

2019 Workforce Assessment of Michigan's Local and Regional Food System

An overview of what we did,
what it showed, and
why it matters

Michigan's 2019 Local and Regional Food System Workforce Assessment Series
Part 1 of 4

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Michigan's 2019 Local and Regional Food System Workforce Assessment

Executive Summary

This report is the first in a series summarizing a 2019 workforce assessment of Michigan's local and regional food system.

The local and regional food system can be defined in a number of ways. For the purposes of this study, the local and regional food systems encompass organizations that produce, process, or distribute food from Michigan that is available to Michigan consumers, and/or organizations that support this system.

The project research included:

- **A scan of Michigan's food system jobs:** where we collected and analyzed secondary labor market data to identify local and regional food systems employment; demand; projected growth; median wages; and worker demographics.
- **An employer's perspective of Michigan's local and regional food system workforce.** This included:
 - Surveying employers to better understand employment and skill shortages and critical factors related to current and future workforce demand, and
 - Interviewing local and regional food system stakeholders to complement the survey data to better understand the current and future mix of jobs, potential career pathways, and availability of and gaps in education and training needs.
- **A scan of education and training opportunities in Michigan's local and regional food system:** an inventory of education and training programs for local and regional food system jobs.

Michigan's food system jobs scan

Across the different food systems sectors there was a wide range in the number of people employed and the average earnings (average earnings ranged from \$25,738 in retail to \$64,889 in wholesale distribution).

Over the last 5 years, wages in Michigan's food system have a higher rate of growth than wages in other Michigan industries and wages in food system jobs in other states across the USA.

These findings are not specific to local and regional food systems due to challenges in isolating the local and regional business data.

A survey of local and regional food system businesses

Forty-one percent of respondents had current job openings, mainly due to attrition and business growth. Hiring is a significant part of a local and regional food system business operations with 86% of respondents expecting to hire in the next 3 years.

Hiring challenges include inability to pay competitive wages (36%) or offer benefits (32%). The top three skills that employers say are hardest to find are communication (23%), work ethic (19%), and reliability (17%).

Respondents to the survey indicated that generally businesses required more education for senior level roles, but about one-fifth of business respondents had no formal education requirements for each level of role (entry level, mid-level and senior level roles). Local and regional food system businesses seek a range of certifications when hiring. More than half of respondents cited certification in food safety (most commonly SERV Safe for Handlers and Managers) as a valuable qualification for applicants (57%; $n = 37$).

Survey respondents were asked to rank their current training needs from a list of common food system skills. The areas of greatest needs include:

- **Customer relations/customer service** for warehouses, storage and distribution, and retail and food service businesses.
- **Day to day operations, food handling, safety procedures, and sales and marketing** across all business sectors. Sales and marketing training was especially needed in food processing.
- **Machine operation, organic farming, safety procedures, animal handling, and trade skills training** for food production business operations.

A scan of local and regional food systems education and training opportunities

The Michigan local and regional food system education and training scan showed a notable gap in food system education opportunities at the K-12 level, given that the labor market data and employer feedback suggested that many food system jobs require only a high school diploma (55%) or more than 2 years of experience (44%).

The full education and training scan report includes a directory of education and training opportunities. It also highlights the number of education opportunities in each county, grouped by career pathway.

This study suggests the following actions to close education and training-related gaps and improve job quality:

- Expand training and support services for targeted areas of the food system, particularly food processing.
- Partner with businesses to develop solutions that meet hiring, retention, and training needs.

- Provide better information about food system jobs, career pathways, and education and training opportunities.
- Form cross-sector partnerships to improve food system job readiness, access, and quality.
- Integrate business assistance, workforce development support, and training for food system businesses.

Deeper analysis in each of these areas of work will be released in separate publications and webinars, including:

- Michigan food system job scan
 - Trending jobs in local and regional food systems
 - Potential career pathways
 - Salaries
- Developing Michigan's local and regional food system workforce – challenges and opportunities
 - Skills and educational requirements
 - Gaps in the labor market
- Workforce education and training opportunities in Michigan's local and regional food system
 - Existing education and training programs
 - Education and training needs

Introduction

Michigan's local and regional food system development work is designed to improve lives and provide equitable outcomes for all. It is rooted in communities and seeks, through those communities:

- Improved health through better healthy food access, and
- Economic development through increased sales for Michigan businesses and better jobs.

Local and regional food system development in Michigan has centered on building collaboration infrastructure around the goals of the Michigan Good Food Charter,¹ a document that provides a roadmap for health and economic development outcomes. As this work has progressed, it has become increasingly important to understand the workforce behind local and regional food systems and how to ensure that workforce grows and develops.

Availability of quality jobs is critical to improving communities and the economy. Of Michigan's nearly 4 million households, 14% are below the Federal Poverty level.² Over 1 million (29%) of Michigan's households are categorized as Asset Limited, Income Constrained Employed (ALICE): people who work to make a living but still have insufficient income to make ends meet.³ To make ends meet, the Michigan ALICE report identifies that a single adult needs to earn \$21,036 and a family of 4 (2 adults, 1 infant and 1 preschooler) needs to earn \$61,272 to be above the ALICE bracket.⁴

Alongside the need for quality jobs is the need to have communities trained and qualified to fill those jobs. This research reviewed available jobs and training opportunities. We identified potential training gaps and sought to better understand how people are employed in local and regional food systems and what their training and education opportunities are.

Michigan State University (MSU) Center for Regional Food Systems (CRFS) collaborated with Kalamazoo Valley Community College (KVCC), MSU Extension (MSUE), and a Corporation for a Skilled Workforce (CSW) to examine the local and regional food system workforce landscape in Michigan and the education and training needs for growth.

¹ Colasanti, K., Cantrell, P., Cocciarelli, S., Collier, A., Edison, T., Doss, J., George, V., Hamm, M., Lewis, R., Matts, C., McClendon, B., Rabaut, C., Schmidt, S., Satchell, I., Scott, A., Smalley, S. (2010). *Michigan Good Food Charter*. Retrieved from <https://www.canr.msu.edu/resources/michigan-good-food-charter>

² Michigan Association of United Ways. (2019). *ALICE in Michigan: A Financial hardship study*. 2019 Michigan Report. Retrieved from: www.uwmich.org/alice

³ Ibid.

⁴ Ibid.

Other agriculture and food workforce assessment studies have been conducted across the country, including Michigan,^{5, 6} Washington,⁷ Massachusetts,⁸ Vermont,⁹ Kansas,¹⁰ and California.¹¹ A study specifically of the local and regional food system workforce was completed in Massachusetts⁶ and Vermont.⁷

This paper is the first in a series of publications and webinars that report on our Michigan findings. This report will provide an overview of the research methods and findings. Subsequent reports will provide more detail in each of the research areas.

Goals and objectives

The goal of the workforce assessment was to better understand the landscape of the local and regional food system workforce in Michigan, and to seek possible gaps and opportunities in education and training.

CSW was contracted to collect and report on data under the direction of a steering committee composed of staff from CRFS, KVCC and MSUE.

The project research included:

- **A scan of Michigan's food system jobs.** We collected and analyzed secondary labor market data to identify local and regional food systems employment; demand; projected growth; median wages; and worker demographics.
- **An employer's perspective of Michigan's local and regional food system workforce.** This included:
 - Surveying employers to better understand employment and skill shortages and critical factors related to current and future workforce demand, and

⁵ Michigan Workforce Development Agency. (2013). *Agriculture Cluster Workforce Analysis*. Retrieved from: https://milmi.org/Portals/198/publications/Cluster2013/Cluster_Agriculture.pdf

⁶Ibid.

⁷ Economic Security Department Washington State. (2017) *2017 Agricultural Workforce Report*. Retrieved from: <https://esdorchardstorage.blob.core.windows.net/esdwa/Default/ESDWAGOV/labor-market-info/Libraries/Industry-reports/Annual-Ag-Report/2017%20Agricultural%20Workforce%20Report.pdf>

⁸ Massachusetts Food Policy Council. (2015). *Massachusetts Local Food Action Plan*. Retrieved from: <https://mafoodsystem.org/plan/>

⁹ Tippett, H., & Meunier, W. (2013). *Charting a Path: Food system workforce needs assessment*. Retrieved from: https://www.vtfarmtoplate.com/assets/resource/files/Charting%20a%20Path_03_18_13.pdf

¹⁰ Kansas Department of Agriculture. (2015). *Workforce Needs for the Agriculture Industry in Kansas*. Retrieved from: <https://agriculture.ks.gov/docs/default-source/default-document-library/2015-kda-workforce-needs-assessment-survey-final-report.pdf?sfvrsn=0>.

¹¹ Sacramento Area Council of Governments. (2016). *Food and Agriculture: Cluster and workforce needs assessment - Sacramento Capital Region*. Retrieved from: https://www.sacog.org/sites/main/files/file-attachments/coe-los_rios_food_and_ag-web.pdf

- Interviewing local and regional food system stakeholders to complement the survey data to better understand the current and future mix of jobs, potential career pathways, and availability of and gaps in education and training needs.
- **A scan of education and training opportunities in Michigan’s local and regional food system:** an inventory of education and training programs for local and regional food system jobs.

The CSW team used primary data collected from employers, workers, educators/training providers, and other relevant stakeholders within the Michigan local and regional food system in the spring of 2019. In addition, they collated secondary data sets and information from sources including Emsi¹² and Burning Glass Technologies.¹³

Defining the local and regional food system

Local and regional food systems can be defined in a number of ways.

For the purposes of this workforce assessment study, the local and regional food systems encompass organizations that produce, process, or distribute food from Michigan that is available to Michigan consumers and/or organizations that support this system. Where:

- *Produced* refers to crops grown or animals raised in Michigan.
- *Processed* refers to food products processed or manufactured in Michigan using primarily Michigan-produced foods.
- *Distributed* goods are ones that originate in Michigan but may cross state boundaries.
- *Consumption* is the end point for Michigan food products. Consumers can be individuals, households, or institutions. These consumers do not need to be in Michigan but the majority should be in the Upper Great Lakes region.

The purpose of this definition was to provide boundaries for this work. It was created by Corporation for a Skilled Workforce (CSW), the Michigan State University (MSU) Center for Regional Food Systems (CRFS), MSU Extension, and Kalamazoo Valley Community College (KVCC).

¹² Emsi. (2019.) *Emsi 2019.2 – QCEW employees, non-QCEW employees, and self-employed dataset*. Retrieved from: <https://kb.economicmodeling.com/whats-the-complete-list-of-sources-ems-i-uses-2/?hilite=%27data%27%2C%27sources%27>

¹³ Burning Glass Technologies. (2019). Burning Glass Technologies proprietary dataset. Retrieved from: <https://www.burning-glass.com/products/research-projects/>

A scan of Michigan's food system jobs

This analysis looked at the key occupations within five industry groups that make up the food system: food production, farm inputs, food manufacturing and processing, wholesale distribution, and food retail sales. A mix of current employment statistics were used to conduct the analysis. Our sources included:

- Economic Modeling Specialist, Inc.'s (Emsi) 2019.2 – QCEW Employees, Non-QCEW Employees and Self-Employed datasets, and
- Job posting data from Burning Glass Technologies proprietary dataset.

It is important to note that the secondary data analysis covers the entire Michigan food system and is not specific to the local and regional food system. It was not possible, using the data sources available, to disaggregate employment in local and regional food systems from the whole of Michigan due to time constraints and the project's scope of work. We cannot assume that the employment numbers represent total employment in the local and regional food system.

Core industries within the local and regional food system

We studied labor market data from core industries associated with local and regional food. Bureau of Labor Statistics North American Industry Classification System (NAICS) codes for these core industries were used to pull available labor market data from Emsi¹⁴ and Burning Glass Technologies.¹⁵ The selection of core industries was supported and influenced by food systems literature, including MSU's "A Replicable Model for Valuing Local Food Systems,"¹⁶ Vermont's Farm to Plate Strategic Plan (Chapter 2, "Getting to 2020: Goals and Indicators"),¹⁷ the Michigan Good Food Fund,¹⁸ and the Michigan Department of Agriculture and Rural Development.¹⁹

¹⁴Emsi. (2019.) *Emsi 2019.2 – QCEW employees, non-QCEW employees, and self-employed dataset*. Retrieved from: <https://kb.economicmodeling.com/whats-the-complete-list-of-sources-ems-uses-2/?hilite=%27data%27%2C%27sources%27>

¹⁵ Burning Glass Technologies. (2019). Burning Glass Technologies proprietary dataset. Retrieved from: <https://www.burning-glass.com/products/research-projects/>

¹⁶ Miller, R., Mann, J., Barry, J., Kalchik, T., Pirog, R., & Hamm, M. (2015) A replicable Mmdel for valuing local food systems. *Journal of Agricultural and Applied Economics*, 47(4). <https://doi.org/10.1017/aae.2015.19>

¹⁷ Vermont Farm to Plate. (2013). Jobs and Establishments. In *Vermont's Farm to Plate Strategic Plan* (Chapter 2). <https://www.vtfarmtoplate.com/getting-to-2020/17-jobs-and-establishments>

¹⁸ Michigan Good Food Fund. Retrieved from: <http://migoodfoodfund.org/about/>

¹⁹ Michigan Department of Agriculture and Rural Development. (2016). *Michigan's Food & Agriculture Industry*. Retrieved from: https://www.michigan.gov/documents/mdard/MDARD_Food_Ag_Brochure_2016_553426_7.pdf

Description	NAICS Code	Industry
Food production	111	Crop production
	112	Animal production and aquaculture
	114	Fishing, hunting, and trapping
Farm inputs	1151	Support activities for crop production
	1152	Support activities for animal production
	54194	Veterinary services
Manufacturing and food processing	311	Food manufacturing
	3121	Beverage manufacturing
Wholesale distribution	4244	Grocery and related product merchant wholesalers
	4245	Farm product raw material merchant wholesalers
	42491	Farm supplies merchants wholesalers
	49312	Refrigerated warehousing and storage
	49313	Farm product warehousing and storage
Retail and service	4451	Grocery stores
	4452	Specialty food stores
	4453	Beer, wine, and liquor stores
	7223	Special food services (<i>e.g.</i> , catering and mobile food truck/carts)
	7225	Restaurants and other eating places

Allied industries associated with the local and regional food system were also included. These allied industries are important to food systems but are not directly involved in the lifecycle of a food product. Many allied industries are also mentioned in the literature (including the Vermont career pathways report²⁰) and include:

- Waste Management and Food Recovery
- Education and Training Providers
- Advocacy Groups
- Farm Equipment/HVAC/Cooling Repair Services
- Regulation of Agricultural Marketing and Commodities (Food Inspection)
- Community Food Services (*e.g.*, food banks, social services)
- Financial Institutions (*e.g.*, Agriculture-specific lenders)
- Large allied consumers, including schools, hospitals, residential facilities, prisons and other institutions

There was a wide range in the number of people employed and the average earnings across sectors (Table 1).

²⁰ Vermont Farm to Plate. (2013). Jobs and Establishments. In *Vermont's Farm to Plate Strategic Plan* (Chapter 2). <https://www.vtfarmtoplate.com/getting-to-2020/17-jobs-and-establishments>

Table 1. Number of People Employed and Average Earnings in Each Sector of Michigan’s Food System

Sector	Total employment (number of people working)	Average earnings (\$)
Food production	37,178	25,822
Farm inputs	18,048	30,096
Wholesale distribution	27,095	64,889
Manufacturing and processing	43,203	55,189
Retail	268,825	25,738

Source: Economic Modeling Specialists, Inc. (Emsi) 2019.2 – QCEW Employees, Non-QCEW Employees, and Self-Employed dataset.

In the full job scan report,²¹ we show the breakdown of jobs in key occupations in each sector, the median salary, and the type of training required. The report describes the projected change in these jobs through 2023 and the typical on the job training.

The same report shows projected job growth in a number of food system areas. Jobs with the highest predicted growth are meat, poultry, and fish cutters. There is a projected need for 19% more cutters in the next 5 years. Other areas of growth include: labor and freight material movers (11%), veterinary technologists (11%, though not all these roles are thought to be isolated to the food system), industrial truck and tractor operators (10%), institution and cafeteria cooks (for example at schools or hospitals) (10%), and heavy tractor-trailer drivers (10%).

The job scan found that Michigan food systems wages have risen at a higher annual rate than other industries in the state. Wages increased 3.2% in 2017 and 2018 compared to 2.4% on average across all industries in the state. Wages for food systems jobs in Michigan are increasing at a faster rate than similar jobs nationally (Table 2).

Table 2. Growth in Food System Workforce Wages from 2013-2018

Job type	Growth in wages 2013 - 2018
Food system jobs in Michigan	19%
All industry jobs in Michigan	14%
Food system jobs nationally	16%

Source: Economic Modeling Specialists, Inc. (Emsi) 2019.2 – QCEW Employees, Non-QCEW Employees, and Self-Employed dataset.

The job scan report also reviews the food system workforce skills most frequently required by employers. The most commonly requested clusters across food system industries included food safety, handling and preparation, customer service, and sales and business management.

²¹ Forthcoming at <http://www.canr.msu.edu/michigan-food-workforce/resources>

Employers' perspectives on Michigan's local and regional food system workforce

The 31-question survey was designed by CSW in collaboration with the steering committee. It had three sections:

- Identifying current job openings, hiring practices, and retention
- Identifying skills and qualifications typically needed in employees
- Identifying how organizations train their employees and what their additional training needs are

The survey was sent to approximately 2,050 individuals and organizations. The mailing list was compiled from several sources: an existing MSU Center for Regional Food Systems distribution list, MSU Extension, and an additional 116 businesses obtained from the Michigan Bureau of Labor Market Information and Strategic Initiatives.

The goal was to find out how people who hire for businesses or organizations in the local and regional food system perceive the job market. The survey ran in the spring of 2019. It received 143 responses for a total survey response rate of 7%. Figure 1 shows the distribution of responses across Michigan and Figure 2 shows the distribution of responses across the business type.

Due to the use of skip logic and some survey drop off, the total number of responses varies by question. Data from respondents who completed only part of the survey is included in our analysis. The low response rate resulted in overrepresentation of food production, retail, and nonprofit organizations. Because of this, generalizing results across all food systems sectors should be done with caution.

To enhance the results of the survey, an additional 10 food system employers participated in follow-up interviews. We selected interviewees from survey respondents who volunteered to participate in follow-up interviews and from a short list of recommendations procured from partners in the work. A total of 35 organizations were contacted for interview with a response rate of 29%.

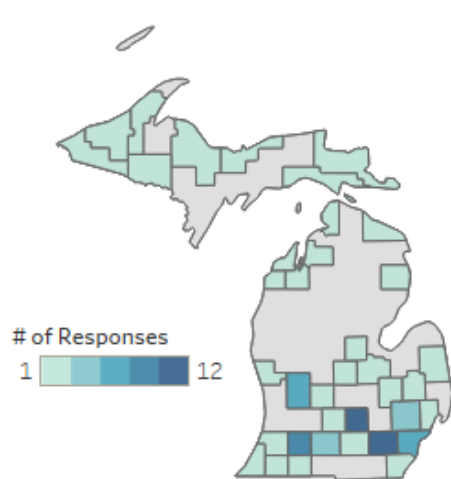
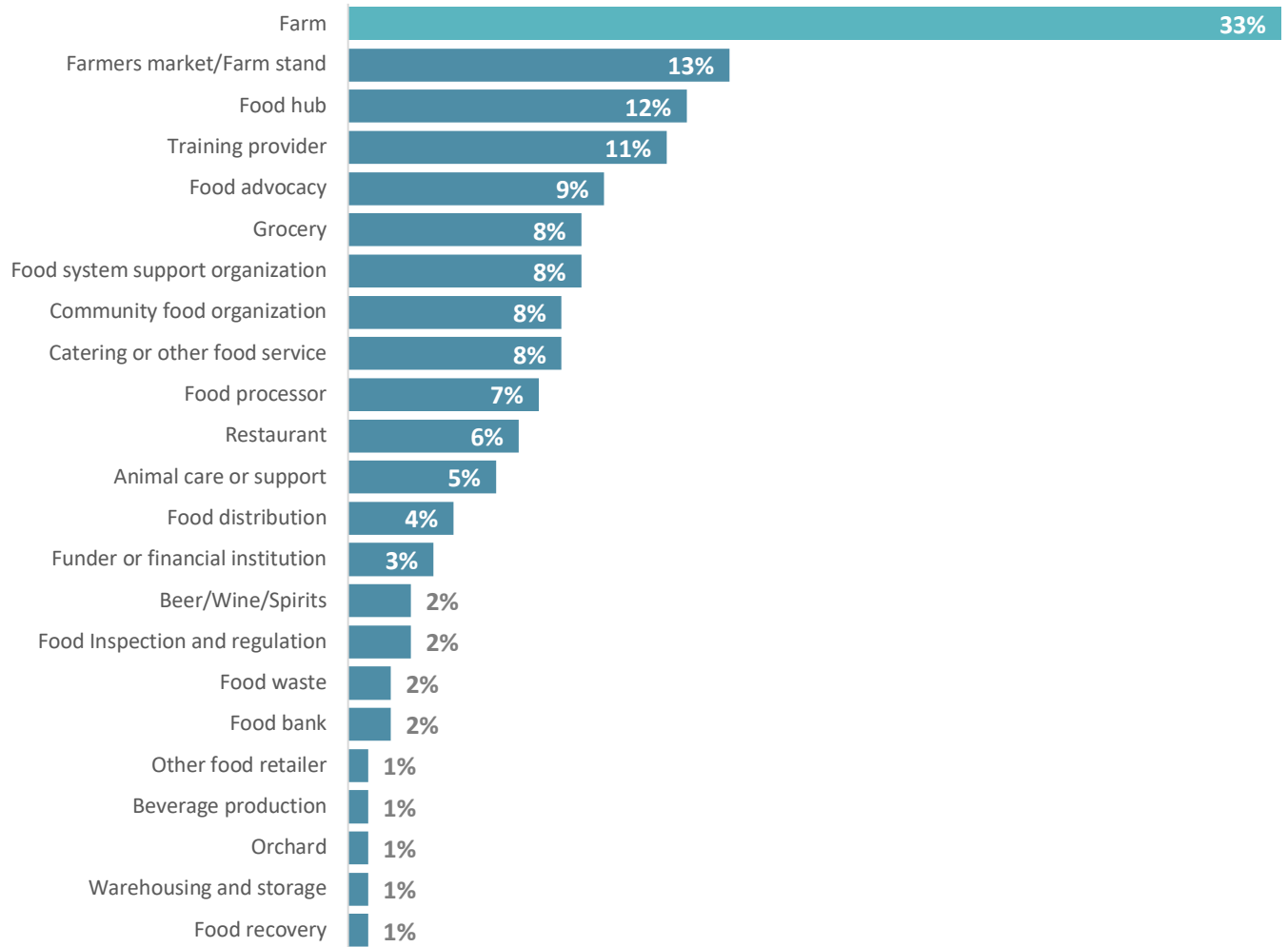


Figure 1. Number of Respondents to the Local and Regional Food Systems Business Survey by Michigan County

Figure 2. Types of Respondents to the Local and Regional Food System Business Survey



Current job openings, hiring practices, and retention

Less than half of respondents (41.2%) had current job openings ($n = 135$). Of those, the number of job openings ranged from 1 to 20, with an average of just less than five ($n = 46$).

Survey respondents provided multiple reasons for job vacancies. The majority of current job openings were due to replacing workers lost to attrition (70%). Nearly 60% of respondents also said that job openings were due to growth within their organization. Only 12.8% of respondents were filling job vacancies caused by retirement. (Figure 3)

In the future, most respondents (86%) expected to hire at least one new worker over the next one to three years ($n = 47$). Only 14% expected to have no hiring needs.

Figure 3. Reasons for Current Job Vacancies ($n = 47$)

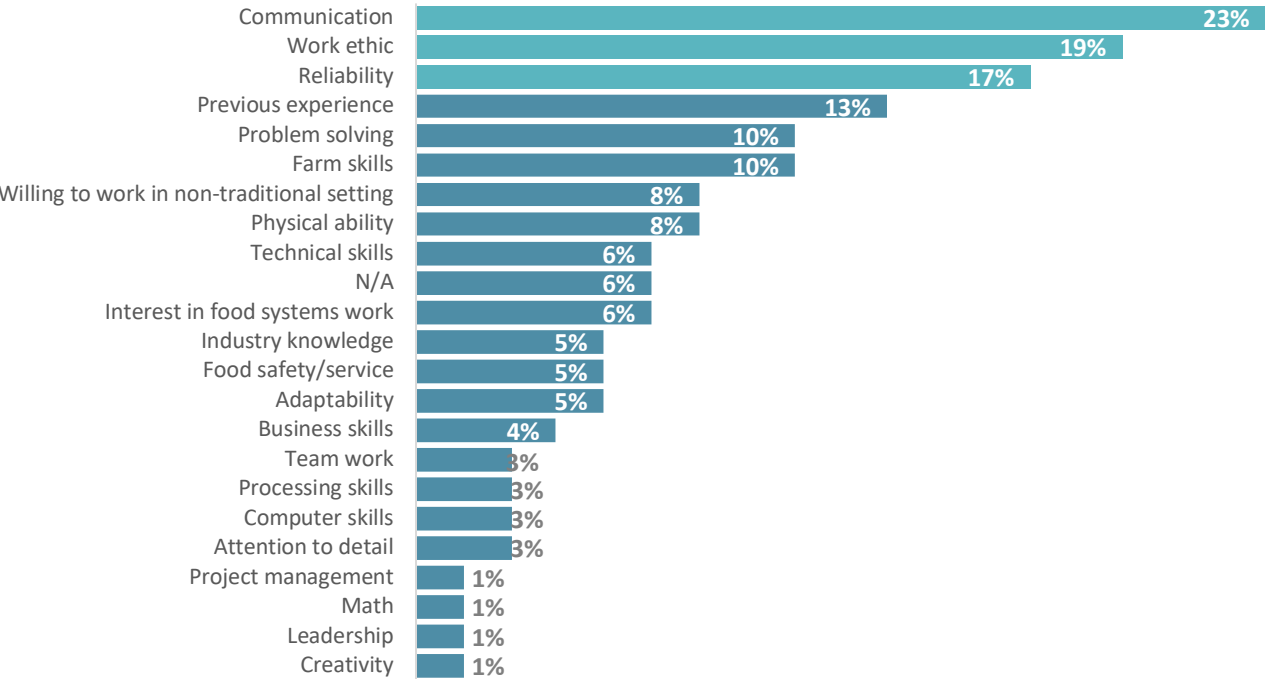


When asked what challenges they face in hiring qualified workers, respondents cited their inability to provide competitive wages (36%) or offer benefits (32%) ($n = 101$). A tight labor market was also a reason for too few qualified candidates for a given job or for losing candidates to a competitor who could offer higher wages or benefits. This trend was particularly strong among food retail and food service employers interviewed.

Respondents identified several reasons that applicants are difficult to hire and retain, including: a lack of workplace skills (31%), transportation issues (26%), and a lack of previous work experience (19%). Some respondents said they did not face any hiring challenges (18%).

The top 3 workplace skills that employers say are most difficult to find in local and regional food systems workers are communication (23%), work ethic (19%), and reliability (17%) (Figure 4). Employers seem more likely to hire someone with these attributes compared to someone with more technical experience, opting to teach the technical skills on the job.

Figure 4. Workplace Skills Most Difficult to Find in New Hires (n= 78)



Lists of the current job vacancies were identified by survey respondents (see Tables 3-5). Entry or lower-level roles were most common in food service or food retail were the most common, as were crop production and farming roles such as harvester, greenhouse operator, and head grower.

Table 3. Current Job Vacancies in Food Production & Processing

Butcher	Farm technician	Part-time van driver
Delivery driver	Harvester	Tasting room pourer
Farm assistant	Packager	Value-added food producer
Farm laborer	Greenhouse operator	Warehouse labor
Farm team	Head grower	
	Market garden assistant	

Table 4. Current Job Vacancies in Distribution, Retail, and Food Service

Barista	Food hub assistant	Pastry chef
Bartender	Food service associate	Program assistant
Cashier	Food service worker	Project manager
Caterers	Front desk receptionist	Restaurant management
Chef	Front end coordinator	Route driver
Cooks	General staff retail	Senior grant manager
Coordinator	Grocer	Server
Warehouse associate	JUICEologist	Staff positions at stores
Delivery driver	Line cook	Summer food & health fellowship
Dishwashers	Local foodivore	Tray passing staff
Economic development specialist	Meat cutters	Truck drivers, warehouse
Farmers market intern	Multiple department clerks	Utility
Food busser	Multiple department managers	Volunteer coordinator

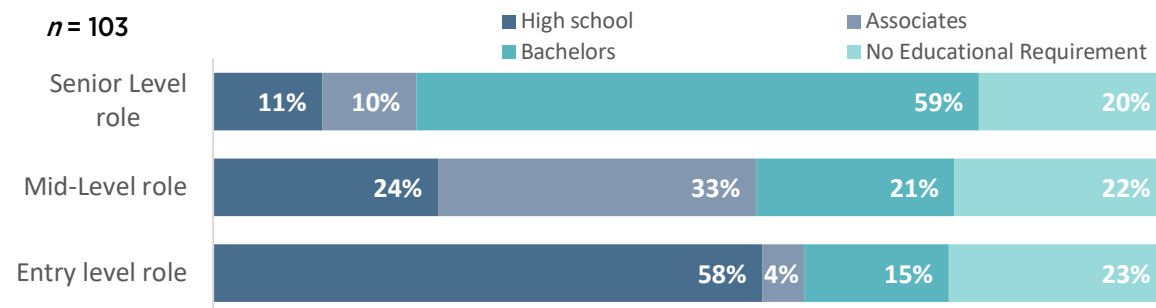
Table 5. Current Job Vacancies in Allied and Support Organizations

Café & youth program manager	Haulers	SNAP/nutrition educators
Certified compost operators	Infrastructure	Soil use educators
Farm assistant	Internships	Truck drivers
Farmer network coordinators	Local food coordinators	USDA navigators
Food hub assistant	Processors	Youth farm worker

Typical skills and qualifications requested in job openings by local and regional food systems employers

The level of education requested in job openings reflects a typical progression – more education desired for more senior roles. Interestingly, across the seniority levels approximately 20% to 23% of survey respondents do not have any formal education requirements for their organization’s roles (Figure 5).

Figure 5. Education Requirements by Role



We asked respondents what additional industry certifications they look for when hiring a candidate. These certificates focus on specific technical skills or knowledge and are often mandated by both company policy and state law (for example, Commercial Driver’s License (CDL) or SERV Safe food safety certificates). Certification in food safety in handling (most commonly SERV Safe for Handlers and Managers) was cited by 57% of respondents (*n* = 37). Other desirable industry certifications included:

- Agriculture Technology Certificate
- American Institute of Certified Planners
- Certified Crop Advisor (CCA)
- Certified Economic Developers (CEcD)
- Chainsaw Safety
- Chef Certification
- Commercial Driver’s License (CDL)
- DCFP
- Good Agricultural Practices (GAP) Training
- Grower produce safety
- Hazard Analysis & Critical Control Points (HACCP)
- Hydroponics
- Michigan Farmers Market Association Market Manager Certification
- Michigan Mycological Certification
- MSU Organic Farmer Training Program
- Pesticide Applicator
- Preventive Controls Qualified individual (PCQI)
- Produce Safety Alliance (PSA)

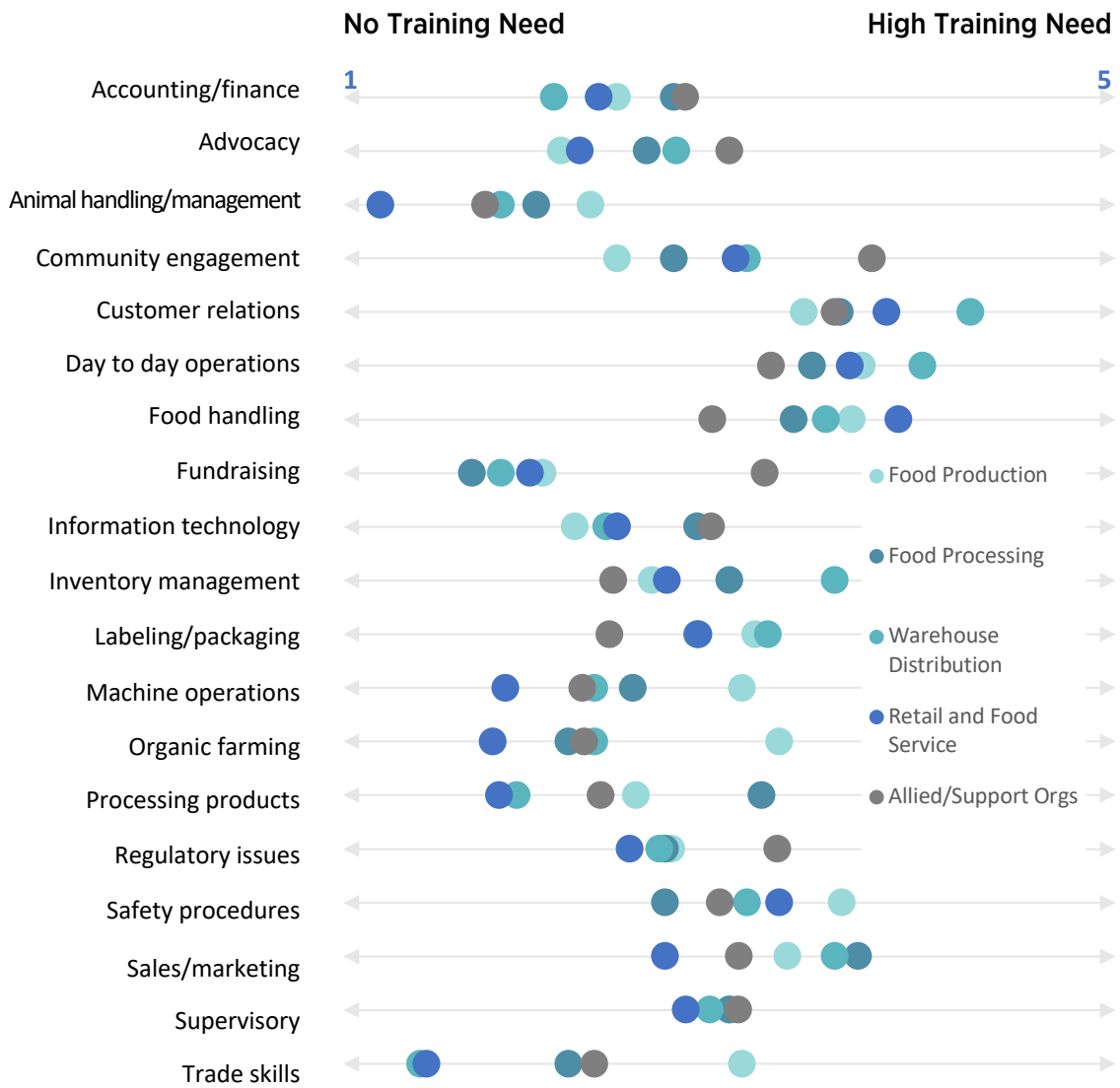
- Project Management Professional (PMP) or other project management credential
- Registered Environmental Health Sanitarian (REHS)
- Safe Quality Food (SQF) Program
- School Nutrition Association (SNA) certified or School Nutrition Specialist (SNS) certificate
- Tractor/Heavy Equipment Operator License
- U.S. Composting Council Compost Operator Training Program (USCC COTC) Operators

The educational and training needs identified by local and regional food systems businesses

Survey respondents were asked to rank their current training needs from a list of common food system skills (Figure 6). The areas of greatest needs include:

- **Customer relations/customer service** for warehouses, storage and distribution, and retail and food service businesses
- **Day to day operations, food handling, safety procedures, and sales and marketing** across all business sectors. Sales and marketing training were especially needed in food processing.
- **Machine operation, organic farming, safety procedures, animal handling, and trade skills training** for food production business operations.

Figure 6. Training Needs Averaged by Skill and Sector (n = 94)



A scan of education and training opportunities in Michigan’s local and regional food systems

The Corporation for a Skilled Workforce collected data on 744 Michigan-based education and training programs related to food systems. As much as possible, researchers attempted to document programs focused specifically on the local and regional food system. Identifying regionally tailored programs was difficult due to limitations in the capacity to review individual course curriculum. The programs we identified range from after-school youth programs, like 4-H, to workforce training to certificate and degree programs at community colleges and four-year universities.

Table 6. Local and Regional Food Systems Education and Training Programs by Career Pathway and Credential Type

Career pathway	K-12	Workforce training**	Industry-recognized certificate	Associate degree	Bachelor’s degree	Graduate degree	Total
Food system inputs & services	1	1	89 15 PB*	72	82	26 M* 13 D*	300
Food production	41	11	17 1 PB	17	14	4 M 4 D	109
Food processing & manufacturing	0	0	33	22	8	1 M	64
Retail food distribution	0	0	19	18	1	1 M 1 D	29
Food access & health management	0	0	1 3 PB	2	14	12 M 3 D	35
Food preparation & service	4	3	30	39	14	1 M	91
Wholesale food distribution & storage	0	0	22	8	0	0	30
Natural resource management	0	0	8 4 PB	10	15	7 M 6 D	50
Advocacy & public policy	0	0	5 1 PB	4	4	1 M	15
Consumer demand & marketing	0	0	3	12	3	1 D	19
Total	46	15	240	206	155	90	744

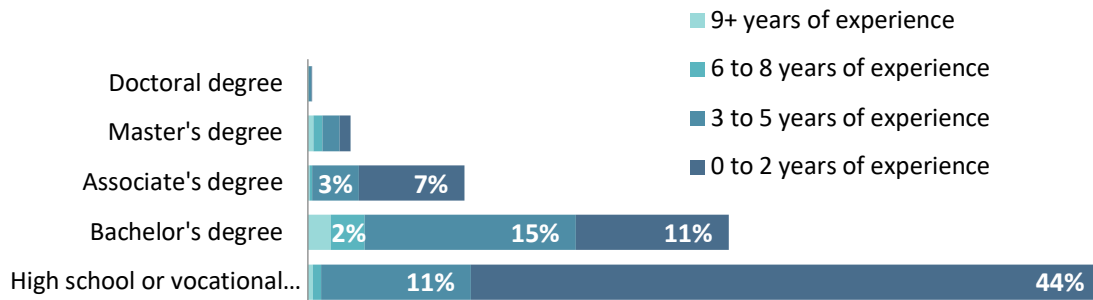
* PB denotes a post-baccalaureate certificate, M a master’s degree, and D a doctorate

**Workforce training provided by non-academic institutions that may not result in an industry-recognized certificate

As Table 6 shows, the food system inputs and services career pathway had the greatest number of programs. We attribute this to the diverse nature of this category and the technical nature of these careers.

We observed a notable gap in food system educational opportunities at the K-12 level, given that the labor market data and employer feedback suggested that many food system jobs require only a high school diploma (55%) or more than 2 years of experience (44%) (Figure 7).

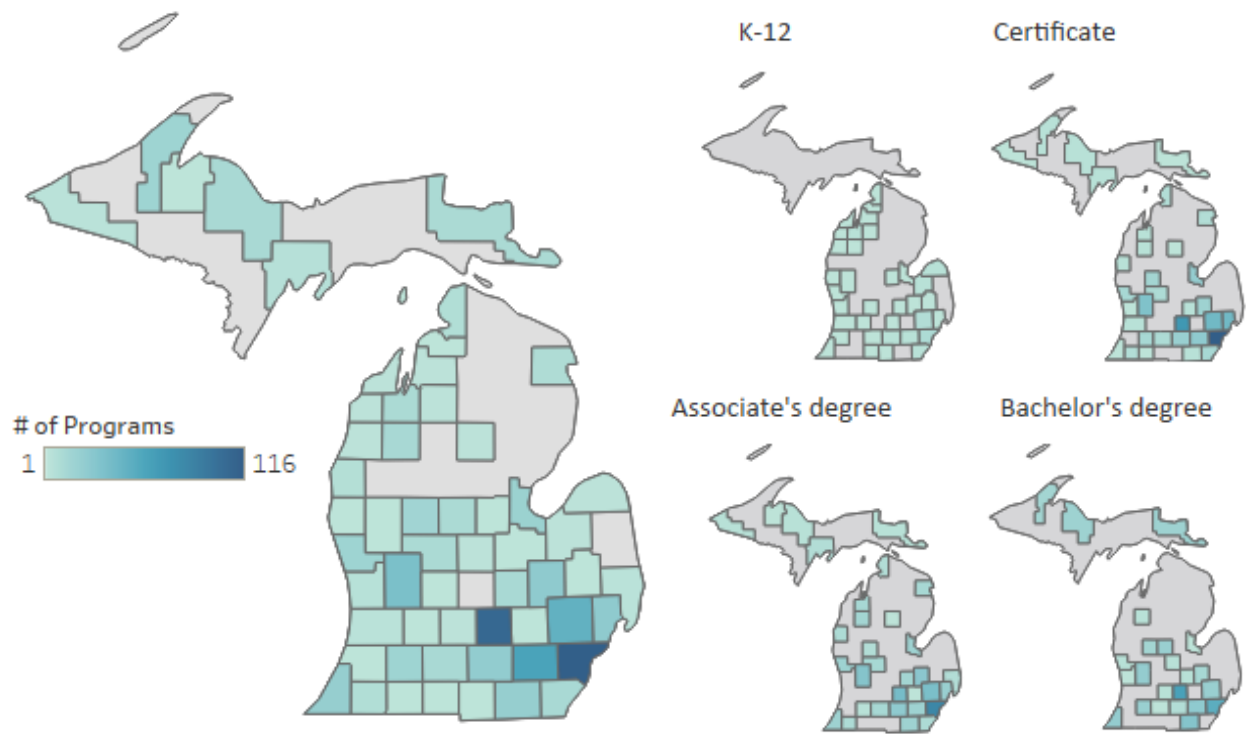
Figure 7. Education and Levels of Experience Requested in Food Systems Industries
N= 36,5050 job postings; Burning Glass Technologies 2016-2018



The initial inventory conducted in this study is heavily concentrated on post-secondary programs. These types of programs are more easily identifiable in publicly available datasets, which highlights the limitations in gathering information on youth-serving programs (both non-profit and K-12 academic) as well as workforce programming provided in non-academic institutions.

Figure 8 shows that the geographic concentration of training programs for local and regional food systems are higher in densely populated areas of Michigan. Northeastern lower Michigan and the Upper Peninsula have fewer counties with training programs. Wayne County (metro Detroit) and Ingham County (Lansing area) have the highest concentrations of education and training programs.

Figure 8. Concentration of Local and Regional Food Systems Training Programs by County and Qualification



The forthcoming full education and training scan report will include a directory of education and training opportunities and demonstrate the number of education opportunities in each county and career pathway.²²

²² Forthcoming at <http://www.canr.msu.edu/michigan-food-workforce/resources>

Conclusions and opportunities for action

This work provided a lot of data that can help draw a number of conclusions in thinking about quality jobs and workforce development. Some key takeaways that may be considered useful include:

From the food systems job scan

- Salaries in food systems employment vary considerably. A large proportion of employees work in retail which has the lowest average earning, \$25,738.
- Michigan's food system has jobs with a higher rate of growth in wages compared to other industries.

From the local and regional food system survey of employers

- Forty-one percent of local and regional food system employers have job openings and 86% anticipate hiring over the next 3 years.
- 1/5 of business respondents have no formal education requirements for their employment opportunities.
- More than half of respondents cited certification in food safety (most commonly SERV Safe for Handlers and Managers) as a valuable qualification for applicants
- Hiring challenges include inability to pay competitive wages (36%) or offer benefits (32%).
- The top three skills that employers say are hardest to find are communication (23%), work ethic (19%), and reliability (17%).
- There are a number of training needs across all sectors.

From the local and regional food system education and training scan

- There is a notable gap in food system educational opportunities at the K-12 level, given that the labor market data and employer feedback suggested that many food system jobs require only a high school diploma (55%) or more than 2 years of experience (44%)

Given our findings, opportunities for action include

- For training providers: develop solutions in partnership with businesses to meet hiring, retention, and training needs, *focusing on targeted areas* (eg. food processing).
- For educators: provide better information about food system jobs, career pathways, and education and training opportunities, *particularly at the K-12 education level*.
- For workforce advocates: integrate services for business assistance, workforce development support, and training for food system businesses.
- For all in this work: explore cross-sector partnerships to improve food system job readiness, access, and quality.

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