest today and for all future generations and not sacrificed for short-term gain.

STL FPC

The St. Louis Food Policy Coalition promotes a thriving local food system that supports the health, community, environment, and economy of the Greater St. Louis area.