

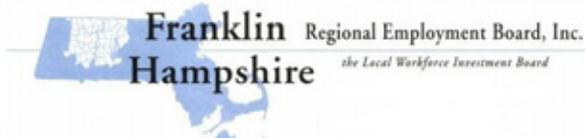


Local Food, Local Jobs: Job Growth and Creation in the Pioneer Valley Food System

**A Report by
Alex Risley Schroeder**

Massachusetts Workforce Alliance
In partnership with CISA, Pioneer Valley Planning Commission,
Franklin Hampshire Regional Employment Board, and PVGrows

Funded with support from
The Community Foundation of Western Massachusetts
and the Franklin Hampshire Regional Employment Board



Author

Alex Risley Schroeder
Massachusetts Workforce Alliance
alex@massworkforcealliance.org

Editor

Deborah Mutschler
Massachusetts Workforce Alliance
deborah@massworkforcealliance.org

February 2013

Copyright © 2013 Massachusetts Workforce Alliance

Photo of farm workers courtesy of Mountain View Farm, Easthampton, Ma.



Table of Contents

| | |
|---|----|
| I. Executive Summary | 1 |
| Overview | 1 |
| Recommendations | 4 |
| Next Steps | 6 |
| II. Introduction | 8 |
| What’s Driving The Focus On Food | 11 |
| Climate Change | 11 |
| Health | 12 |
| Food Safety | 12 |
| Food Access | 13 |
| National Efforts to Strengthen the Food Industry and Food Systems | 14 |
| Pioneer Valley Food System | 15 |
| Current Massachusetts and New England Area Work on Food Systems | 18 |
| Food Systems and Job Creation | 22 |
| III. Current Jobs | 25 |
| Growing | 25 |
| Processing/Food Manufacturing | 36 |
| Distribution | 42 |
| Serving and Selling Food | 48 |
| Managing Food Waste | 57 |
| IV. Areas of Potential System Growth and Barriers to Growth | 64 |
| Overview | 64 |
| Growing | 65 |
| Processing/Food Manufacturing..... | 73 |
| Distribution..... | 78 |
| Serving and Selling Food..... | 81 |
| Food Waste Management..... | 85 |
| V. Recommendations: Strategies and Steps to Grow Jobs | 88 |
| Develop a Massachusetts Food System Plan..... | 88 |
| Continue to Build Demand for Locally Produced Food..... | 89 |
| Develop a Comprehensive Public Education Effort About the Multiple Values of Sturdy Food Systems | 89 |
| Take a Systems View | 90 |

| | |
|--|----|
| Engage in Targeted Research in the Areas Identified as Having the Most Significant and Immediate Job Creation Potential..... | 90 |
| Recommendations for Pioneer Valley Food System Workers and Workforce Development System Staff..... | 90 |
| Recommendations to Strengthen Food System Businesses and Spur Job Creation | 91 |

VI. Appendices

| | |
|--|-----|
| Appendix A: Finding Local Food Businesses in Pioneer Valley | 94 |
| Appendix B: Pioneer Valley Food System Training Organizations and Programs.. | 96 |
| Appendix C: Resources for Workforce Development Professionals and Policy Makers for Further Investigation of Food Systems and Food Systems Jobs..... | 111 |
| Appendix D: Who We Spoke With | 113 |
| Appendix E: Methodology | 115 |

I. Executive Summary

Overview

In 2011, the Massachusetts Workforce Alliance developed its **Down to Earth Initiative** to recognize areas in the growing sustainable economy that offer the potential to create jobs and career paths suitable to lower-income, lower-skill adults. The D2E work identified sturdy regional food systems as a promising area for job creation. With support from the Community Foundation of Western Massachusetts, the Franklin Hampshire Regional Employment Board, and an anonymous foundation, this report examines the job creation potential in the Pioneer Valley regional food system. An area of fertile soil and an expanding local food movement, the Pioneer Valley of Massachusetts extends along the Connecticut River and includes Franklin and Hampshire and Hampden Counties.

Essential questions underlie this research:

If more of what people ate in the Pioneer Valley came from the Pioneer Valley, would it create jobs? And, if so, what would those jobs be?

This research describes current work in the Pioneer Valley food system, with an emphasis on jobs that are within reach of lower-skill workers, identifies promising segments of the food system that are currently generating these jobs, and looks at ways job creation and growth in this system can be fostered.

MWA Mission

The mission of the Massachusetts Workforce Alliance (MWA) is to create true economic opportunity for low-income people by uniting individuals, organizations and coalitions to advance sensible workforce development policy. MWA's Down to Earth Initiative focuses on the ways in which an economy increasingly focused on sustainability, particularly in light of the impact of climate change, will create jobs. MWA's orientation, as an alliance of workforce development coalitions, is to understand the ways an increasingly sustainable economy will shift, and to forecast these economic shifts in order to benefit lower-skill, lower income individuals. Such forecasting enables the education and training organizations that serve low-income communities to be informed, knowledgeable, and ready to provide relevant services, and also to develop the partnerships with employers and industry organizations that are required for success.

Food System Concerns

The impact of climate change is only one of several dynamics currently affecting



MWA's Down to Earth initiative developed the Sustainable Economy Tree highlighting the ways in which workforce development can contribute to the development of a sustainable economy.

the food supply. Food systems in the Pioneer Valley, across the Commonwealth and the nation, are facing natural and man-made challenges and volatility. Concerns include:

- Food security: Is there enough food for all of us?
- Food safety: Is our food free from toxins and contaminants?
- Food access: Is there healthy, nutritious food available to everyone?

Many local, statewide, regional and national initiatives are tackling these concerns. The overarching framework of security, safety, access, and economics informs our research.

Food System Sector Interdependence

The regional food system within this Valley is nested within the larger global food system: much of the produce in our local grocery stores daily arrives from other parts of our country as well as from other countries. Food manufacturing occurs largely outside the three county area. There is, however, a long history of agriculture in the Pioneer Valley, as well as a decades old and nationally recognized effort to support local farmers. Local produce, meats and dairy products are grown or raised, sold and eaten here. The local system of farms, food processors, restaurants, stores and food service operations, distributors and food waste management operations employs Valley residents. And, while agriculture is not the largest employer in the three Pioneer Valley counties, the movement to develop sturdy regional food systems involves related sectors, including food manufacturing, wholesale and retail trade, transportation and warehousing, administrative and support, food service and waste management.

The interconnected nature of a regional food system provides promising potential for job creation. If we are able to grow, manufacture, serve, sell and compost food locally, to intentionally connect these activities robustly, will that spur job creation, and if so, in what occupations?

Audience and Objectives

This research engaged over 50 individuals and organizations and strategically targeted representation from the different constituents/members of the Pioneer Valley food system to obtain answers to the central questions mentioned above. Our goal has been to highlight areas worthy of further investigation and analysis by workforce development, economic development, and food system experts and organiza-



tions. We anticipate these findings will be useful to four key audiences: workforce development providers, job seekers, food system businesses, organizations and advocates and policy makers.

Overview of findings

This research showed that the Pioneer Valley food system is already creating jobs. Job growth is evident on farms; business growth and development is evident in food manufacturing; innovation and business development is happening in food distribution; and, food waste management is poised to change in ways that hold possibility for business expansion and job creation.

These findings are relevant in that they:

- Indicate **where the jobs are and where they will be created.**
- Provide information about **the type of work available, and the qualifications, wages and certifications** required for these jobs.

Significant findings summary:

- **Job creation and food system development is already happening.** There are many factors already combining to grow the food system and these jobs. There is an opportunity for strategic engagement with workforce development to have workers ready, knowledgeable, discerning and trained to fill food system jobs.
- **While food system advocates are fully engaged, workforce development professionals are not yet.** Food system advocates are actively figuring out ways to strengthen their systems and are working to support cross-sector efforts. Workforce development is not yet aware of the work opportunities inherent in an interconnected regional food system.
- **It is vital to broadly educate the public about the value of regional food systems.** This educational effort can serve to highlight current and potential new jobs as well as other critical issues.
- **Overlapping functions and segments in the food system create opportunities for job cross training and interwoven career pathways** that may begin at entry level. Now is the time to articulate these areas more clearly.



Recommendations

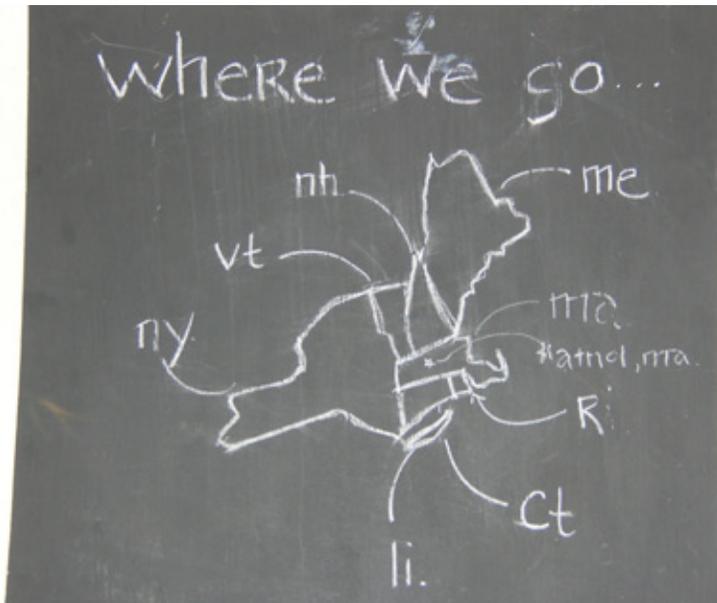
Increasing job creation in the Pioneer Valley regional food system, and targeting it to best meet the needs of employers and workers, particularly lower-skill workers, requires a varying mix of technical assistance, regulatory change, vision, partnership development and strengthening and, finally and critically, a commitment to system building. Understanding these efforts in the largest view — inclusive of food access, food safety, food security and good job creation is essential.

Because of the interdependence of the different segments, it is imperative to take a systems view. Without this perspective, the capacity of different parts of the food system to grow jobs, to further develop the necessary relationships and to make action possible will be compromised.

This research has used a small lens to look at a very large landscape. The recommendations are shaped by the array of conversations and while the interviewees were strategically chosen, the Pioneer Valley food system is a complex system and warrants continued and deeper examination. Interestingly, this small lens brings into focus a picture that has potential applicability in other parts of Massachusetts as those regions consider the ways in which local food sourcing is a means to strengthen the linkages between parts of the food system and as a tool for job creation.



Produce department staff. Courtesy River Valley Market



MWA has five key recommendations to spur job creation in the Pioneer Valley food system and elsewhere in the Commonwealth.

1. **Develop a Massachusetts food system plan.** A complete assessment of the strengths and gaps in the Massachusetts food system, including its capacity to grow business and employ residents, benefits the Pioneer Valley's food system. A good plan with appropriate buy-in and commitments, will allow for substantial progress.
2. **Continue to build consumer demand for locally produced food.** The Pioneer Valley food industry is driven by increased demand. In recognition of the interdependent drivers of the growing local food movement, it is critical to continue to partner with health efforts that bring produce to different stores as a way of increasing consumer awareness of the benefits of local produce, as well as their comfort in purchasing, preparing and consuming produce. Local food policy councils, CISA and food security organizations are well suited to foster and spur the kinds of education needed on a store-by-store, neighborhood-by-neighborhood basis. For this to be maximally effective, it must be paired with a comprehensive education effort.
3. **Develop a comprehensive education effort on the value of sturdy local food systems.** Develop and disseminate the message of the multiple values of high functioning local food systems, not only to diverse stakeholders, but also to groups who don't yet see their work or agenda as related to food systems, food

security, or a food economy. This message campaign should articulate and educate about the value of linking food system parts. Similar to the “Let’s Make Smoking History” campaign, or the more recent push to build consumer understanding of the value of energy efficiency, this campaign would make clear the connections between health, security, and economics — painting the picture that local food sustains us in more ways than just nutrition.

4. **Take a systems view.** Local food systems are being affected by multiple drivers that encourage both increased production and consumption of local food. An anticipatory stance that is informed by a thoughtful systems perspective that considers the whole seed to soil continuum allows and supports a strategic approach to infrastructure development and increasing resiliency. Prioritizing system integrity as an aspect of any actions taken in a part of the Pioneer Valley food system will ensure interconnectivity and potentially allow for economics of scale at a variety of levels, including recruiting and training employees.
5. **Engage in targeted research** in the areas this investigation has identified as having the most significant and immediate job creation potential including:
 - **system infrastructure**, including large-scale improvements (e.g. dairy processing plant, meat processing facilities) and smaller scale improvements on farms and for distribution
 - **on-farm season extending, processing and food waste management facilities**
 - **infrastructure and systems relating to upcoming changes to Massachusetts food waste management regulations.**

In addition to the above recommendations, the report points to

- strategies to address food system labor challenges and to prepare workers for new work.
- specific recommendations to spur job creation in all parts of the Pioneer Valley food system.

Next Steps

- **A sturdy Pioneer Valley food system (as well as one that spans the Commonwealth) needs intervention** like the support the Massachusetts clean energy economy has experienced. Such support will spur growth and new business development and existing business expansion. Done with workforce development partners, support will help to ready qualified workers while building businesses.

- **Building regional food systems requires partnerships** among businesses, education and training, food system advocates, and health advocates to shape policy, regulation and develop public awareness. This is already in motion. **Workforce development needs to be part of these partnerships at the state and regional level.**
- **Complement these partnerships with clear and directed education** for workforce development professionals about
 - the jobs in regional food systems. This must be reality-based but also framed in the context of the value of food systems for health, economic well-being and security.
 - the ways the workforce development system can support food business and food industry growth.
- **Develop worker training and education that values cross-training. Augment existing food system workforce development programming with food system training.** To build the interconnectivity of the system and enhance the value of workers, infuse training with a food systems perspective that supports workers to see themselves, and be seen by employers, as food systems workers, rather than distribution workers, farmworkers, or processors.

Around the world food-localization initiatives are gaining momentum. This movement seeks three interrelated goals:

- shortening the [distances] that food travels between farm and the table;
- capturing more of the value-adding activity associated with the growing, sorting, processing, packaging, distribution, selling, and serving of food; and
- maximizing the local ownership of all the enterprises involved [in] these value chains.

If achieved, these goals would produce four distinct benefits: strong community economies, ecological sustainability, better nutrition and health, and more civic engagement.

Shuman, Michael. "The 25% Shift — The Economic Benefits of Food Localization For The Pioneer Valley & The Capital Required to Realize Them," June 2012

II. Introduction

Food systems, food hubs, food safety, food deserts, fresh food, local food, the increasing cost of food.

We are buzzing about food, in the nation, across the Commonwealth and in the Pioneer Valley. Right now, Michele Obama has a healthy food initiative and the USDA is running the Know Your Farmer, Know Your Food initiative to build local and regional food systems. Five New England states are in the midst of, or have already created, state food plans, including Massachusetts. Ben Hewitt wrote an article in The New York Times and the book, *The Town That Food Saved*, which describe the burgeoning food system in Hardwick, VT. In the Spring of 2011, the Massachusetts legislature created the Massachusetts Food Policy Council which is “responsible for coordinating our statewide food and agricultural policy, and providing new, focused leadership for this critical sector of our economy.”¹ Moreover, for the school year 2011 — 2012, the Massachusetts Farm to School initiative was unable to meet the demand for local food from schools eager to bring local food to their students².



Local activities reflect the national and statewide trends. Here, in the Pioneer Valley, a valley known for its incredibly fertile soil and optimal growing conditions, CISA (Community Involved in Supporting Agriculture) has run the Local Hero® campaign for the past 15 years, introducing residents to the flavors of local food and the people who grow it. The Pioneer Valley Planning Commission, as part of its Sustainable Knowledge Corridor work, has completed its Food Security Plan. And the equivalent planning entity for Franklin County, the Franklin Regional Council of Governments, is poised to develop a food security plan as well.

A food system includes a broad array of work and jobs as you move from seed to soil.

¹ “Patrick-Murray Administration Announces Establishment of Massachusetts Food Policy Council.” Press release. April 7, 2012. mass.gov/governor/pressoffice/pressreleases/2011/establishment-of-food-policy-council-announced.html (retrieved 12/2/12).

² Pioneer Valley Planning Commission. “DRAFT: The Pioneer Valley Food Security Plan.” Sustainableknowledgecorridor.org. http://sustainableknowledgecorridor.org/site/sites/default/files/PV_Food_Security_Plan_10-12-12_DRAFT.pdf (retrieved 12-2-12).

The Massachusetts Workforce Alliance developed its **Down to Earth (D2E) Initiative**³ in 2009, to identify areas in the growing sustainable economy with the potential to create jobs and career paths suitable to lower-income, lower-skill adults. D2E engaged over 60 stakeholder groups over a three year period to help discern where there was enough opportunity and excitement to engage a wide swath of people working together to stimulate economic growth. One of the areas emerging from this work was fostering sturdy regional food systems. Food systems, as they are currently defined, are construed as the full circle from seed to compost, including growing, processing, storing, delivering, serving, and selling food as well as managing food waste.

This research project was undertaken to understand the job creation potential in the Pioneer Valley food system if more of what was eaten here was grown, processed, sold and composted here. Specifically, the study looks at *whether* jobs would be created, and *what* jobs might be created if the Pioneer Valley food system expanded and innovated, and strengthened itself as an integrated system. To understand the possible changes, we analyzed current jobs, required credentials and appropriate training.

This report includes

- **a snapshot of current work in the different dimensions of the Pioneer Valley food system;**
- **identification of areas of potential for job creation, including what those jobs would be, and the required skills and credentials necessary to hold those positions; and,**
- **recommendations for supporting the development of an increasingly sturdy regional food system in the Pioneer Valley and in the areas identified as having potential for job growth.**

Data was gathered through interviews with key representatives from each of the parts of the current Pioneer Valley food system. We spoke with individuals, organizations and enterprises for whom produce (local fruits and vegetables) is a key part of their business. This reflects two things: (1) the bulk of production in the

³ Massachusetts Workforce Alliance. "Down To Earth: Growing a Sustainable Economy for All." 2012. mass-workforcealliance.org/research (retrieved 12/2/12).

Pioneer Valley is produce⁴, and (2) the current USDA ‘MyPlate’ dietary guidelines recommend that Americans eat significantly more fruits and vegetables — their consumer advice: “make half your plate fruits and vegetables”⁵. According to the Union of Concerned Scientists report, *Market Forces: Creating Jobs through Public Investment in Local and Regional Food Systems*, “in many regions, local farmers could grow a substantial portion of this additional produce.”⁶ We also spoke with representatives of the dairy industry in the Valley, again out of recognition of the make-up of the Pioneer Valley food system. Over 50 individuals were interviewed; these individuals represent 50 business or organizations. Working with CISA (Community Involved in Sustaining Agriculture), we have also included IMPLAN⁷ data (data from economic modeling software) from their work. In addition, we have included data from *The 25% Shift: The Economic Benefits of Food Localization For The Pioneer Valley & The Capital Required to Realize Them*, written by Michael Shuman and commissioned by the Solidago Foundation and the Lydia B. Stokes Foundation. In addition, this report includes an inventory of Pioneer Valley food system training programs and organizations.

Workforce development is traditionally understood by sectors, and, within sectors, by industries. When we look at a food system, we’re looking at a combination of sectors and industries. Using the NAICS codes (North American Industry Code System)⁸, a food system perspective incorporates the Agriculture, Forestry, Fishing and Hunting, Manufacturing, Wholesale Trade, Retail Trade, Transportation and Warehousing, Administrative and Support and Waste, Management and Remediation

4 Over 50% of Pioneer Valley Agricultural Sales are vegetables. 2007 Economic Census. As cited in Pioneer Valley Planning Commission. “DRAFT: The Pioneer Valley Food Security Plan.” Sustainableknowledgecorridor.org. http://sustainableknowledgecorridor.org/site/sites/default/files/PV_Food_Security_Plan_10-12-12_DRAFT.pdf (retrieved 12-2-12).

5 Choose My Plate, US Department of Agriculture. “How Many Vegetables are Needed Daily or Weekly?” [choosemyplate.gov](http://www.choosemyplate.gov/food-groups/fruits-amount.html). <http://www.choosemyplate.gov/food-groups/fruits-amount.html> (retrieved 9/21/12).

6 Union of Concerned Scientists. “Executive Summary, Market Forces — Creating Jobs through Public Investment in Local and Regional Food Systems.” August 2011, p. 2.

7 IMPLAN is an economic impact assessment software system. It was created by MIG (Minnesota IMPLAN Group). It can create a “localized model to investigate the consequences of projected economic transactions in a geographic region.” It is the “most widely employed and accepted regional economic analysis software for predicting economic impacts.”

Minnesota IMLAN Group. “What is IMPLAN?” [implan.com](http://www.implan.com/v3/index.php?option=com_content&view=article&id=282%3Awhat-is) http://www.implan.com/v3/index.php?option=com_content&view=article&id=282%3Awhat-is (retrieved 12-2-12).

8 US Census Bureau, US Department of Commerce. “Introduction to NAICS.” [Census.gov](http://www.census.gov/eos/www/naics/). <http://www.census.gov/eos/www/naics/> (retrieved 12-2-12).

The term “food system” is used frequently in discussions about nutrition, food, health, community economic development and agriculture. The food system includes all processes involved in keeping us fed: growing, harvesting, processing (or transforming or changing), packaging, transporting, marketing, consuming and disposing of food and food packages. It also includes the inputs needed and outputs generated at each step. The food system operates within and is influenced by social, political, economic and natural environments. Each step is also dependent on human resources that provide labor, research and education.

— Cornell, *Discovering the Food System*. “A Primer on Community Food Systems: Linking Food, Nutrition and Agriculture.” [Discoverfoodsys.cornell.edu](http://www.discoverfoodsys.cornell.edu). <http://www.discoverfoodsys.cornell.edu/primer.html> (retrieved on 12-2-12). <http://www.hort.cornell.edu/foodsys/pdfs/Primer.pdf>

tion Services, and Accommodation and Foodservices sectors! This shift in perspective from industry/sector to system makes the collection of data more complex, particularly quantitative data.

In addition, the interplay valued in regional food systems involves a mixing and crossing of sectors — for example, shifts to on-farm food processing bring together Agriculture and Food Manufacturing to some extent. There is also possibility in this interplay for a job training and education approach on the part of industry leaders and workforce development professionals that recognizes the interplay and prepares individuals for food systems work that crosses sectors.

What's Driving The Focus on Food?

There are a number of interdependent drivers fueling the increasing interest in local food and regional food systems. The Massachusetts Workforce Alliance identified sturdy regional food systems as a place with high potential to create jobs. This was in part based on the multiplicity of these drivers, discussed below, and the evidence from national and regional efforts focusing on regional food system development. The combination of these diverse drivers and the intense focus on local food at the national, regional, statewide and local level has the potential to afford us the opportunity and momentum to build regional food systems that are well synced and offer good food for our citizens, economic opportunity for businesses and jobs for local workers.

At the national level, these interdependent drivers fall into five broad categories: climate change, health, food safety, food access, and economic development. Each of them spurs food system development, nationally, within the Pioneer Valley and in the greater New England region.

Climate Change

Important to the Massachusetts Workforce Alliance's Down to Earth Initiative, is the impact of climate change and the increasing awareness of the impact of burning fossil fuels on food production. Increasing climate instability affects agriculture across the US and around the globe by shifting cultivation practices, increasing food transportation costs and interrupting food supply chains. These concerns are informing conversations in the Pioneer Valley about food security and spurring increased interest in local sourcing of food.

Health

Another driver is concern over the health of the nation's citizens, particularly children. The First Lady's *Let's Move!* campaign addressing childhood obesity is a strong example. *Let's Move!* "is about putting children on the path to a healthy future during their earliest years. Goals include: Giving parents helpful information and fostering environments that support healthy choices. Providing healthier foods in our schools. Ensuring that every family has access to healthy, affordable food. And, helping kids become more physically active."⁹ The *Let's Move!* Campaign prioritizes fresh fruits and vegetables for kids and families.

Food Safety

In the spring of 2012, pink slime made national news. Pink slime, also known as Lean Finely Textured Beef (LFTB), comprised of beef scraps and ammonia (to kill pathogens), is added to ground beef to create hamburger patties. The ammonia is added in order to meet compliance with USDA food safety guidelines. To date there have been no reported food illnesses due to hamburgers made with LFTB but the public outcry, particularly because these burgers are a staple of public school lunches, was overwhelming. In an editorial in the *New York Times*, Philip Boffey discusses the episode, the subsequent closure of three manufacturing plants and the public's response. He says: "Beneath it all, this episode reflects a deepening anxiety among Americans about the food they eat and how well the government and the food industries are protecting them."¹⁰

Other food safety incidents over the past several years have spurred an increasing emphasis on ensuring food safety through regulatory mechanisms. Of recent and increasing importance to produce suppliers, is GAP certification. GAP certification refers to successful completion of an audit to verify conformance with FDA guidelines for reducing the risk of contamination of produce — adherence to Good Agricultural Practices and Good Handling Practices. While GAP certification is still voluntary, more wholesale and food service purchasers of fresh produce are requiring evidence of compliance.¹¹

9 Let's Move. "Learn the Facts." Letsmove.gov. <http://www.letsmove.gov/learn-facts/epidemic-childhood-obesity> (retrieved 12-2-12).

10 Boffey, Philip. "What If It Weren't Called Pink Slime?" *New York Times*. May 12, 2012. Nytimes.com. <http://www.nytimes.com/2012/05/13/opinion/sunday/what-if-it-werent-called-pink-slime.html> (retrieved 12-2-12).

11 Agricultural Marketing service, US Department of Agriculture. "Good Agricultural Practices And Good

Food Access

There has been an increasing focus on the availability of nutritious food, particularly fruits and vegetables and whole grains, to all populations. Concern often focuses on “food deserts” — places where people do not have easy access to a grocery store.¹²

Although this is typically an urban phenomenon, there are rural areas where this comes into play as well and both occur in the Pioneer Valley. In 2008, the Farm Bill (The Food, Nutrition and Conservation Act of 2008 which is more commonly known as the Farm Bill) authorized \$20 million for pilot projects to evaluate health and nutrition promotion in the Supplemental Nutrition Assistance Program (SNAP). A key focus was to determine if incentives provided to SNAP recipients at the point-of-sale increase the purchase of fruits, vegetables or other healthful foods. This effort is known as the Healthy Incentives Pilot or HIP. SNAP was formerly known as the Food Stamp Program. Hampden County, Massachusetts, one of the three counties in the Pioneer Valley, was selected as the Healthy Incentives Pilot (HIP) site. The Health Incentives Pilot, HIP, is a partnership between the Massachusetts Department of Transitional Assistance and the USDA’s Food and Nutrition Service. 7,500 Hampden County households were randomly chosen to be HIP participants. The program results are not yet calculated. HIP target foods are fresh, frozen, dried and canned fruits and vegetables without added sugar, salt, fats or oils.¹³



Handling Practices Audit Verification Program User’s Guide.” Ams.usda.gov. <http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=stelprdc5097151> (retrieved 12-2-12).

12 The USDA Health Food Financing Initiative working group defines a food desert as a low-income census tract where a substantial number or share of residents has low access to a supermarket or large grocery store. Specifically this means that a census tract has either “a poverty rate of 20 percent or higher, OR a median family income at or below 80 percent of the area’s median family income.” Low access means that more “at least 500 people and/or at least 33 percent of the census tract’s population must reside more than one mile from a supermarket or large grocery store (for rural census tracts, the distance is more than 10 miles).”

Economic Research Service, US Department of Agriculture. “About the Locator.” Ers.usda.gov.

13 MA Department of Transitional Assistance. “FAQ: HIP Community Partners information sheet.” Undated.

National Efforts to Strengthen the Food Industry and Food Systems

Farm Bill

The Farm Bill, which was enacted in 2008, expires in 2012. The Farm Bill, officially known as the Food, Conservation and Energy Act, covers 15 areas, the largest of which is food assistance programming (including Supplemental Nutrition Assistance Program, formerly known as food stamps), but also including commodities, conservation, agricultural trade and food aid, farm credit, rural development, research, forestry, energy, horticulture and organic agriculture, livestock, crop insurance and disaster assistance, commodity futures, trade and taxes as well as other smaller programs.¹⁴ The Farm Bill is the central piece of legislation for agriculture and food security in the United States. As this report was going to publication, no progress had been made to reauthorize the bill, or to move forward with a new bill.

USDA Know Your Farmer, Know Your Food Campaign

Know Your Farmer, Know Your Food (KYF2)¹⁵ is a USDA-wide emphasis to strengthen the critical connection between farmers and consumers and support local and regional food systems. Through this initiative, USDA integrates programs and policies that:

- Stimulate food- and agriculturally-based community economic development;
- Foster new opportunities for farmers and ranchers;
- Promote locally and regionally produced and processed foods;
- Cultivate healthy eating habits and educated, empowered consumers;
- Expand access to affordable fresh and local food; and
- Demonstrate the connection between food, agriculture, community and the environment.

Know Your Farmer, Know Your Food leads a national conversation about food and agriculture to strengthen the connection between consumers and farmers.

In addition to programs that support local and regional food systems, USDA also



14 American Farmland Trust. "Farm Bill 101: What You Need to Know." American Farmland, summer/Fall 2011.

15 Know Your Farmer, Know Your Food, US Department of Agriculture. "Our Mission." Usda.gov. http://www.usda.gov/wps/portal/usda/usdahome?navid=KYF_MISSION (retrieved 12-2-12).

offers a wide range of tools that can help farmers, ranchers, other businesses, communities, and individuals looking to build or take advantage of local and regional food systems.

Pioneer Valley Food System

There is a growing demand for local food in the Pioneer Valley. This is most apparent in direct market sales, like CSA shares and farmers' markets, both of which have boomed in the last five years. "Since 2007, the number of farmers' markets in the Valley increased over fifty percent"¹⁶ (from 21-45 in Franklin, Hampshire and Hampden Counties) and CSA farms increased from 19 to 50. "During that same four year period, we have gone from the concept of buying local in the winter, to the establishment of five ongoing winter markets in Amherst, Greenfield, Northampton and Springfield....In 2011, one-day winter fare farmers' markets in Greenfield, Northampton and Springfield generated almost \$90,000 in revenue for our farmers."¹⁷ The larger drivers mentioned above have influenced local, statewide and New England-wide initiatives and organizations that have, in part, built and shaped demand. The below list of organizations, efforts and initiatives, while by no means exhaustive, describes the ways in which the Pioneer Valley is working to strengthen the region's food system.

CISA, Community Involved in Sustaining Agriculture

Long on the scene, CISA has worked since 1993 to "strengthen local agriculture by building connections between farms and the community." CISA's comprehensive *Be A Local Hero, Buy Locally Grown*[®] marketing and promotional program is the oldest "buy local" campaign in the country. Currently, more than 325 area farms and related businesses benefit from Local Hero marketing and educational activities that build public demand for local farm products. According to market research in 2006, 82% of consumers in Franklin and Hampshire counties recognize the Local Hero logo and that they are twice as likely to buy local.¹⁸ CISA is conducting similar research in Hampden County.



CISA's comprehensive *Be A Local Hero, Buy Locally Grown*[®] marketing and promotional program is the oldest "buy local" campaign in the country.

16 CISA. "2011 CISA Annual Report." Buylocalfood.org. <http://www.buylocalfood.org/upload/resource/CISA.Annual.Report.2011.pdf> (retrieved 12-2-12).

17 Ibid.

18 CISA. "Local Hero Program." Buylocalfood.org. <http://buylocalfood.org/page.php?id=15> (retrieved 12-2-12).

CISA is working to scale up the local food system so it is economically and environmentally sustainable and benefits all members of the community. In 2011, CISA released *Scaling Up Local Food: Investing in Farm & Food Systems Infrastructure in the Pioneer Valley*. The report describes both the challenges and the opportunities associated with strengthening our local food system and uses many local examples to explore the gaps in the Pioneer Valley's current system and the ways that local enterprises are stepping up to fill them. CISA has begun development of a Local Food Calculator which will provide consumers information on the economic impact of their local food purchases.

In addition, CISA provides technical assistance to farm and food businesses, runs the Senior FarmShare program, providing a share of the harvest to low income seniors, and works to strengthen the local food system for all residents.

Western Massachusetts Food Processing Center (FPC)

The Franklin County Community Development Corporation's Western Massachusetts Food Processing Center's mission is to promote economic development through entrepreneurship, provide opportunities for sustaining local agriculture, and promote best practices for food producers. It is a fully equipped modern production facility that meets federal, state, and local standards and services that include:

- support and training for agricultural producers and growers making value-added products or preserving harvests for retail and wholesale, and
- technical assistance, business planning, product development, distribution resources and manufacturing space for specialty and organic food producers.

In 2009, the FPC launched the Extended Season program in order to increase the region's capacity to lightly process fruits and vegetables (freezing and canning) in order to make local food accessible year-round. New equipment was added to the processing line and work is being done with farmers and wholesale and retail purchasers to develop a regional value-chain for frozen and canned products that offers a fair price to farmers and a competitive price to purchasers. The first purchasers have been local schools and hospitals. Partnerships with local C.S.A.s have also been developed that allow them to process produce for winter shares and markets.

PVGrows

PVGrows is a collaborative network dedicated to enhancing the ecological and economic sustainability and vitality of the Pioneer Valley food system. Quoting from their website: “PVGrows provides space for stakeholders to connect, share, and match goals and expertise to promote the growth of our food system. From agriculture finance to policy formulation, from Farm to School to job creation and improved access to good nutrition, PVGrows helps partners build on each others’ strengths to effectively support a diverse and viable local food system.”¹⁹ This work is accomplished through working groups, including a Finance Working Group engaged in developing financing tools. One of these tools is the PVGrows Loan Fund which provides an alternative to traditional financing for food and farm businesses and infrastructure projects.

Pioneer Valley Planning Commission’s Food Security Plan

The Pioneer Valley Food Security Plan was created to help maintain and expand the vitality of the Pioneer Valley’s regional food system. It is one chapter of a regional sustainability plan for the Pioneer Valley being developed with funding from the United States Department of Housing and Urban Development (the other plans include clean energy and climate action, environment, green infrastructure, housing, land use, transportation and workforce). The Strategic Plan for Food Security in the Pioneer Valley was created to help the region’s food producers, consumers, anti-hunger organizations and others articulate and advance their shared goals for our sustainable food system. These goals include that no one goes hungry and that we grow our own food.

Staff from the Pioneer Valley Planning Commission collaborated with municipal officials, community leaders, state and federal agency staff, educators, business leaders, not for profit advocacy organization staff, and the residents of the region to craft this plan which will be integrated with the region’s existing economic development plan, the Plan for Progress, into a regional sustainability plan for the Pioneer Valley. By February, 2014, top priorities from this Pioneer Valley plan will be integrated into the Sustainable Knowledge Corridor’s Sustainability Plan.²⁰

¹⁹ Pioneer Valley Grows (PVGrows). “Our Mission.” Pvgrows.net. <http://www.pvgrows.net/about/our-mission/> (retrieved 12-2-12).

²⁰ Pioneer Valley Planning Commission. “DRAFT: The Pioneer Valley Food Security Plan.” Sustainableknowledgecorridor.org. http://sustainableknowledgecorridor.org/site/sites/default/files/PV_Food_Security_Plan_10-12-12_DRAFT.pdf (retrieved 12-2-12).

Current Massachusetts and New England Area Work on Food Systems

There are a number of efforts and organizations in Massachusetts and across New England that are working to develop well-articulated food systems.

Massachusetts Food Policy Alliance

The mission of the Massachusetts Food Policy Alliance (MFPA) is to “bring together diverse stakeholders across the food system, from farmers to consumers, to create a sustainable, systemic, effective and inclusive food policy for Massachusetts.”²¹ It was formed in 2007 and is a committed group of leaders working on food, public health, nutrition, agriculture, hunger, land preservation, and related policy issues in the Commonwealth. The objectives of its work are to:

- Increase local food production in Massachusetts.
- Sustain and increase the Massachusetts and regional agricultural economy.
- Expand access to, and consumption of, state and regionally produced foods across socio-economic groups.
- Promote environmental sustainability in the Massachusetts and regional food system.
- Improve the health of Massachusetts residents as it relates to our food system.
- Protect Massachusetts farmland.
- Support the next generation of food producers in Massachusetts and the region.

The MFPA worked closely with MA Representatives Stephen Kulik and Linda Dorcena Forry to pass the legislation establishing the Massachusetts Food Policy Council and now works to support and inform the recommendations of the Advisory Committee to the MA Food Policy Council.

Massachusetts Food Policy Council

On November 7, 2010, the MA Food Policy Council (FPC) was effective, enacted as Chapter 277 of the Acts of 2010, “An Act establishing the Massachusetts Food Policy Council.” The Council includes four members of the legislature, six mem-

²¹ Massachusetts Food Policy Alliance. “Home Page.” [Mafoodpolicyalliance.org](http://mafoodpolicyalliance.org/Home_Page.html). http://mafoodpolicyalliance.org/Home_Page.html (retrieved 12-2-12).

bers representing various agencies within the Executive branch, and seven industry representatives are appointed by the Governor from groups within the food production and marketing chain. The FPC appoints an advisory committee consisting of members of specific stakeholder groups.²²

The purpose of the FPC is to:

1. increase production, sales and consumption of Massachusetts-grown foods;
2. develop and promote programs that bring healthy Massachusetts-grown foods to Massachusetts residents through various programs such as:
 - targeted state subsidies,
 - increased state purchasing of local products for school and summer meals and other child and adult care programs,
 - double coupon initiatives,
 - direct market subsidies to communities with identified needs,
 - increasing institutional purchases of Massachusetts-grown foods and other programs to make access to healthy Massachusetts products affordable, and
 - increasing access to healthy Massachusetts-grown foods in communities with disproportionate burdens of obesity and chronic diseases;
3. protect the land and water resources needed for sustained local food production; and
4. train, retain and recruit farmers and to provide for the continued economic viability of local food production, processing and distribution in the commonwealth.²³

As this report was going to publication, the Massachusetts Food Policy Council had embarked on the initial steps toward the development of a comprehensive, state-wide, strategic food system plan.

²² General Laws, the Commonwealth of Massachusetts. “Part I, Title II, Chapter 20, Section 6: Massachusetts Food Policy council.” Malegislature.gov. <http://www.malegislature.gov/Laws/GeneralLaws/PartI/TitleII/Chapter20/Section6C> (retrieved 12-2-12).

²³ Department of Agriculture, Massachusetts Government. “Massachusetts Food Policy Council.” Mass.gov. <http://www.mass.gov/agr/boards-commissions/mfpc.htm> (retrieved 12-2-12).

Massachusetts Farm to School Initiative

Since 2004, the Massachusetts Farm to School Project²⁴ has been working to facilitate sustainable relationships between the Commonwealth's farmers and institutional food services. A sustainable relationship is defined as being profitable for the farm, affordable for the food service provider, and good for the consumers and community.

Growing concern about children's diets has provided an urgent impetus to increase the amount of fresh, healthy, local foods served in schools, as has consumer demand for improved food security through greater local food production. Schools, colleges, and other institutions are increasingly interested in local foods purchasing and have outstripped the supply available through this initiative in the past year.

The Massachusetts Farm to School Project helps dining services staff make connections with local farmers to obtain local products to serve in their cafeterias, which helps these farms expand their local wholesale markets. Students and other institutional consumers receive the benefits of access to more locally grown food, and avoid fuel and energy costs associated with bringing food in from elsewhere. To date there are about 250 public school districts, private schools, and colleges in the Commonwealth preferentially serving local foods, over half of which have received assistance from the Mass. Farm to School Project. About 110 farms are currently selling their products directly to schools across the state.²⁵

Commonwealth Quality

The Massachusetts Department of Agricultural Resources has designed Commonwealth Quality, a brand to identify locally sourced products that are grown, harvested and processed in Massachusetts using practices that are safe, sustainable and don't harm the environment. Commonwealth Quality-certified growers, producers, harvesters and processors not only meet stringent federal, state and local regulatory requirements, but also employ best management practices and production standards that ensure consumers receive the safest, most wholesome products available.²⁶

²⁴ Department of Agriculture, Massachusetts Government. "Farm to School Project." [Mass.gov. http://www.mass.gov/agr/markets/Farm_to_school/index.htm](http://www.mass.gov/agr/markets/Farm_to_school/index.htm) (retrieved 12-2-12).

²⁵ Ibid.

²⁶ Commonwealth Quality, Massachusetts Government. "Commonwealth Quality." [Mass.gov. http://www.mass.gov/agr/cqp/index.htm](http://www.mass.gov/agr/cqp/index.htm) (retrieved 12-2-12).



Photo: Courtesy Mountain View Farm

Food Waste Regulations In Massachusetts

In 2014, the Massachusetts Department of Environmental Protection will roll out regulations governing the disposal of food waste by large producers, likely including food manufacturers and large institutions (hospitals, prisons, colleges and universities). In addition, the Department has been working on regulations to address siting challenges for food waste compost businesses. Large grocery stores and supermarkets have already begun managing food waste for collection and recently, Big Y Supermarkets, a Pioneer Valley based chain, was recognized²⁷ by the Massachusetts Executive Office Of Energy and Environmental Affairs for waste reduction, composting, recycling and energy-efficiency. Big Y has been managing food waste and diverting it from the waste stream since the mid-1990s. More than 80% of Big Y locations have composting programs. The Center for Eco Technology has assisted Big Y, and other food waste generators, to adopt management programs.

Other Food System Planning Initiatives in New England

Several New England States (including Maine, Connecticut, Rhode Island, and very recently, Massachusetts), have invested in developing strategic food system plans. Vermont has a plan in place: the Farm to Plate Program. It specifically looks at job creation as a result of increased local production.

Vermont Farm to Plate

The Vermont Farm to Plate Investment Program (F2P) was legislatively established in May 2009. The legislation required the development of a strategic plan and focused primarily on increasing economic development in Vermont's food and farm sector, creating jobs in the food and farm economy, and improving access to healthy local foods.

The F2P Plan's ultimate purpose is to encourage policies and strategic investments that accelerate the movement toward strong local and regional food systems. Vermont's major agricultural and food product output totaled \$2.7 billion in 2007, the latest year of the Census of Agriculture. [It is estimated] that the direct economic impact of just a 5% increase in farming and food manufacturing in Vermont would generate \$135 million in annual output. A 5% increase in production would also boost total food system employment by an average of 1,500 jobs over the 10-year period.

²⁷ "Big Y Foods wins environmental award." Daily Hampshire Gazette, September 24, 2012.



Vermont estimates that a 5% increase in farming and manufacturing could boost food system employment by 1500 jobs.

- **Food Solutions New England (formerly known as the NE Food Summit)**

Food Solutions New England (FSNE) is a regional food systems learning-action network dedicated to advancing a sustainable New England food system. FSNE is organized around four interrelated activities:

- the New England Good Food Vision
- New England state food planning initiatives;
- annual New England food summits and topical workshops; and
- related analysis, communication and visualization.

The New England Food Vision²⁸ is a multi-phase project to develop a regional Food Vision: a bold vision that calls for the region to build the capacity to produce up to 80% of clean, fair, just and accessible (good food) for all New Englanders by 2060. The vision includes a set of guiding assumptions and calculations that sketch a future in which diverse local and state food systems are supported by and in turn support a regional sustainable food system. The New England Food Summits bring together delegates from across New England to strengthen collaboration for regional food system sustainability.

Food Systems and Job Creation

- **Farm Credit East Report: Northeast Agriculture: The Overlooked Economic Engine**

The recent report *Northeast Agriculture: The Overlooked Economic Engine*,²⁹ by Farm Credit East describes agriculture, commercial fishing and forest products as key economic engines in the New England region. Bill Lipinski, CEO of Farm Credit East says “Agriculture is a major economic engine in the Northeast and this means jobs, local food production and economic activity in hundreds of communities.”³⁰ This report is not the only one that makes the connection between food and job creation.

28 Food Solutions New England. “New England Food Vision.” [Foodsolutionsne.org](http://www.foodsolution-sne.org/). <http://www.foodsolution-sne.org/> (retrieved 12-2-12).

29 Farm Credit East. “Northeast Agriculture: The Overlooked Economic Engine.” [Farmcrediteast.com](https://www.farmcrediteast.com/en/News-and-Events/News/~/_media/Files/Knowledge%20Exchange/FCE_EconImpact-%20FINAL.ashx). https://www.farmcrediteast.com/en/News-and-Events/News/~/_media/Files/Knowledge%20Exchange/FCE_EconImpact-%20FINAL.ashx (retrieved 12-2-12). Data in the report is for the entire state of Massachusetts.

30 Farm Credit East. “Press Release.” August 8, 2012. [Farmcrediteast.com](https://www.farmcrediteast.com/News-and-Events/News/20120817AgEconomicImpactReport.aspx). <https://www.farmcrediteast.com/News-and-Events/News/20120817AgEconomicImpactReport.aspx> (retrieved 12-2-12).

Green Jobs in Sustainable Food Systems, Green For All

Also worth noting for its food system occupational information is Green Jobs in Sustainable Food Systems³¹ published by Green For All. The report provides an “initial [national] analysis of jobs in a green food economy [that promise] opportunity for workers to build long-term skills, and emphasizes the importance of linking local efforts to broader regional and national policy platforms.” Key findings of the report include that “reform requires a food system analysis” and “cross sector stakeholder collaboration is imperative.” The report looks at five sectors: production, processing, distribution, retail and waste and provides occupational information and national data.

- **The 25% Shift Report by Michael Shuman**

Of particular relevance in the Pioneer Valley, is *The 25% Shift: The Economic Benefits of Food Localization For The Pioneer Valley & The Capital Required to Realize Them*³², by Michael Shuman. Commissioned by two Valley Foundations, the report describes “the potential for investment...and the impact that investment might have on the jobs sector.”³³ Using IMPLAN data (economic modeling software), the report estimates “the investment required to move [the Pioneer Valley] from its current condition [in terms of local food consumption] to one in which we [in the Pioneer Valley] produced and consumed 25% of our total food consumption from local resources.”³⁴

The report examines the Pioneer Valley food system and details what the 25% localization would look like in theory. By Shuman’s analysis, “a total of 4,030 jobs would be created — 2,243 directly in new food businesses, 1,080 through new supply-chain spending (indirect effects), and 708 through new spending by employees in these direct and supply-chain jobs (induced effects).” The report examines job creation “by broad sectors: farming and animal growing, manufacturing; food service; indirect; and induced.” Among the overall findings is

31 Green for All. “Green Jobs in a Sustainable Food System.” Greenforall.org. <http://greenforall.org/resources/reports-research/green-jobs-in-a-sustainable-food-system/> (retrieved 12-2-12)

32 Shuman, Michael H. “The 25% Shift: The Economic Benefits of Food Localization For The Pioneer Valley & The Capital Required to Realize Them.” June 2012. Report sponsored by the Solidago Foundation and the Lydia B. Stokes Foundation.

33 Rosen, Jeff. Email to Alex Risley Schroeder, 9-27-12.

34 Ibid.

that “relatively few new jobs come from food service, because the area already has a full array of local grocery stores and restaurants. A relatively large number of new jobs come from expanded primary production of fruits, vegetables, grains, and domestic animals. Significantly, about two thirds of all new jobs are in high-wage manufacturing or spread across the entire economy in indirect and induced jobs.” P. 15

Shuman notes, however, that “these are jobs that are *possible* [emphasis in original] with 25% localization. But not all these jobs are *plausible* [emphasis in original], and indicates that more analysis is needed.

Underlying all the drivers and efforts mentioned above is demand for a secure supply of and adequate access to safe, healthy, nutritious food. There are multiple stakeholders interested in growing local food production and consumption. And as this demand grows, there is the possibility of job growth as well. This report looks at current and potential opportunities for food system jobs in the Pioneer Valley.



Pioneer Valley tomatoes ready for market.

III. Current Jobs in the Pioneer Valley Regional Food System

What follows are descriptions of work currently being done within the five areas of a regional food system: growing, processing, distributing, serving and selling, and food waste management. Each of the following sections details who we spoke with, what the current work is, including qualifications, wages and relevant training, how these positions are filled and any challenges to the current labor situation within this area.

Overall, the jobs currently being done in each of these areas, as told to us by the interviewees, are largely as described by the relevant NAICS (North American Industry Classification System) and SOC codes (Standard Occupation Codes). During the course of the research, a list of open food system positions was compiled from CISA classifieds, ads in the Daily Hampshire Gazette and postings through the One Stop Career Center. These jobs include many of the positions on the farms we spoke with and there are a number of additional, unique positions as well.

Growing

Who We Spoke With

We spoke with a diversity of producers to get a wide angle view of the work currently being done. Our focus was primarily on vegetable growers, in part because of a tremendous number of such farms in the Valley, and in part because of the efforts on many levels to increase vegetable consumption. In addition, we spoke with a raw milk dairy operation that, in addition to milk, offers pick your own fruits, farmstead cheeses and whole wheat baked goods.³⁵

Although we spoke with farmers representing a number of different business models, in almost all cases, the farm operation used more than one of the following approaches to sell their produce:

- Wholesale, including wholesale direct and wholesale to a distributor

³⁵ The Valley is home to a number of dairy operations, and, “while dairy farms are only about 5 percent of the total number of farms in the Valley, they represent a larger portion of the region’s farm economy, accounting for 18 percent of the region’s total reported farm product sales.” National Agricultural Statistics Service, 2007 Census of Agriculture, 2007: http://www.nass.usda.gov/Census_of_Agriculture/ as cited in American Farmland Trust. “Increasing Local Milk Processing Capacity: Benefits to Pioneer Valley Consumers & Communities.” January 2011. Page 3.



The Valley is home to a number of dairy operations, and, “while dairy farms are only about 5 percent of the total number of farms in the Valley, they represent a larger portion of the region’s farm economy, accounting for 18 percent of the region’s total reported farm product sales.”

- Retail, including farmers markets as well as on-farm sales
- CSA (Community Supported Agriculture. This is defined as “a commitment between individuals or families, where people buy into the farm as members at the start of the growing season, and in exchange receive a weekly share of the farm’s harvest.”)³⁶
- Aggregation, which includes purchasing product from multiple suppliers and offering it to customers, either through wholesale distribution, or direct to retail customers
- Light processing, which refers to cutting or peeling and packaging vegetables for easier use by end-users/purchasers

We also spoke with several key informers about farm labor to better understand the complexity of sourcing labor for food production, including representatives from the New England Farmworkers Council, One Stop Career Center staff involved in H2A (Temporary Agricultural Worker program) worker hiring efforts and Western Massachusetts Legal Services staff.

When looking at growers and producers, the NAICS codes most relevant are Agriculture, Forestry, Fishing and Hunting (NAICS Code 11).



³⁶ Red Fire Farm’s CSA, Red Fire Farm. “CSA FAQs.” Redfirefarm.com. <http://www.redfirefarm.com/CSA/faqs.html> (retrieved 12-2-12).

The Work on Valley Farms

The range of agricultural operations that we spoke with had similar jobs across their operations. The differences were in numbers and types of workers as well as in degree of specialization which was informed by the business model and size of the operation. We purposefully chose farms based on their different business models, in order to describe the spectrum of workers. Most farms use some combination of professional agricultural workers, migrant workers, H2A agricultural workers³⁷(temporary agricultural workers) and local labor.



37 “The H-2A temporary agricultural program establishes a means for agricultural employers who anticipate a shortage of domestic workers to bring nonimmigrant foreign workers to the U.S. to perform agricultural labor or services of a temporary or seasonal nature. Employment is of a seasonal nature ..., such as a short annual growing cycle or a specific aspect of a longer cycle, and requires labor levels far above the necessary for ongoing operations. Employment is of a temporary nature where the employer’s need to fill the position with a temporary worker will... last no longer than 1 year.

Before the U.S. Citizenship and Immigration Services (USCIS) can approve an employer’s petition for such workers, the employer must file an application with the Department stating that: (1) there are not sufficient able, willing, and qualified United States (U.S.) workers available to perform the temporary and seasonal agricultural employment for which an employer desires to import nonimmigrant foreign workers; and (2) employment of H-2A workers will not adversely affect the wages and working conditions of similarly employed U.S. workers. The statute and Departmental regulations provide for numerous worker protections and employer requirements with respect to wages and working conditions that do not apply to nonagricultural programs.”

Employment and Training Administration, US Department of Labor. “H-2A Temporary Agricultural Workers Program Details.” [Doleta.gov. http://www.foreignlaborcert.doleta.gov/h_2a_details.cfm](http://www.foreignlaborcert.doleta.gov/h_2a_details.cfm) (retrieved 12-2-12).

Table 1: Pioneer Valley Farm/Growers Jobs

| JOB TITLES | DESCRIPTION * | SOC CODE(S) | QUALIFICATIONS | HOURLY WAGE RANGE / BENEFITS | | |
|--|--|---|--|------------------------------|--------------------|------------------------------|
| | | | Across positions, farms indicated past experience farming at a similar operation as the key qualification | National Median | Mass (Total Range) | Pioneer Valley (total range) |
| Field Laborer, Laborer, Farm Worker, Farm Hand, Field Worker, Herdsman, Dairy Maid | Field work includes soil preparation, seeding, weeding, and harvesting; work is repetitive, physically demanding and in all weather. Operations that include season extending techniques would also include greenhouse / hoop house work as part of this position’s responsibilities. Field labor work can be paired with packing and light processing and sometimes that will extend the position beyond the crop harvest. The size of the operation and the type of crop inform whether the work is predominantly hand work, or mechanized. Dairy operations workers care for and feed livestock. They track production, animal health and well-being. Animal quarters and their cleaning and maintenance are also their responsibility. | 45-2092.02 - Farmworkers and Laborers, Crop; Aquacultural | Physical capacity to do the work, ability to work in all conditions, experience with work tasks (seeding, tractor operation were cited). they have the “get the work done knack” | \$8.99 | \$8.51- \$20.80 | Less than \$10 - \$15 |
| | | 45-2093.00 Farmworkers, Farm, Ranch, and | | \$10.62 | \$9.79 - \$19.41 | |
| | | 45-2091.00 - Agricultural Equipment Operators | | \$12.13 | \$15.23 - \$22.17 | |
| | | 49-3041.00 Farm Equipment Mechanics and Service Technicians | | \$16.46 | \$14.14 - \$21.89 | |

| JOB TITLES | DESCRIPTION * | SOC CODE(S) | QUALIFICATIONS | HOURLY WAGE RANGE / BENEFITS | | |
|--|--|---|--|------------------------------|-------------------|-----------------------|
| Supervisor / Manager | Supervisors/Managers are experienced with operation and tasks, responsible for managing crew and overseeing work tasks within a day, often on multiple fields located in different towns, with a range of crops, and across the growing season. On some farms, the position includes crop planning. Livestock operation managers / supervisors oversee animal operations, production and upkeep and maintenance of facilities. | **+11-9013.02 Farm and Ranch Managers | Leadership and ability to work with team to get work done on time and under all conditions. Clear understanding of farm's operations, systems and priorities. | \$31.09 | ---- | Less than \$10 - \$15 |
| | | 45-1011.08 First-Line Supervisors of Animal Husbandry and Animal Care Workers | | \$20.48 | \$10.23 - \$32.73 | |
| | | †145-1011.07 First-Line Supervisors of Agricultural Crop and Horticultural Workers | | \$20.48 | \$10.23 - \$32.73 | |
| Processor/ Packer/ Driver-Deliverer / Backroom Staff | Work includes sorting for quality, packing for delivery, assembly of CSA customer boxes and deliveries to share site, stores or distribution centers. Might include managing CSA share room. Can be combined with field work. On farm processing, sometimes referred to as 'light processing' can include washing and cutting. At dairy operations, the work includes safe handling of milk and milk products, packaging, keeping track of inventory, cleaning and maintaining machinery. | 45-2041.00 - Graders and Sorters, Agricultural Products | Physical capacity to do the work; ability to work in all conditions. Accuracy and speed are valued. Drivers have requirements of valid license, good driving record, ability to interact with customers at time of delivery. In some instances, drivers are backhauling bringing products back on the return trip. | \$9.17 | \$8.34 - \$13.28 | Less than \$10 - \$15 |
| | | **53-3033.00 Light Truck or Delivery Services Drivers | | \$13.98 | \$9.17 - 28.29 | |

| JOB TITLES | DESCRIPTION * | SOC CODE(S) | QUALIFICATIONS | HOURLY WAGE RANGE / BENEFITS | | |
|--|---|---|--|------------------------------|------------------|-----------------------|
| Processor for value-added products | Baker, jam maker, flower bouquet maker, yogurt maker, cheese maker, salsa maker | 51-3092.00 Food Batch-makers | Skilled in the areas relevant to tasks | \$12.23 | \$8.71 - 19.56 | Less than \$10 - \$15 |
| | | 51-3093.00 Food Cooking Machine Operators and Tenders | | \$11.79 | \$9.16 - \$20.11 | |
| | | 51-3011.00 Bakers | | \$11.18 | \$9.07 - 20.19 | |
| | | 35-9099.00 Food Preparation and Serving Related Workers, All Other | | \$9.50 | \$8.47 - 16.80 | |
| Salesperson at farmers market, farm stand, greeter, workshop facilitator | Sell produce at farmers markets and farm stands, customer service. Design and facilitate workshops on cheese making and other topics. | **41-2031.00 Retail Salespersons | | \$10.10 | \$8.57 - 18.78 | Less than \$10 - \$15 |

*It is important to note that farm work often requires staff to move between job tasks. The size and nature of the farm operation dictates whether the tasks across the above positions are held by one person, or dispersed among multiple individuals.

**This job is considered a Bright Outlook Occupation, meaning the occupation is “expected to grow rapidly in the next several years, will have large numbers of job openings, or [is a] new and emerging occupation.” (“Bright Outlook Occupation.” O*Net Online. <http://www.onetonline.org/help/bright/41-2031.00>.)

†This job is considered a Green Occupation, meaning that “Green economy activities and technologies are increasing the demand for [these] occupations, shaping the work and worker requirements needed for occupational performance, or generating new and emerging occupations.” (“Green Occupation.” O*Net Online. <http://www.onetonline.org/help/green/13-1021.00>.)

According to IMPLAN³⁸ data, the agricultural sector in three county areas of the Pioneer Valley directly employs 2,260 full time equivalents (Table 2). Within the agricultural sector, fruit and vegetable farming account for the majority of agriculture related jobs.

38 Minnesota IMPLAN Group Inc. 2008, made available by CISA

Table 2: Agriculture Employment³⁹ and Output in the Three-county Area, Pioneer Valley, Massachusetts

| | EMPLOYMENT | | OUTPUT | |
|-----------|----------------|---------------------|--------------------------------|---------------------------|
| | Number of Jobs | % of Jobs in County | Value of production in Dollars | % of production in County |
| Franklin | 921 | 2.6% | \$94,570,399 | 2.1% |
| Hampden | 512 | 0.2% | \$25,353,574 | 0.1% |
| Hampshire | 827 | 1.1% | \$61,391,683 | 0.6% |

Output equals value of production by industry for a given time period.⁴⁰

Qualifications and Training

Despite the differences in farms (size, diversity of crops, diversity of products, business model), there were consistent responses about qualifications for doing the work:

- Must have the “get the work done knack,” as one farmer put it, and be able to meet production targets, move fluidly between different tasks and different crops as needed.
- Prior experience farming, ideally on a similar operation;
- Able to do the repetitive physical work in all weather;
- Responsible in terms of completing duties and showing up for work regardless of weather;
- A “good fit with the current team.”

The work requires speed, manual dexterity, physical aptitude and strength and flexibility to switch between tasks as conditions dictate. On some farms mechanical aptitude is highly valued. In fact, on one farm a standard interview question is “Do you change the oil in your car?” They’ve found that individuals with that skill are more comfortable and competent at operating farm equipment, a critical aspect of work on their farm, especially given the increased acreage this farm has in cultivation in Valley towns. Comfort and experience operating farm machinery was also highly valued. Farms in the Pioneer Valley often farm multiple fields in several dif-

As one farmer put it, farm workers must have the “get the work done knack.”

³⁹ Does not include forestry and fishing.

⁴⁰ Employment = annual average number of full-time/part-time jobs. This includes both wage and salary and self-employment.

ferent communities and require staff to drive farm equipment on roadways.

Animal care experience and aptitude were valued for livestock operations. The schedule for animal care is uncompromising and requires a consistent and significant commitment, every day, all weather, with cooperative animals and ornery ones.

Baking, cheese making, flower arranging skills as well as experience of skills in sales and marketing were all considered valuable by operations that include value added product offerings as part of their product offerings.

While there are a number of training programs in the Valley (see appendix A) there was little indication of preference for hiring someone who had completed a training program and in some instances that was seen as a potential impediment to finding quality workers. However, having experience working at other Valley farms is valued in the hiring process; farmers in the Valley are familiar with different farm operations in part because the Valley is a place in which current owners and managers of farms were often workers on other farms.



Photo courtesy Mountain View Farm

Some farms participate in on-farm training programs; others have more formal apprenticeship or intern programs. One of the farms we spoke with uses both interns and apprentices and was pleased with their summer intern from the UMass Amherst Sustainable Agriculture program.⁴¹ Most farms that we spoke with trained their staff themselves and had a sense of how long it would take someone to get up to speed; it ranged from several days to master the speed at which the handwork needed to be done, to two months to settle in and master the work responsibilities.

Finding Farm Workers in the Valley

Farmers find workers in many ways: Craigslist, advertisements in the paper, postings at the local One Stop Career Centers, word of mouth, referrals from current staff, through area training programs and on-line listings with area agricultural organizations (NOFA — Northeast Organic Farming Association, CISA), through on-farm applications and through the immigrant agricultural worker program known as H2A. The H2A temporary agricultural program establishes a means for agricultural employers who anticipate a shortage of domestic workers to bring non-immigrant foreign workers to the U.S. to perform agricultural labor or services of a temporary or seasonal nature. The agricultural employer must adhere to a strict set of regulations and an exacting process for hiring, a piece of which involves verifying that there is no suitable local labor.

Two of the farms we spoke with relied on the H2A program extensively, although in both instances they each had a core group of local labor year round. These two farmers spoke about the incredible value these H2A workers bring to their farm: “[these workers] have my best interests at heart; I listen to them — they look out for me” and “their work ethic is worthy of respect”. At both these farms, they have been able to get the same workers year after year and have established significant relationships with these workers.

When asked specifically about the place for local labor in Valley agriculture, farmers we spoke with offered two responses:

- Local labor is largely disinterested in field work. There are certainly exceptions to this, but overall the farmers were consistent in this evaluation as was the staff person from the One Stop Career Center. Notable, however, was that the staff at

⁴¹ Farms that work with interns and apprenticeships have to carefully structure the work experience to meet legal requirements.

some farms is comprised of nearly 100% local labor. These local workers generally fall into two categories. First are workers who are highly motivated to have careers as growers, and they see these jobs as stepping stones on the path to their own farms and are willing to work hard and have seasonal work in pursuit of their professional goals. The second important local labor pool is family, friends and neighbors who contribute on an as-needed basis.

- Local agriculture has places for local labor, particularly as the agricultural sector grows, and these include
 - “higher level jobs which are created when there are 30 – 40 people working in the field”
 - Jobs in the production value chain, including work in trucking, warehousing, selling and managing operations.

The data from farmers indicates three general patterns of staffing: local labor, migrant /immigrant labor and individuals pursuing farming as a vocation. There is a great deal of overlap across these patterns with many of the farms using a combination of staff. These three patterns inform the advantages and difficulties farmers face when looking for workers and the implications for the Pioneer Valley food system.

Table 3: Farmworkers in the Pioneer Valley

| WHO IS DOING THE WORK? | ADVANTAGES | DIFFICULTIES | IMPLICATIONS FOR PIONEER VALLEY REGIONAL FOOD SYSTEM |
|---|--|---|---|
| Local labor | Local workers available without regulatory hurdles or oversight. When there is a source for local labor they can fill in as needed at different times during the season as part-time workers. | Difficulty finding individuals who are willing to do the work and physically able to do the work | Because agricultural work isn't seen as a viable work option, even in the face of high unemployment rates, staffing needs are harder to address with this labor pool |
| Migrant/immigrant labor, including H2A agricultural workers and other agricultural workers; in Pioneer Valley these workers are often from Jamaica or Guatemala, and most are men | <p>Advantages for farms: Reliable, trained agricultural workers</p> <p>For the workers: allows them to provide for their families in ways not possible if they were employed in their home country</p> | <p>Difficulties for the farms: Regulations are complex and cumbersome; there is a feeling of uncertainty about the program — that at any time the regulations could change</p> <p>For the workers: 'captive employees', separated from their families, can be vulnerable to system/regulatory abuses with little recourse</p> | The system, as currently construed, depends heavily on these workers, yet the program that brings them to the Valley to do this work feels vulnerable to farmers. Future growth of the regional food system that is predicated on these workers may be building on unsteady ground. Workers employed through these programs can face health, safety and legal challenges and potential retribution for seeking assistance in these areas. |
| Those interested in farming as vocational training, including young, often college-educated individuals, men and women | Highly engaged workforce; eager to learn | Can result in individuals who are 'trying' agricultural careers out and realize they aren't interested part way through the season OR individuals leave to begin their own operations | Some have described these individuals as the ones who will remake the food system given their entrepreneurial interest, growing knowledge and commitment to regional food systems as an organizing principle |

Challenges

Securing farm labor is challenging for a number of reasons including:

1. The work is considered unappealing to the majority of local job seekers due to its repetitive and physically demanding nature and its seasonality.
2. The seasonal nature of the work raises a couple of difficulties for growers and producers including:
 - turnover which can burden the farm with yearly training for new staff and little returning expertise and
 - reduction in the pool of individuals who might want the work but have financial and/or familial requirements that preclude a seasonal job.
3. On some farms, the work is more heavily mechanized, which reduces the amount of labor needed, or labor is just needed for particular tasks at certain times during the season.
4. The regulations governing the immigrant worker program are arduous and there is a feeling of vulnerability for farmers who worry the program will be changed in ways that further limit their ability to get good immigrant agricultural workers, or that the program will change in some way.

My generation's contribution will be to remake the food system." said one younger farmer.

Processing/Food Manufacturing

Who We Spoke With

Our initial criteria selected food manufacturers sourcing their ingredients locally with an articulated commitment to local food and to strengthening the local food system. This led us to speak with a food manufacturer using lacto-fermentation processes, a raw milk operation and the local commercial kitchen (available to entrepreneurs and area businesses). This felt too narrow a group to get a sense of job creation in food manufacturing, so we expanded to include a local ice cream manufacturer working to build a dairy processing facility. We also gained insights into food manufacturing in the Pioneer Valley through conversations with a national food manufacturer and a former chicken processing company.

When looking at food manufacturing, the NAICS code most relevant is Manufacturing. (NAICS Code 311.)

The Work

Food processing work is manufacturing work. Workers involved in the processing are engaged in a series of activities that are repeated — preparing food by washing and cutting, perhaps cooking, operating equipment to fill cans, bottles or other packaging, labeling, and preparing for distribution by loading into cases. While product differences (ice cream versus salsa versus fermented cucumbers, for example) do require different job tasks, the work falls largely into the same category of product preparation. Food manufacturing enterprises do employ workers doing other kinds of work, including supervision, management, administration, sales and marketing, but often the bulk of the work is done in the production facility by lower-skilled workers doing repetitive work.



Cheese from Upinngil Farm

Table 4: Range of Work Done Currently at Food Manufacturing Enterprises

| JOB TITLES | DESCRIPTION | SOC CODE(S) | QUALIFICATIONS | HOURLY WAGE RANGE / BENEFITS | | |
|-----------------------|--|--|---|------------------------------|-----------------------------|------------------------------|
| | | | | National Median | Massachusetts (Total Range) | Pioneer Valley (Total range) |
| Production worker | Cooking, cutting, washing, mixing preparing food from recipes. Operating bottling/packing equipment. Monitoring equipment and process for effectiveness, quality standards and food safety. Equipment and facility cleaning. | 51-3092.00 Food Batch-makers | Attention to detail, good worker. Team skills. Additionally, ServSafe certification, forklift / pallet jack operator license/experience, some kitchen experience all desirable. | \$12.23 | \$8.71 - 19.56 | \$10 - \$15 |
| | | 51-3093.00 Food Cooking Machine Operators and Tenders | | \$11.79 | \$9.16 - 20.11 | |
| | | 51-9111.00 Packaging and Filling Machine Operators and Tenders | | \$12.32 | \$8.69 - 20.40 | |
| Production Supervisor | Supervises production team and operation | † 51-1011.00 First-Line Supervisors of Production and Operating Workers | Knowledge of products, production process and food manufacturing, including safety and sanitation. Supervision experience | \$14.21 | \$10.86 - 27.83 | \$10 - \$15 |
| | | **35-1012.00 First-Line Supervisors of Food Preparation and Serving Workers | | | | |
| Production Manager | Oversees and manages production; oversight of whole production process including staffing, materials, quality and logistics. | †13-1021.00 Buyers and Purchasing Agents, Farm Products | Has strong knowledge of production and food manufacturing process. Knowledge of products. Management and supervision experience | \$26.86 | \$16.32 - 60.79 | \$15+ |
| | | †11-3051.00 Industrial Production Managers | | \$42.40 | \$28.09 - 72.46 | |

| JOB TITLES | DESCRIPTION | SOC CODE(S) | QUALIFICATIONS | HOURLY WAGE RANGE / BENEFITS | | |
|-------------------------|--|---|---|------------------------------|-----------------|-------------|
| Delivery Driver | Makes deliveries. In some cases, does merchandising at the receiving retail operation (which saves that operation labor costs and allows the manufacturer to have control of display). Serves as 'face' of food manufacturer so customer service skills are essential. | **53-3033.00 Light Truck or Delivery Services | Good driving record. Attention to detail. Good customer service skills. | \$13.98 | \$9.17 - 28.29 | \$10 - \$15 |
| | | **53-3031.00 Driver/Sales Workers | | \$10.95 | \$8.45 - 24.68 | |
| Office / Administration | Reception, bookkeeping, accounts payable, accounts receivable | **43-3031.00 Bookkeeping, Accounting, and Auditing Clerks | Relevant skills for these occupations. | \$16.70 | \$12.58 - 27.61 | \$10 - \$15 |
| | | **43-6014.00 Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | | \$15.32 | \$12.64 - 26.63 | |
| | | **43-4171.00 Receptionists and Information Clerks | | \$12.35 | \$9.14 - 20.18 | |

| JOB TITLES | DESCRIPTION | SOC CODE(S) | QUALIFICATIONS | HOURLY WAGE RANGE / BENEFITS | | |
|-------------------|--|---|--|------------------------------|-----------------|------------|
| Sales / Marketing | Pursues leads for new customers and sales opportunities which in some instances include tastings at retail outlets. Sometimes marketing is separate from sales work. | **11-2022.00 - Sales Managers | Relevant skills/ experience for these occupations. Strong knowledge or market and customer service skills. | \$48.87 | \$31.64- 90.00+ | \$10-\$15+ |
| | | **41-4012.00 Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products | | \$25.74 | \$17.14 - 65.00 | |

**This job is considered a Bright Outlook Occupation, meaning the occupation is “expected to grow rapidly in the next several years, will have large numbers of job openings, or [is a] new and emerging occupation.” (“Bright Outlook Occupation.” O*Net Online. <http://www.onetonline.org/help/bright/41-2031.00>.)

†This job is considered a Green Occupation, meaning that “Green economy activities and technologies are increasing the demand for [these] occupations, shaping the work and worker requirements needed for occupational performance, or generating new and emerging occupations.” (“Green Occupation.” O*Net Online. <http://www.onetonline.org/help/green/13-1021.00>.)

Table 5: Agriculture and Food Processing Employment and Output in the Three-county Area⁴²

| | EMPLOYMENT | | OUTPUT | |
|-------------------|----------------|---------------------|--------------------|-----------------------------|
| | Number of Jobs | % of Jobs in County | Value of Output | % of Total Output in County |
| Franklin County | 254.9 | 0.7% | \$134,833,287.75 | 3.0% |
| Hampden County | 1,857.2 | 0.8% | \$908,001,736.75 | 2.8% |
| Hampshire County | 106.2 | 0.1% | \$28,418,118.27 | 0.3% |
| Three County Area | 2,218.3 | 0.6% | \$1,071,253,142.77 | 2.3% |

Qualifications and Training

Working in food manufacturing requires being “skilled at food manufacturing techniques, skilled at food safety, skilled at occupational safety [and] having the ability to move between product categories and techniques.” This quote tells the big picture of the story of food manufacturing. What isn’t explicit is that the bulk of the work in food manufacturing is exacting, repetitive, physical work usually requiring work in cold or hot conditions. It can also be seasonal work when the ingredients are locally sourced. Well-qualified applicants at the entry level are good workers with excellent attention to detail.

⁴² Minnesota IMPLAN Group Inc. 2008, made available by CISA Includes forestry and fishing. Employment = annual average number of full-time/part-time jobs. This includes both wage and salary and self-employment. Output= value of production by industry for a given time period.

Kitchen experience, including ServSafe Certification, can be an asset for workers. At the entry level (production workers and drivers) there were no educational requirements. Mathematical and mechanical aptitude was cited as a very useful attribute in candidates. And specific skills with mechanical equipment and refrigeration were also desirable qualifications. At higher levels, experience in food manufacturing processes and supervisory experience were considered assets. One of the companies we spoke with indicated that they only hire for management positions from within; experience on the production line and working as part of the production team lends first-hand insight into the complexity of that particular process and the logistics and record keeping requirements.

Finding Workers

Similar to growers, food manufacturers find workers in many ways: Craigslist, advertisements in the paper, postings at the local One Stop Career Centers and word of mouth, including referrals from current staff. Employers report that they have trouble finding production workers and drivers and that turn-over is high.

Challenges

The challenges in staffing food manufacturing businesses include:

1. The physically demanding nature of the work including standing for long periods of time, lifting large containers, operating industrial cooking equipment and the repetitiveness of those tasks. Some employers speak about their excitement when they are able to find workers for these positions who have a sense of the larger goal of local food manufacturing as they believe that this larger sense of a greater effort can serve as a balance against the redundancy and hard work.
2. The seasonality of local food ingredients, which negatively affects consistent availability of supply. Local food manufacturers with a commitment to local sourcing face supply issues due to seasonality of supply that determine the work schedule. This can make the work seasonal, or create annual lay-offs when the business is slow.
3. The difficulty of finding and keeping quality workers, particularly in production and delivery positions. Workers leave these positions because of the physical and repetitive nature of the work, because they require more than a seasonal job, or in search of a higher wage.



Courtesy Real Pickles

One of the employers spoke of their challenge in finding good staff — they described it as their needing to ‘learn how to hire.’ What they were voicing was a sense that given the entry level work, they needed to be better attuned to the kinds of skills and attributes of applicants that would indicate a good fit for both the physical and repetitive work as well as the company’s mission of quality local food products.

Distribution

Who We Spoke With

In considering the distribution of local food, we prioritized speaking with companies that placed a high priority on offering local food to their customers. Of the eight businesses we spoke with, three were more conventional food distributors, three were companies that had a different model for food distribution, one was a marketing cooperative of growers, and one was an emergency food distribution organization.

Of the three more conventional food distribution companies, one is local to the Pioneer Valley; another services Franklin and Hampshire Counties in the Valley along with Southern New Hampshire and Vermont and the third operates across the state. The three less conventional food distributions companies comprise a local farmer doing extensive product aggregation (as well as light processing); a local fresh food delivery service start-up, and a technology based food distribution operation. The marketing cooperative of growers was founded in 1978 by eight Pioneer Valley growers. The emergency food distribution organization has a long history of innovative programming designed to maximize the amount of local food, particularly produce, that it includes in its food offerings to low-income individuals and families, including owning farmland in order to grow produce for their customers and a ‘chili project’ which grew ingredients and made chili for distribution through food pantries. We also spoke with a local storage and distribution company providing bulk storage, packaging, and distribution. Their product mix did not include fresh produce but they are currently working with key Pioneer Valley local food efforts, advocates and organizations.

When looking at food distribution, the NAICS code most relevant is Grocery and Related Product Wholesalers and Warehousing and Storage. (NAICS Codes 4244 and 493.)

The Work

Food distribution work appropriate for lower-skill workers involves both storage and transportation activities. Food distribution operations make the connection between the supplier and the customer. In local food distribution, efficiency and the appropriate care of often highly perishable products are paramount. Workers' abilities to complete tasks like receiving, order filling and loading must be well-honed so that tasks are accomplished quickly, accurately, and with a high regard for the condition of the product in order to protect food safety and value. Food distribution enterprises, including those concerned with food security, engage warehouse and transportation workers, as well as those doing supervision, management, purchasing, sales/marketing and administration. It is worth noting that drivers can be the frontline for sales and marketing by identifying customer concerns, needs and gaps in their product lines and relaying these to the sales staff.



Food distribution truck and company owner J.D. Kemp.

Table 6: Range of Work Currently Done at Food Distribution Companies

| JOB TITLE | DESCRIPTION | SOC CODE | QUALIFICATIONS | WAGE RANGE / BENEFITS | | |
|-------------------------|---|---|--|-----------------------|--------------------|------------------------------|
| | | | | National Median | Mass (Total Range) | Pioneer Valley (Total Range) |
| Driver | Drives delivery truck and unloads produce, sometimes loads truck too. Can have significant customer service component | **53-3033.00 Light Truck or Delivery Services | Drivers license, some require a CDL (commercial drivers license) | \$13.98 | \$9.17 - 28.29 | \$10 - \$15 |
| | | 53-3031.00 Driver/Sales Workers | Good driving record Truck driving experience/delivery experience | \$10.95 | \$8.45 - 24.68 | |
| Warehouse worker/picker | Receiving and packing stored food/food products; often operates equipment including forklifts | **43-5081.03 Stock Clerks-Stockroom, Warehouse, or Storage Yard | Ability to be accurate in fulfilling orders; attention to detail; sometimes forklift operator | \$10.52 | \$8.59 - 20.01 | \$10 - \$15 |
| | | **†53-7062.00 Laborers and Freight, Stock, and Material Movers, Hand | | \$11.42 | \$8.90 - 21.15 | |
| | | †**53-7051.00 Industrial Truck and Tractor Operators | | \$14.43 | \$10.84 - 23.15 | |
| Salvage coordinator | Sorts through donated food, including produce to determine what is safe and in good condition. | 45-2041.00 Graders and Sorters, Agricultural Products | Food safety knowledge, industry knowledge. Ability to work with diverse array of products and foods. | \$9.17 | \$8.34 - 13.28 | data not available |

| JOB TITLE | DESCRIPTION | SOC CODE | QUALIFICATIONS | WAGE RANGE / BENEFITS | | |
|--|--|--|----------------|-----------------------|------------------|-------|
| Supervisor for transportation and warehouse (depending on size of operation) or Logistics / Supply Coordinator | Supervises transportation and/or warehouse operations, including route development, oversight and staff supervision and evaluation. | **†11-3071.03 Logistics Managers | | \$38.87 | \$24.79 - 69.30 | \$15+ |
| | | †11-3071.01 Transportation Managers | | \$38.87 | \$24.79 - 69.30 | |
| | | †11-3071.02 Storage and Distribution Managers | | \$38.87 | \$24.79 - 69.30 | |
| Management | Manages operations, including transportation, warehousing, purchasing and sales. Oversight of operation. | **†11-1021.00 General and Operations Managers | | \$45.74 | \$26.39 - 90.00+ | \$15+ |
| Sales | Sells products to customers, maintains and develops customer relationships. Initiates conversations with customers about additional and alternative products that could be a good match for their business operations and customer base. | **41-1012.00 First-Line Supervisors of Non-Retail Sales Workers | | \$33.91 | \$21.36 - 77.65 | \$15+ |
| Buyers | Purchase product from suppliers, including farm operations. Seek additional product offerings based on demand and availability and quality. | †13-1021.00 - Buyers and Purchasing Agents, Farm Products | | \$26.86 | \$16.32 - 60.79 | \$15+ |
| IT | Writes or adapts software to track inventory and delivery details. Sets up and maintains computer systems. | **15-1132.00 Software Developers, Applications | | \$42.92 | \$31.03 - 67.52 | \$15+ |
| | | **15-1199.09 Information Technology Project Managers | | \$38.43 | \$22.55 - 58.60 | |

| JOB TITLE | DESCRIPTION | SOC CODE | QUALIFICATIONS | WAGE RANGE / BENEFITS | | |
|---|--------------------------------------|---|---|-----------------------|-----------------|------------|
| Administrative, including bookkeeper, accounts receivable, accounts payable | Performs duties of these occupations | **43-3031.00 Bookkeeping, Accounting, and Auditing Clerks | Specialized skills relevant to these occupations. | \$16.70 | \$12.58 - 27.61 | \$10-\$15+ |
| | | **43-6014.00 Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | | \$15.32 | \$12.64 - 26.63 | |
| | | **43-4171.00 Receptionists and Information Clerks | | \$12.35 | \$9.14 - 20.18 | |

**This job is considered a Bright Outlook Occupation, meaning the occupation is “expected to grow rapidly in the next several years, will have large numbers of job openings, or [is a] new and emerging occupation.” (“Bright Outlook Occupation.” O*Net Online. <http://www.onetonline.org/help/bright/41-2031.00>.)

†This job is considered a Green Occupation, meaning that “Green economy activities and technologies are increasing the demand for [these] occupations, shaping the work and worker requirements needed for occupational performance, or generating new and emerging occupations.” (“Green Occupation.” O*Net Online. <http://www.onetonline.org/help/green/13-1021.00>.)

Qualifications and Training

The work at a food distribution facility is all about the food. “Knowing the difference between red and green leaf lettuce,” as one interviewee put it, sums up one of the major criteria for entry level distribution workers. These workers need to be able to sort and pick food for orders correctly, efficiently and quickly. Food distribution workers must have accuracy above all else. This knowledge can be taught, and is by at least one of the businesses we spoke with. Drivers too need this capacity, particularly as they are one of the primary interfaces with customers. Previous warehouse experience was valued. In one instance, HVAC/R experience (heating, ventilating, air-conditioning / refrigeration) was noted as an additional valued skill because cold storage equipment can be central to distribution operations. As with growing and food manufacturing, this work at the entry level is physically demanding, often requiring working in a cold locker and at night, preparing orders for early morning delivery the next day. Occupational safety is an important aspect and training was either offered on-site or required for applicants.

All of the firms we spoke with sought drivers with past delivery and driving experience. Several offered additional training, focused on the needs of their company in terms of record keeping, customer service and other protocols. One firm hires PVTA (Pioneer Valley Transit Authority) bus drivers. These are often student drivers who have the summer off and are available. For this firm, these bus drivers were a steady source of delivery drivers.

Drivers are the interface between customer and distributor and are a vital element in successful business. One firm said that you ‘can’t teach delivery on the job’; another said that they send new drivers out initially paired with “veteran drivers” particularly to help them learn how to “deal with the folks on the other end.” One firm was quite explicit about the value of good drivers encompassing more than safe driving and excellent product handling skills. They felt that good drivers “feed sales reps leads, identify problems, helps sales reps be more responsive to customer needs and share information about other products or companies or needs customers have for new products.”

One of the farms we spoke with did aggregation — collecting goods from other farmers to combine with their own products in order to centralize distribution and affect economies of scale. Much of the staff at this farm move across different occupational responsibilities including field work, as well as light processing (cutting and washing), packing and driving.

At the higher levels, especially sales, marketing and buying, candidates with transferable skills and experience in other parts of the food system, including having worked as chefs or in food service sales, are valued. Some of the individuals doing this work now have also been ‘trained from scratch.’

The start-up distribution business we spoke to indicated that it would seek additional workers as the business grew. They are particularly interested in finding workers who are able to help figure out more efficient systems — ways of picking up, sorting, packing and delivering that require less time and labor. The difficulty they foresee is that the work itself is very low skill and might not hold the attention of candidates who are excited about the work of improving the system, but less interested in the work itself.



Good drivers:

- Have safe driving skills
- Have excellent product handling skills.
- Feed sales reps leads,
- Identify problems
- Help sales reps be more responsive to customer needs
- Share information about other products or companies or needs customers have for new products
- Can also merchandise product on the shelf ensuring an attractive display

Finding Workers

Food distributors find workers in many ways: Craigslist, advertisements in the paper, postings at the local One Stop Career Centers and word of mouth, including referrals from current staff. One company uses temporary placement agencies and a temp to hire arrangement. Employers report that they have trouble finding warehouse workers and drivers and that turn-over is high.

Challenges

The challenges in staffing food distribution businesses are similar to those faced in growing and food manufacturing and include:

1. The physically demanding nature of the work and the repetitiveness of it.
2. The seasonality of local food ingredients which affects what's available for local food distribution companies that have a commitment to offering local produce and products.
3. The difficulty of finding and keeping quality workers. High turnover, especially of drivers, was cited by several companies.

CISA, in their Scaling Up report, names the over-arching challenge that food distribution in the Pioneer Valley faces: "As our food system has shifted away from local and regional production and trade towards global sourcing, the infrastructure required to connect local farms with local markets has eroded. ...the ordering and distribution systems we rely on to move food from place to place are based on a global food distribution system..."⁴³

Serving and Selling

Who We Spoke With

We prioritized speaking with a range of businesses serving and selling local food including:

- two high-end restaurants whose mission is to serve local food, one of which is a destination restaurant;
- one neighborhood lunch and dinner restaurant;

43 CISA. "Scaling Up Local Food — Investing in Farm & Food Systems Infrastructure in the Pioneer Valley." Buylocalfood.org. <http://www.buylocalfood.org/upload/resource/ScalingUp10-17-11lrwithLinks.pdf> (retrieved 12-2-12). Page 4.



"There are times when the yogurt we are serving was milked that morning so the freshness combined with the quality makes for an amazing experience."

Bonner, Kristyna. "Dive Into Summer's Sweet Treat — Ice Cream." Republican, July 5, 2012.

- one frozen yogurt business with two shops;
- three school system dining programs — two at public schools — one of which runs its food service independently and the other of which contracts with a food service company — and one higher education dining service which is run independently;
- dining services at a local hospital;
- one new member owned cooperative grocery store
- one regional grocery chain operation

We chose to interview businesses/operations that have made an explicit commitment to sell or serve local food. Our goal in choosing these businesses was to better understand the implications of this commitment to local food in terms of staffing and business/operation growth and innovation.

When looking at food service and sales, the NAICS code most relevant are Supermarkets and Other Grocery Stores and Accommodations and Food Service. (NAICS Codes 445 and 722.)

The Work of Serving and Selling Local Food

Food service and sales work at the businesses we spoke with was largely unchanged by the commitment to serve local food. As with food service businesses that don't prioritize local food, the work centers around selling and serving food in a safe, customer-friendly, efficient and attractive manner. Food sales work involving local produce includes preparing, weighing, slicing pricing, packaging, culling, stocking and presenting produce, and maintaining cleanliness and safety in accordance with store and regulatory requirements. Food service work involving local produce includes preparing the food to meet customer needs and expectations, serving the food in a timely fashion, managing customer interactions, both positive and negative, with equanimity, maintaining cleanliness in food preparation and dining spaces, and meeting regulatory requirements for health and safety. The work of food service staff in public school and hospital settings happens in a context that influences the job tasks, specifically in terms of meeting the dietary requirements of children and patients. This is more than safe food handling and can include coordinating with nutritionists, dietitians and clinical staff.

The restaurants interviewed indicated there were some shifts in work tasks relating to serving local food. These were generally focused in the areas of staff attitude, knowledge and passion. However, the skills needed were not significantly differ-



One retail-oriented food service businesses felt local food passion was an asset in employees. Another felt passion wasn't but bringing a 'food asset' like expertise in foraging for local mushrooms, or planting a garden were, and helped spur valuable collective knowledge among staff.

Photo courtesy Mountain View Farm

ent, particularly for the entry level positions. For the food sales operations, shifts to job tasks were noted for positions responsible for purchasing produce; these shifts include diversifying suppliers, educating smaller suppliers about institutional needs and processes and perhaps managing a greater number of suppliers.

We talked with a diversity of food service operations and the unique characteristics of their operations did influence the impact of local food on jobs tasks: large food service operations using local food have had to shift job tasks to include more raw produce preparation (washing, peeling, cutting), or to purchase additional equipment to do that preparation work; purchasing local food often requires changes in the work of buyers/procurement workers and can involve having many more suppliers and therefore more extensive invoicing and administrative tasks; managing food waste at larger operations, both those serving and those selling local food, entails shifts in processes, equipment and facilities.



Table 7: Range of Restaurants and Food Service Operations Jobs Prioritizing Serving And Selling Local Food Now

| JOB TITLES | DESCRIPTION | SOC CODE(S) | QUALIFICATIONS | HOURLY WAGE RANGE / BENEFITS | | |
|--|--|--|--|------------------------------|--------------------|-------------------------------|
| | | | | National Median | Mass (Total Range) | Pioneer Valley (Total Range)* |
| Server / Counter Help / Cafeteria Worker / | Take and fill orders; serve consumers; clear away dirty dishes; clean and prepare new settings for next customers. In some settings, ability to meet strict dietary limitations of customers. In some businesses, this job includes operation of cash registers. | **35-2021.00 Food Preparation Workers | Attitude, Food service experience Good work history Willing to learn | \$9.27 | \$8.54 - 14.62 | Less than \$10 - \$15 |
| | | **35-3021.00 Combined Food Preparation and Serving Workers, Including Fast Food | | \$8.76 | \$8.34 - 12.28 | |
| | | **35-3022.00 Counter Attendants, Cafeteria, Food Concession, and Coffee Shop | | \$8.90 | \$8.32 - 13.44 | |
| | | 35-3041.00 Food Servers, Nonrestaurant | | \$9.40 | \$8.49 - 15.66 | |
| | | **35-9011.00 Dining Room and Cafeteria Attendants and Bartender Helpers | | \$8.86 | \$8.40 - 15.21 | |
| | | **35-3031.00 Waiters and Waitresses | | \$8.93 | \$8.59 - 19.28 | |

| JOB TITLES | DESCRIPTION | SOC CODE(S) | QUALIFICATIONS | HOURLY WAGE RANGE / BENEFITS | | |
|---|---|--|---|------------------------------|----------------------|-------------------|
| Stock clerk | Prepare, weigh, finish, slice, price, cull and stock produce; clean equipment; operate cash register as required. | **43-5081.01 Stock Clerks, Sales Floor **43-5081.00 Stock Clerks and Order Fill- ers | Physical capac- ity, especially for lifting, bending; ability to work in cool and cold en- vironments. Food industry work can be a plus. | \$10.52 hourly | \$8.59 - \$20.01 | Less than \$10 |
| Dishwasher | Wash dishes as well as pots and pans used in food prepara- tion. | **35-9021.00 Dishwashers | | \$8.83 | \$8.48 - 12.88 | Less than \$10 |
| Dietary aide/ dietary technician | Food service position that works directly with patients. In addition to menu review and support for patients, includes calorie counting and customer service. | 29-2051.00 Dietetic Technicians | Food industry ex- perience, excellent customer service skills, 2 year degree in nutrition or related field; nutritional train- ing. | \$12.85 | \$9.11 - \$20.90 | \$10- \$15 |
| Clinical dietician / nutritionist | Plan and conduct food service or nutritional programs to assist in the promotion of health and control of disease. May supervise activities of a department providing quantity food services, counsel individuals or work with other professionals around nutri- tional matters. | 29-1031.00 Dietitians and Nutritionists | Licensed nutritionist | \$26.19 | \$19.56 - \$41.79 | \$15+ |

| JOB TITLES | DESCRIPTION | SOC CODE(S) | QUALIFICATIONS | HOURLY WAGE RANGE / BENEFITS | | |
|----------------------------|---|---|--|------------------------------|------------------|-----------------------|
| Assistant Manager, Manager | Manage schedule, work flow, oversee operations and delegate to staff based on tasks. Can have responsibility for ordering food products and menu planning, perhaps in conjunction with others. Recruit and interview potential workers. | 11-9051.00 - Food Service Managers | Food service experience Good work history | \$23.13 | \$16.91 - 44.25 | \$10 - \$15+ |
| | | **35-1012.00 First-Line Supervisors of Food Preparation and Serving Workers | | \$14.21 | \$10.86 - 27.83 | |
| | | **†11-1021.00 General and Operations Managers | | \$45.74 | \$26.39 - 90.00+ | |
| Prep Cook | Prepare food for cooking, cook foods. Maintain clean food preparation area, adhere to food safety regulations. Maintain inventory of ingredients. Work for this job depends on the size of the food service operation. | **35-2014.00 Cooks, Restaurant | Food service experience | \$10.61 | \$9.45 - 17.49 | Less than \$10 - \$15 |
| Head Cook / Chef | In charge of the food service operation, including supervision of food ordering, preparation, menu planning and food preparation. Ensure that facilities and staff adhere to food safety regulations. | 35-1011.00 - Chefs and Head Cooks | Food service experience, training | \$20.36 | \$15.70 - 36.71 | \$10 - \$15 |
| | | **35-2012.00 Cooks, Institution and Cafeteria | | \$10.92 | \$9.68 - 20.00 | |

| JOB TITLES | DESCRIPTION | SOC CODE(S) | QUALIFICATIONS | HOURLY WAGE RANGE / BENEFITS | | |
|---|--|--|--|------------------------------|-------------------|--------------|
| Other more specialized food service positions, e.g. pastry chef, baker, dietitian, maitre d', sommelier, chef de garde — these are a function of the type of food service operation | Performs duties of these occupations. | 51-3011.00 Bakers | Experience and/or training in the relevant areas | \$11.18 | \$9.07 - 20.19 | varies |
| | | 29-1031.00 Dietitians and Nutritionists | | \$26.19 | \$19.56 - 41.79 | |
| Produce buyer, purchaser | Purchases produce that meets quality and price requirements of business. Maintains and builds relationships with suppliers. Can have supervisory responsibilities depending on size and set up of operation. | †13-1021.00 Buyers and Purchasing Agents, Farm Products | Industry knowledge, management / supervisory experience. Relationships within industry. | \$26.86 | \$13.62 - \$60.79 | \$10 - \$15+ |
| Sales person, sales manager | Sell food products, either lightly processed or more extensively processed. Manage existing and cultivate new customer relationships. Manage sales area and multiple customers. Work with chefs, grocery store purchasers, food service managers to meet their food product needs. | **41-4012.00 Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products | Sales skills and experience. Extensive knowledge of products. Strong customer service skills. Attention to detail. | \$25.74 | \$17.14 - \$65.00 | \$10 - \$15+ |

* Does not include data from all interviewees.

**This job is considered a Bright Outlook Occupation, meaning the occupation is “expected to grow rapidly in the next several years, will have large numbers of job openings, or [is a] new and emerging occupation.” (“Bright Outlook Occupation.” O*Net Online. <http://www.onetonline.org/help/bright/41-2031.00>.)

†This job is considered a Green Occupation, meaning that “Green economy activities and technologies are increasing the demand for [these] occupations, shaping the work and worker requirements needed for occupational performance, or generating new and emerging occupations.” (“Green Occupation.” O*Net Online. <http://www.onetonline.org/help/green/13-1021.00>.)

Qualifications and Training

Showing up for work on time and ready to work, doing the work, having the right collection of skills and experience in terms of customer service, knowing how a food service operation or produce department operates, high standards for cleanliness, and a positive, can-do attitude — these were the primary qualifications across these businesses/ operations. Previous experience at another similar operation was valued. The restaurants, regardless of the clientele, also looked for personable, service-oriented individuals especially for the front of the house jobs. In the public school systems, being drug-free and having no criminal record were essential qualifications.

The value of local food experience for workers was never more important than the above attributes, but it was seen as valuable in a number of ways:

- in terms of educating consumers regarding the price and value, the difference in taste and the local economic importance;
- the ability to ‘up sell’ the product or ingredient in a way similar to sales of local beer;
- helping to build demand.

Local food sales and service operations that offered familiar produce that was locally sourced (peppers, summer squash, zucchini, onions, corn, potatoes, apples, etc.) tend to note the produce’s provenance with signage or menu notes and provide limited customer education. Operations that offered less familiar produce (collard greens, daikon radishes, leeks, and celeriac, for example) often looked for additional ways to offer customers product and preparation information. The grocery store chain has two dieticians on staff that provide nutrition, storage and preparation information for customers. It was felt that this information was valuable to customers and to the business.

In addition, opinions about the value of an applicant’s passion for local food as a desirable attribute were mixed. The retail-oriented, frozen yogurt business felt such passion helped to provide a larger, more exciting and compelling context for work that is “redundant.” Their feeling is that “without engagement in the mission [of local food, one] can burnout”. On the other hand, one of the high-end restaurants felt passion wasn’t important but local food assets were — things like expertise in foraging for local mushrooms, or planting a garden — and that these assets helped to spur a collective knowledge among staff that was valuable. At the cooperative

grocery store, local food is a high priority and staff knowledge, interest and ability to communicate about the food is valued.

Training requirements varied. For the cooking positions, successful completion of a training program was valued. One restaurant had an individual who began working with the business, got excited about cooking, left to attend culinary training school and returned to cook at the operation. Knife skills were cited by one restaurant employer as a desirable qualification.

Grocery stores have in-house staff training and can out-source training in areas such as food safety, management and waste management. Skills needed for produce department tasks are seen as easily teachable. It is worth noting that it is possible within the grocery store chain to advance from produce clerk to management — in part because there is a priority on cross-training for staff so that their collection of skills spans a number of departments and positions.

Training, in terms of local food, was largely accomplished on-the-job and in the kitchen or store. Overwhelmingly, training in food sales and service is done within the institution, really within the kitchen, and focused on restaurant processes, safe and sanitary practices, team work, independent work, and restaurants' values around local food and fine dining standards. This on-the-job training and gaining in-house experience was seen as the way to advancement for staff at all levels. Training for produce sales was accomplished within the stores as well. Training for ServSafe Certification can be contracted from an outside vendor or conducted within the store. This course trains food service workers in sanitation and food safety topics and prepares attendees to pass the state ServSafe exam. Certification of at least one full time manager is required by the Massachusetts Department of Public Health for establishments who prepare and serve food.

Finding Local Food Servers and Sellers in the Valley

Businesses and operations used multiple avenues to find workers. Craigslist was cited by several; and one even shared their well-thought out strategy for ad timing: post on a Saturday night late when it is more likely that disgruntled servers working at other restaurants are looking. Other ways included finding individuals through local training programs, like Holyoke Community College's Hospitality and Culinary Arts program or UMass Amherst's Hotel, Restaurant and Travel Administration program; listing positions with the local One Stop Career Center; placing ads in the newspaper; getting referrals from current employees and through local job

fairs. One of the school systems placed ads on the school lunch menu that is circulated to the 8,000 households with school age children in the community - this was the only form of advertising they used for cafeteria positions. In larger retail produce operations, baggers and cashiers can provide a feeder pool for other stores positions, including produce stock clerk.

Challenges

The challenges in staffing food sales and service businesses include:

- The work is not usually full-time. Most of the servers, many of the kitchen staff as well as front line cashiers, at the businesses we spoke with have at least one other job. Several of the businesses and operations indicated that the hardest position to fill and to retain is that of dishwasher. They are the lowest paid and have the hardest work. However, in several cases, good dishwashers were promoted to positions of greater responsibility, including prep cook. All of the businesses said that this was a reasonable advancement given the right individual. At grocery stores, night crew positions were also harder to fill.
- Wages and benefits for food sales and service workers are not usually family sustaining. This is in part due to the rate of pay and that the work is most often part-time. The work can be physically demanding and the hours can be grueling. Food service workers often have more than one job. Because it is low-wage work, there can be little value assigned to the workers in these positions.

Managing Food Waste

Who We Spoke With

The interviews were conducted with a range of players in the Pioneer Valley food waste sector: owner/operators of commercial compost operations, a waste hauler, a consultant to food waste generators (and a participant in the development of forthcoming Massachusetts food waste regulations), a state administrator and a municipal solid waste staff person. We prioritized speaking with this range of players to understand the interplay of operations, regulations, demand, and infrastructure development.

When looking at food waste management, the NAICS codes most relevant are Solid Waste Collection. (NAICS Code 562.)

There are two primary means of managing food wastes: commercial compost operations use microbiology to process nitrogen and carbon in wastes, includ-



Temperature of compost pile stays at 150 degrees for 5 days, Martins Farm.

Courtesy Amy Donovan

ing food waste, animal manure and crop silage, among the necessary ingredients, into compost. The resulting compost is an additive to soil that increases the health of soils and crop yields. Anaerobic digestion, a managed process occurring in an oxygen-free environment, uses microbes to convert organic material into methane gas and soil fertilizer. Massachusetts promotes anaerobic digestion on farms to help meet clean energy and solid waste management goals.

The Work of Managing Food Waste

The work in the Pioneer Valley managing food waste falls into three largely distinct categories and the work within these categories differs:

1. Hauling food waste
2. Processing food waste, currently overwhelmingly being done by commercial compost operations but also potentially through anaerobic digestion processes
3. Industry and infrastructure development

Hauling involves drivers, schedulers, customer service and management. The central purpose of these businesses is the movement of waste, including trucking food waste from generators to processors, which in the Pioneer Valley are one of four of commercial compost operations. Hauling operations also move recyclable materials and trash.

Processing food waste, done right now overwhelmingly by commercial compost operations, involves the work of heavy equipment operators, process managers, plus office/backroom positions. A commercial compost operation spreads the materials to be combined in 'windrows' on acres of land in long rows of materials that are then turned and moved with heavy equipment. Because the work is so dependent on heavy equipment, skills and experience with maintenance and repair are also important. Machinery is also expensive and operations often purchase used equipment, reducing their capital costs but increasing the importance of maintenance and repair. Managing this biological process (maintaining the appropriate temperature and the optimum mix of materials) is the responsibility of the owner/operator/manager. These operations can also pick up raw materials and deliver the finished product.

The work in anaerobic digestion processing is less clear. With only one processor up and running in Massachusetts on a farm in Rutland, there is a sense that job creation is possible but uncertainty about what jobs and how many. Currently, Casella

Organics, in partnership with the farm, is running the digester.

The work of industry and infrastructure development includes industry experts working to “match food waste generators with appropriate food waste management operations”, regulatory officials developing infrastructure and markets, and municipal and county staff developing and supporting municipal solid waste operations and doing community education about waste management options and requirements.

Table 8: Range Of Local Food Service Waste Jobs

| JOB TITLES | DESCRIPTION | SOC CODE(S) | QUALIFICATIONS | HOURLY WAGE RANGE / BENEFITS | | |
|--------------------------|--|---|--|------------------------------|--------------------|------------------------------|
| | | | | National Median | Mass (Total Range) | Pioneer Valley (Total Range) |
| Heavy equipment operator | Operate backhoes and tractors to move compostable materials. Repair and maintain equipment. | **†47-2073.00 Operating Engineers and Other Construction Equipment Operators | Experience with equipment, farming experience. | \$19.96 | \$16.96 - 41.86 | \$10 - \$15 |
| | | 53-7032.00 Excavating and Loading Machine and Drag-line Operators | | \$17.97 | \$13.24 - 35.73 | |
| Truck driver | Drive truck on pick-up routes, bring materials to drop-off site; load and unload materials, often working with a variety of dumpsters and different degrees of automation. | †53-7081.00 Refuse and Recyclable Material Collectors | CDL, commercial drivers; good driving record; truck driving experience | \$15.52 | \$10.70 - 27.14 | \$10 - \$15 |
| | | **†53-3032.00 Heavy and Tractor-Trailer Truck Drivers | | \$18.24 | \$15.14 - 30.31 | |
| Mechanic | Maintain and repair heavy equipment and trucks. On small operations this work is combined with heavy equipment operation and/or driving. | 49-3041.00 Farm Equipment Mechanics and Service Technicians | Experience with operation, maintenance and repair of equipment. | \$16.46 | \$14.14 - 21.89 | \$10 - \$15 |
| | | 49-3042.00 Mobile Heavy Equipment Mechanics, Except Engines | | \$21.92 | \$17.11 - 34.88 | |

| JOB TITLES | DESCRIPTION | SOC CODE(S) | QUALIFICATIONS | HOURLY WAGE RANGE / BENEFITS | | |
|--|---|--|---|------------------------------|------------------|-------------|
| Salesperson, Customer Service staff person, Bookkeeper | Does sales and customer service work, often combined with other administrative tasks including billing and bookkeeping. Small operations might combine this with compost operations positions, including loading small amounts for residential customers. | **†43-4051.00 Customer Service Representatives | Experience doing sales, customer service and/or administrative work. Some operations offer on-the-job training. | \$14.72 | \$11.39 - 27.16 | \$10 - \$15 |
| | | **43-6014.00 Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | | \$15.32 | \$12.64 - 26.63 | |
| | | 41-9099.00 Sales and Related Workers, All Other | | \$15.58 | \$12.53 - 44.60 | |
| | | **43-3031.00 Bookkeeping, Accounting, and Auditing Clerks | | \$16.70 | \$12.58 - 27.61 | |
| Owner / operator / manager | Manages compost creation process, including ratio of nitrogen to carbon inputs. Also manages business. On small operations can include marketing, customer service, regulatory compliance. | ***†11-1021.00 General and Operations Managers | Education, training, experience appropriate to these positions. | \$45.74 | \$26.39 - 90.00+ | \$15+ |
| Industry advisory, regulatory staff, municipal/county solid waste staff person | Performs duties of these occupations. | Job titles vary but can, for example, including Recycling Coordinator, environmental advocate, waste management coordinator. | Specialized skills, credentials and experience relevant to these occupations. | No data | No data | No data |

**This job is considered a Bright Outlook Occupation, meaning the occupation is “expected to grow rapidly in the next several years, will have large numbers of job openings, or [is a] new and emerging occupation.” (“Bright Outlook Occupation.” O*Net Online. <http://www.onetonline.org/help/bright/41-2031.00>.)

†This job is considered a Green Occupation, meaning that “Green economy activities and technologies are increasing the demand for [these] occupations, shaping the work and worker requirements needed for occupational performance, or generating new and emerging occupations.” (“Green Occupation.” O*Net Online. <http://www.onetonline.org/help/green/13-1021.00>.)

Qualifications and Training

As might be expected, different qualifications are needed for the different categories of work. Hauling operations rely heavily on trucking and look for experienced drivers with CDL licenses. Compost operations look for skilled, credentialed and experienced heavy equipment operators. However, despite these differences, there were commonalities in the looked-for qualifications, particularly being skilled at the needed work tasks and a willingness to do the often unglamorous work professionally, whether it is picking up food waste containers at the backdoors of restaurants or food manufacturing operations, or incorporating animal manure into piles. The qualifications needed for the third category of work (from above) differ, and these positions are not low-skill jobs. These jobs — recycling coordinator for municipalities, environmental agency staffer — have an important role in this nascent industry and serve as catalysts and connectors and public educators helping to build a network of customers.

In hauling operations, having a CDL license is vital. One hauler indicated that having a driver with environmental awareness would be ideal. As in distribution, drivers are often the frontline for customer education and have to work with food waste generators to ensure quality input. In composting operations, experience was cited as the key qualification. There was no expressed preference for training, just that the operator had good skills and experience.

Owner/operator/managers of commercial compost operations we spoke with received training through industry sponsored workshops and courses. One has a plant and soil science degree from the University of Massachusetts and a farming background, for example, which provides him with both the experience and the understanding of the microbiological processes and operational dimensions of the work. Within the NE region there are training opportunities for owner/operator/managers of composting operations (and not all compost operations use food waste.)

Finding Food Waste Management Workers

As in other industries, the businesses we spoke with find workers through multiple channels. Trucking and hauling operations cite word of mouth as the best means to secure new employees. Given the small number of employees on compost operations, the operators we spoke with often hire from within the circle of people they know through networking and referrals.

Challenges

The challenges noted by those talked with focused heavily on industry development issues rather than labor concerns. They cited the following challenges:

1. Meeting and growing the demand for compost. The current customers for locally produced compost are largely residential customers and landscaping operations. Farmer demand is tempered by both availability and cost, particularly as compared to the cost of fertilizer⁴⁴. One compost operation had to turn down a farm's request in order to honor retail customers⁴⁵. Some farms manage their own waste as they have the inputs necessary for compost operations, but to ensure quality compost takes time and time is limited for many farmers.
2. Growing the supply of inputs, particularly food waste inputs, that are the quality needed to produce marketable product. This is a significant challenge and ongoing frustration for compost operators.
3. Locating commercial scale compost facilities which is complicated by at least two factors: the availability of land and the location of these facilities given the perception of smell, and the realities of trucks arriving to delivery loads of input materials
4. Anticipating the impact of the upcoming change in the regulatory landscape that will require large-scale food waste generators to compost.



Windrow turner, Martins Farm. Photo Courtesy Amy Donovan

⁴⁴ Christie, Margaret. Email to Alex Risley Schroeder 11-14-12. And, Obear, Bill. Email to Alex Risley Schroeder, 11-16-12.

⁴⁵ Obear, Bill. Email to Alex Risley Schroeder, 11-16-12.

IV. Areas of Potential System Growth and Barriers to Growth in the Pioneer Valley Regional Food System

Overview

Ongoing food system job creation as well as opportunities for job creation were evident across the Pioneer Valley food system. From a system perspective that looks across the arenas of growing, processing, distributing, serving and selling, and managing food waste in the Pioneer Valley, the overall sense of possibility for job creation included:

- the strong **and growing interest in and demand for local food**, both within the Valley and nationally (which many saw as simultaneously supporting and spurring local interest) and
- the evidence of **regional food system activity already happening**, including start-up businesses, new forms of financing, and new job opportunities.

The overall **barriers** to Pioneer Valley food system growth, again from a regional food system perspective, included:

- both the **actual cost** of local food (and the additional cost of local organic food) and the customer **perception of cost** for local food. It was acknowledged that demand for local food would grow with a decrease in cost or a reduced perception of high cost.
- the **time demands** on local food system business owners and food system organizations which often preclude engagement in system strengthening beyond the immediate and central needs of their own enterprise, even when a strong, well-interconnected system is seen as an overall asset for their business.
- a circumstance described by one interviewee as **“bumping into each other;”** by which he meant a sense that purchasing and sourcing activities were disconnected from, or perhaps even at cross purposes to, a goal of strengthening the regional food system.

What follows are descriptions of the areas of potential growth, the jobs that could be created, and the barriers to growth and job creation within each of the five

The only plausible argument not to promote local food is a concern that local food sometimes costs more than mainstream food. But two points are worth making here:

1) An important reason local food prices are relatively high is that demand exceeds supply.

2) This reflects, moreover, a lack of distribution and aggregation infrastructure [which] reduces efficiencies and cost savings in the local food system.

As local food businesses grow and spread, particularly infrastructure businesses, prices will begin to adjust downward.

— Shuman, Michael H. “The 25% Shift: The Economic Benefits of Food Localization For The Pioneer Valley & The Capital Required to Realize Them.” June 2012.

arenas of the Pioneer Valley food system. Worth noting in these descriptions is that one's location in the food system can shape and inform one's understanding of the functioning of the overall food system. In some instances the individuals spoken with had a finely grained understanding of the interplay between arenas. In other instances the information they shared was more rooted in their 'location' within the food system and they presented only a partial view of the current regional food system and/or a partial vision for what was possible in a more better interconnected regional food system.

Simultaneously, because many interviewees had, and offered, not only a specific perspective but a systems perspective, there is overlap. This overlap may serve as verification of opportunities for job creation.

Growing

"There's definitely job creation going on," one farmer told us. And there was evidence in the group of growers interviewed to support this assertion. Business expansion and innovation was evident on every single farm we looked at and it ranged from:

- **New facilities coming on line**

- In August 2012, one farm will complete construction of a state-of-the-art processing facility to enhance existing operations. This new building will allow for more light processing (washing and cutting), it meets federal GAP (Good Agricultural Practices) requirements and will allow the farmer to continue to grow his business through increased volume of product and additional product offerings which will result in additional work, some of which will be accomplished by seasonal staff, but may also require additional hires.
- Another farm has been adding greenhouses to their operation over the past several years which has allowed them to add a couple of full time, year round positions, grow the winter workforce from two - three to 10, and to bring field labor in earlier, thereby extending their seasonal work across a longer period of months.

- **Business growth and expansion**

- One farm operation merged with another. This merger more than tripled the acreage being farmed, added two full time seasonal workers and a part-time, seasonal weeding crew.



One's location in the food system shapes and informs one's understanding of the functioning of and opportunities in the overall food system.

- Another farm was able to add to the acreage they cultivate which allows them to produce more and better meet the demands of their CSA members.
- A retail-only farmer said “Customers are banging on our doors, that’s why we’ve grown and will continue to grow; [we are] growing exponentially”; growth is due to sales growth as well as an expansion of products and services offered, including raw milk, baked goods, vegetables, pick your own fruit and cheese making classes.
- Innovations for increasing sales and strengthening Pioneer Valley agricultural businesses
 - One farm is delivering CSA shares weekly to shareholders at Manhattan businesses and non-profit agencies. A number of Valley farms also deliver to greater Boston. These farms are taking advantage of the geographic proximity the Pioneer Valley has with these major urban centers to grow their businesses and also to address the increasing competition in the Valley among CSA farms.
 - One farmer’s we spoke with has a root cellar allowing him to store root vegetables over the winter and thereby have product to sell through the winter (and many Valley farms are also doing this).
 - One farmer continues to broker relationships between growers and institutional customers (often through the Massachusetts Farm to School initiative which is working to increase local produce in schools) by helping farmers understand the institution’s needs as well as the institution to understand the diversity of products possible.



Share room.
 Courtesy Mountain View Farm

“... in recent years CFEs [community food enterprises] have discovered that they actually have unique advantages over bigger companies. They have a deeper awareness of local tastes and markets, they can obtain consumer feedback more quickly, and they can tweak their business models more swiftly. They can deliver goods and services faster, with shorter distribution links and smaller inventories. They can rely more on word-of-mouth advertising that costs nothing. The hypothesis ... is that CFEs are again becoming competitive, and will become increasingly so, but only if CFE managers effectively harness their comparative advantages.” — Community Food Enterprises. Wallace Center, Winrock International. “Findings & Analysis.” [Communityfoodenterprises.org](http://www.communityfoodenterprise.org/findings-analysis). <http://www.communityfoodenterprise.org/findings-analysis> (retrieved 12-2-12).

Where are the Jobs and What Will the Work Be?

Given the seasonality of the work on farms in the Pioneer Valley, the first implication of growth, expansion and innovation is often either increasing the duration of the seasonal positions or creating additional seasonal positions. Subsequent implications are increasing the number of full-year positions and then adding new positions. Two of the farms we spoke with indicated that this was the course they had taken as they grew their operations. And, farmers are seeing increased demand and see possibilities for continued growth and have identified additional strategies to help to grow the demand further. Workplace CSAs were seen as “a model about to explode;” these CSAs operate through workplaces where the weekly produce is delivered. Repeatedly, consumer education was seen as a strong factor contributing to growth of local food. One farmer described it as a need to “teach people how to incorporate seasonal food into their diets and buy more with the seasons.”

Table 9: Where Will The Jobs Be And What Is The Work In Growing Food?

| WAYS JOBS ARE BEING CREATED/WILL BE CREATED ON FARMS | KINDS OF JOBS | IMPLICATIONS FOR FOOD SYSTEM GROWTH |
|--|---|---|
| More growing/producing and selling | Same as current position, including field worker, farm hand, supervisor/manager, driver; in many instances these will continue to be seasonal and part-time jobs | Land available for cultivation is a big limitation; season extending techniques can also accomplish increases in growing and producing; can make jobs longer-term and thus more stable. |
| Making infrastructure changes/improvements to growing and to on-farm processing facilities | Largely the same as current positions; work made possible because of infrastructure improvements could extend seasons and increase positions to closer to full-time and create more stable jobs | Financing infrastructure changes/improvements can be a barrier Market must be there for the product |
| Adding additional revenue streams to the business model | Likely to be part-time positions so might be folded into current part-time position to increase position's hours/season length | Can enhance agricultural value chain (e.g. straw and compost production); Complicates business model and management for farmer; generates additional revenue |
| Expansion requires new kinds of workers | Supervision or management positions; trucking or processing positions | Allows for promotion of current workers, creates positions that pay more |

Increased Volume and Infrastructure Improvements and Advances

On farms, increasing the volume of produce and product and making infrastructure improvements and advances are intertwined. Each has the potential to increase on-farm employment.

One of the ways that local farms are growing jobs is to increase the volume of the product they are growing and selling. For several of the farms that we spoke with this was accomplished by having more land in cultivation. For others, it was through season-extending techniques, including high tunnels or greenhouses. These improvements generally first increase the length of the season and therefore the length of seasonal employment. One farmer talked about it as ‘shouldering the season which allows for bringing field labor in earlier’ in the spring. Both of these strategies can also increase the number of positions as growth continues. Two of the limitations of this strategy for growing jobs are the limit of available land for cultivation (and the pressure for development of remaining open land) and the challenge of financing season extending techniques like high tunnels or greenhouses.

Infrastructure changes and improvements we heard about included season extending techniques, like greenhouses, and processing facilities that allow for more on-farm processing. In addition, we heard interest from farmers in doing more on-farm processing because, as one told us, “having a processing facility (or access to one) could help to convert to sellable product that is currently being donated — the not perfect, but perfectly good for sauce [produce].” These shifts in farm production will first increase the duration of seasonal positions. The ability of farms to capitalize on these kinds of infrastructure changes is dependent on nuances of price, timing and demand and not all farms would be able to take advantage of the opportunity.

In these conversations, several interviewees mentioned that increased Valley local food production could be also be achieved either by shifting the cultivation of non-food products (like tobacco) to food production, or re-directing current food production being done for export to local markets. It isn’t clear if this would increase jobs in the production sector. Much of the shift from non-food production to food production has already occurred but the shift to local branding has not yet taken hold in all the ways it could.⁴⁶

⁴⁶ Christie, Margaret. Email to Alex Risley Schroeder. 10-19-12.



The strategy for growing jobs by increasing product volume is limited both by available land for cultivation and the challenge of financing season-extending techniques.

Investments in labor are a critical aspect of the financial equation that farmers make; finding the right workers for the job is critical.

New Revenue Streams

Another way that job growth could be accomplished is in adding new revenue streams to farming operations. The farmers we spoke to described adding:

- baked goods
- cheese-making classes
- flower bouquet sales,
- events and
- food educators

Some of these revenue enhancing ideas also would affect the agricultural value chain. One farmer indicated an interest in growing straw to meet his own needs for mulch (and perhaps subsequently supplying to other farms). One farmer indicated an interest in starting a compost operation, again initially to supply his own operation. The job implications would likely be that current seasonal work would grow to include this work, or that these would comprise new seasonal positions. One farm noted that the “greenhouse business lends itself to expansion”.

With Expansion Can Come Different Work

Several of the farm operations indicated that one aspect of job growth would be the creation of new, more specialized positions as their operations expand. These positions might include:

- trucking or packing jobs that would come with growth,
- shifts in farm products and product distribution; or
- administrative jobs, including bookkeeper and sales positions necessary for larger operations.

In addition, it was recognized that some of these jobs may not be on the farm, but at another point within the food system (for example, warehouse and sales jobs at distribution companies) or along the value chain (including fertilizer and equipment sales, crop production services, boxes, graphic design, etc.).



There will be a growing opportunity on larger farms for people with good mechanical skills who are able to operate and maintain farm equipment. Greenhouse operations also require people with mechanical skills to maintain and repair greenhouse operating systems and controls.

Implications for Jobs Growth

In all of these cases, the jobs remain the same and include laborer/field worker, greenhouse worker, on-farm processing and packing work and delivery jobs. These would be paid at the same rate as currently paid.

It was evident that there will be a growing opportunity on larger farms for people with good mechanical skills who are able to operate and maintain farm equipment. Larger farms tend to be more highly mechanized operations. Also greenhouse operations require people with mechanical skills to maintain and repair greenhouse operating systems and controls — according to one farmer this is a large and constant need for a greenhouse operation.

The farm business model, operation size, crop diversity and the degree of mechanization are all critical aspects that affect labor needs and job creation potential. Different models have very different labor needs. Heavily mechanized operations with limited products usually have fewer jobs whereas less mechanized operations with more diverse products can require much more labor. In addition, the skill sets needed can differ. The below chart describes the implications for labor in general on different types of operations.

Figure 2. Implications for labor based on farm business model, crop diversity and degree of mechanization



Larger agricultural operations

characterized by:

- More mechanization, including for planting, harvesting and weeding
- Less diversity in crops



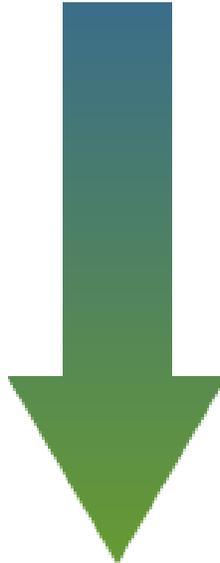
- Fewer workers
- Higher need for mechanical skills
- Lower variety of work tasks



Smaller agricultural operations

characterized by:

- Less mechanization/ more hand labor
- Greater degree of crop diversity



- More workers
- Greater variety of work tasks



Agricultural operations with diverse revenue generating activities can be larger or smaller and are characterized by:

- Higher degree of crop & product diversity
- Mix of mechanical & hand work
- Need for specialized skills
- Food system perspective
- Multiple markets and broad range of customers



- Highly diverse works tasks, sometimes shared across positions, or resulting in different positions
- Greater likelihood of need for specialized skills (e.g., baker, flower seller, driver, etc.)
- Customer service skill/ experience valued
- Pioneer Valley farm and product knowledge valued

What Are the Barriers to Job Creation?

The biggest barriers to on-farm job creation cited by growers were financing and access to land, including the cost of land (either rental/lease or purchase) and the limited availability of land suitable for cultivation, especially given the development pressures on open space. Financing barriers cited were either the lack of capacity to take on more debt, or not having options for financing. And, in spite of this barrier, of the farms we spoke with, most had made some investment recently, including new facilities or new equipment.

There was some disagreement about the overall financial situation that farmers face. Farmers make many investments, in equipment, seed, land and labor. While some interviewees indicated that the margin in farming is better and now allows farmers to make a family sustaining wage, others talked about slim margins as limiting growth. While the financial equation for every farm is unique, as one farmer pointed out, there are more general trends in farm economics. This farmer shared his sense of the value created per acre: “small to medium farms create so much more value per acre than larger farms [our operation] makes \$20 — 25k/acre whereas sweet corn makes \$8k per acre; to do that [we] need to spend much more on labor.” The labor implications of this are important for job seekers as well as for farmers. In addition to needing to match labor to their operational needs, there is this financial dimension of labor. Investments in labor are a critical aspect of the financial equation that farmers make; finding the right workers for the job is critical.

Perhaps more important than the barriers to future job creation are the realities of current labor sourcing for many Valley farms. Some local farmers are worried about having a reliable source of labor and that worry increases as they consider growing their operations. This highlights one of the fundamental issues to address when thinking that sturdy regional food systems will create jobs.

The realities of farm work (physically demanding, repetitive hard work done in all weather, often only for a season) are true for most farm workers. However, different kinds of farm labor can and do face additional realities. Migrant/immigrant farm laborers, on whom much of our Valley production depends, can face challenges that include:

- poor and substandard housing
- disenfranchisement from their rights

- fear of reprisal and possible loss of work for complaining
- unsafe working conditions
- lack of access to health care, legal and immigration services
- wage and benefit discrimination
- physical stress, particularly musculoskeletal.

The Valley does have programs and services that offer some support for these workers. Assistance is available for legal, health and immigration issues. Those who do this support work are articulate about the inadequacy of these services and the very real factors that prevent migrant/immigrant farm laborers from using these services, including fear of loss of job or other reprisal, limited understanding due to limited English language skills, and desperate need for employment and pay to send home to their families.

Processing/Food Manufacturing

Where are the Jobs and What Will the Work Be?

For food manufacturing businesses whose products are fully local, or who have a substantial commitment to locally sourcing ingredients to the greatest extent possible, growing their business means more jobs. However, growth of these businesses and of Pioneer Valley food manufacturing in general is in some ways predicated on a number of system-wide shifts, including:

- **growing demand** through policies that spur local purchasing and through consumer education. Already, one manufacturer said, “the public wants source identified on product” which spurs demand for local goods. As noted earlier, demand for local food is growing measurably in the Pioneer Valley. Efforts to get the message out about local food, at least in Franklin and Hampshire Counties, have been quite successful in creating a culture shift and a significant demand. However, there are still a lot of people in the Pioneer Valley who either haven’t paid attention to this message, or have challenges accessing the products.
- **expanding product offerings to include ready-to-serve options;** the community commercial kitchen noted that there was a large demand for flash frozen vegetables on the part of schools and hospitals. Public health officials also speak about the need for local food to be available in forms that allow for easiest use, rather than requiring extensive preparation prior to and including cooking.

- **increasing the Valley’s food system infrastructure** in ways that overcome two primary challenges to **local sourcing** of ingredients: (1) adequate, reliable, quality supplies that are (2) competitively priced as compared to ingredients sourced through other channels.
- re-localizing food manufacturing by **building plants for processing**; pointed to as particularly important in this region is a milk processing plant and potentially a meat processing facility and food processing facilities with a full complement of equipment to meet the needs of Valley growers and processors. The commercial kitchen “was originally envisioned as a place where farmers could turn excess product into value-added products...but today the uses...are mostly non-farming entrepreneurs starting up new food businesses, some using locally-grown ingredients.”⁴⁷

Additionally, there was a consistent theme among food manufacturers, food distributors and growers about **meeting food safety requirements**. There was speculation that a push to increase adherence with these requirements would spur job growth in the area of food safety and quality control, as well as in the area of food documentation and trace-ability that would be accomplished with information technology. This may be new work in this sector, particularly the documentation and IT work at larger operations. But at smaller operations this may not increase the number of jobs but rather change the kinds of work done by existing positions.

There was no shortage of visions for growth and the job creation that would come with increased food manufacturing. The commercial kitchen painted a picture of the future they were aiming for: “two 8-hour shifts, six days per week with a day and night supervisor and a four to five person crew with an overall manager.” A milk processing plant would increase three part-time positions to full-time and add one new position as assistant manager. If the plant went to operating a second shift, another crew would be required as well as another assistant manager or shift supervisor. A milk processing plant would also allow for local dairy operations to rent the facility and expand their product offerings.

47 CISA. “Scaling Up Local Food — Investing in Farm & Food Systems Infrastructure in the Pioneer Valley.” Buylocalfood.org. <http://www.buylocalfood.org/upload/resource/ScalingUp10-17-11lrwithLinks.pdf> (retrieved 12-2-12).

Table 10: Where Will The Jobs Be And What Is The Work In Local Food Processing And Manufacturing?

| WAYS JOBS ARE BEING CREATED/WILL BE CREATED IN FOOD MANUFACTURING | KINDS OF JOBS | IMPLICATIONS FOR FOOD SYSTEM GROWTH |
|--|---|---|
| Growing the business/operation through increased volume or additional product offerings | Typical of food manufacturing, e.g. production workers, production supervisors and managers, drivers, sales and office administration | Creates additional products to be offered in the marketplace, potentially meeting currently unmet demand or engaging consumers not already engaged with local food products |
| Spurring increased demand by changing policies to allow or require increased local purchasing (e.g. public school budget allowances) and developing programs to shift consumer behavior toward local food purchasing | Typical of food manufacturing, food distribution and food service and sales, e.g. production workers, sales, drivers. Also, potentially, consumer educators ⁴⁸ | Spurs demand for local food and local food products through purchasing requirements or incentives, through high quality products and through public awareness and consumer education |
| Expanding ready-to-serve offerings | Typical of food manufacturing work, e.g. production workers, production supervisors and managers, sales, drivers | Has potential to bring local food to new consumers by reducing the work of preparing local food for consumption, either at the institutional level or the household level. |
| Increasing food storage options either at manufacturing facility or at separate food storage facility | Typical of food manufacturing and distribution work, e.g. warehouse workers, driver | Increases functioning of regional food system by affording food manufacturers and farmers means to extend the season |
| Overcoming challenges of commitment to sourcing locally, including pricing and seasonality, and developing reliable, consistent supply | Could include work done by growers, food storage and distribution companies as well as food manufacturers | If the dilemmas of pricing and sourcing can be addressed, this can drive increased volume in local products and expand the market. |
| Localizing and/or reclaiming food manufacturing | Typical of food manufacturing work, and may include dairy production and processing as well as potentially meat processing ⁴⁹ | Affords increased and different production opportunities than are currently available, perhaps particularly in the areas of dairy and meat product manufacturing. There are regulatory hurdles. |
| Responding to changes in federal, state and local food safety and quality regulations | Safety technicians ⁵⁰ in the production and processing parts of the food system, including on farms and at food manufacturing plants. | Enforcement of these regulations (and perhaps even anticipation of enforcement) can create positions tasked with the record keeping required. And, the safety and quality regulations (e.g. GAP certification) are features of the global food system and are designed to best serve the circumstances and processes of large operations. Enforcement of these regulations might excessively burden small operations operationally. |

Disconnections in the Pioneer Valley food system: Building a regional food system requires a very reliable degree of interconnectedness among system parts, particularly around supply, demand and quality. There are currently real limitations to supply and constraints on demand, including price.

When asked about growing jobs in the Pioneer Valley food system, one manufacturer characterized the problem saying, “At each point between grower, manufacturer, buyer, consumer is a big crack in the sidewalk to leap over.” The implication of this statement is that there is an interconnected system, yet it has gaps that represent large challenges if what we want is to be able to develop the manufacturing part of the regional food system.

In terms of job creation in local food manufacturing, what he was speaking about are the ways in which the regional food system is not yet sturdy enough to fully accomplish the above listed ways to grow jobs. For him, the key is having an adequate supply of raw food, sufficient and increasing demand, along with the financial means and supply access on the part of the manufacturer to produce a high quality local food product. In addition, he noted it is important to have state policy and funding mechanisms, as well as federal policies, that support local food manufacturing. Another manufacturer offered the following analysis: “[There are] not that many of us [local food manufacturers]. Why so few? The commitment to buying just local has a lot of challenges associated with it, including stocking up, borrowing a whole lot of money to pay for ingredients and labor, starting a business, the limitations of local ingredients, the difficulties of pricing and scale in terms of competitiveness.” These two quotes describe the ways in which improving regional food system integration affects food manufacturing, and how the effective interplay between different dimensions of a well articulated regional food system can spur business growth and job creation, but not without strategic interventions at the policy level, the financing level and the demand level. Another individual with a

“[There are] not that many of us [local food manufacturers]. Why so few? The commitment to buying just local has a lot of challenges associated with it, including stocking up, borrowing a whole lot of money to pay for ingredients and labor, starting a business, the limitations of local ingredients, the difficulties of pricing and scale in terms of competitiveness.”

48 Related NAICS codes include Farm Home Management Advisors, 25-9021.00 and Health Educator, 21.1091.00

49 CISA. “Scaling Up Local Food – Investing in Farm & Food Systems Infrastructure in the Pioneer Valley.” Buylocalfood.org. <http://www.buylocalfood.org/upload/resource/ScalingUp10-17-11lrwithLinks.pdf> (retrieved 12-2-12).

50 There is not a NAICS code that matches the tasks described by interviewees for a food safety technician. Related occupations include Quality Control Analyst 19-4099.01, Food Science Technician 19-4011.02 What are the Barriers to Job Creation?

systems perspective summed up this complexity this way: “We need to realize new jobs will take a combination of luck, commitment, and favorable policy, because the hurdles facing an alternative food system are still tremendous.”

It is worth looking more deeply at the barrier created by **limited access to appropriate financing** and the related challenges inherent in getting pricing right. Financing difficulties include access to and fit with traditional financing; access to fit with, and availability of alternative financing; and business operation specifics (including, for example cash flow circumstances, like purchasing raw inputs in the growing season but not realizing income or profit until winter). These challenges can be heightened by scale. For instance, the larger system infrastructure improvements, like a milk processing plant, have even greater challenges because of greater cost, availability of financing, mix of financing required, willingness of funders and investors to sign on to larger projects, complexity of financing package and timing.⁵¹

Figuring out **pricing** that entices buyers and allows for enough profit was also cited as a difficulty. Additionally, there were concerns about **how to market** your local product effectively, particularly in light of the cost differential, or the perception of a cost differential. On the purchasing side, cost has significant implications in terms of increasing demand and can be particularly tricky for schools and other institutions that operate within very strict budgetary and purchasing requirements.

There are also less complex barriers to address including **access to additional and different equipment** to process food, either in a commercial kitchen available to farmers or on farm, that allows for greater volume or for the production of ready to serve food (particularly mentioned were larger freezers and different flash freezing technologies). As one interviewee said it: “[the] right equipment could extend the season further and could create new businesses to use that equipment, [especially] things like individual quick frozen [products].” He gets inquiries regarding this kind of production weekly.

Shifts in business models are also a potential factor in job creation. One manufacturer we spoke felt that farmers have an idea that on-farm processing is more efficient. He noted that launching an on-farm processing enterprise could be a big endeavor for a farm, as it would mean running another business.



“Local has strong cachet, so much so, that local zucchini has a value that is not just [about] zucchini anymore.”

⁵¹ Rosen, Jeff. “Can Investors Help to Bring the Local Food Movement to Scale? Lessons from the Pioneer Valley.” *The Natural Farmer*, Special Supplement on Local Investing. Fall 2012.

And, one business we spoke with is in the midst of shifting their business model to a worker-owned cooperative. While this change will not immediately result in new positions, it will improve the existing jobs at their business by giving workers more input and autonomy. It also provides an exit strategy for business founders that does not rely on having the business bought out, which could jeopardize local jobs.

Distribution

Where are the Jobs and What Will the Work Be?

Figuring out whether there will be an increase in distribution jobs is tricky. The distributors we interviewed all saw opportunity in distributing local produce and food but felt that the bulk of the job creation would happen in production or processing rather than in the distribution arena. The local storage and distribution company, despite not dealing with produce, did indicate a need for workers as they have experienced a trend toward specialized and labor intensive accounts that require packaging and labeling; this might or might not be related to local food business growth. Another possibility for job creation are the new models for distribution that are emerging and these newer models for distribution businesses will create new jobs precisely because they are new businesses. In addition, these businesses are responding to unmet needs they perceive in the distribution sector. So while they are doing distribution work, these businesses are doing it differently than it has usually been done. This means that the work is, at least in part, different than at more traditional distribution operations and it likely means that jobs will be created. In the case of the two businesses we spoke with, the work is IT-related work (developing software for online ordering and service management) or looks like CSA share related work of sorting, packing and then distributing.

Another clear shift was an expanding definition of distribution. One distributor is adding a meat processing plant to their operation. In order to meet growing demand for local meat, the company will be cutting and packing meat for distribution. This will add jobs; these jobs will not be traditional distribution jobs but will be meat cutting and packing jobs. (NAICS codes: 51-3022.00 - Meat, Poultry, and Fish Cutters and Trimmers, 51-3023.00 - Slaughterers and Meat Packers, and 51-3021.00 - Butchers and Meat Cutters⁵²).

52 51-3022.00 - Meat, Poultry, and Fish Cutters and Trimmers (Use hand or hand tools to perform routine cutting and trimming of meat, poultry, and seafood.), 51-3023.00 - Slaughterers and Meat Packers (Work in slaughtering, meat packing, or wholesale establishments performing precision functions involving the preparation of meat. Work may include specialized slaughtering tasks, cutting standard or premium cuts of meat for marketing, making sausage, or wrapping meats.) and 51-3021.00 - Butchers and Meat Cutters (Cut, trim, or prepare consumer-sized portions of meat for use or sale in retail establishments.)



“The demand for local is at such a peak; it way out strips supply.”

Courtesy Real Pickles

There are four areas of promise that will spur job creation in distribution

- **Increased demand for local food** and locally produced food products which will grow demand for these products from distributors (as well as direct to consumer farm operations).
- **Increased volume of local products** that comes with diversifying product offerings, value-added product offerings and season-extending techniques that create additional supply at times that traditionally do not have supplies (especially noted by interviewees was the demand for greens in the winter season).
- The ‘advantage in **freight differential** due to rising fuel costs.’ Diesel fuel costs are a serious factor in distribution and could be an expansion factor (assuming there are local options) as ‘local distribution has long distance freight beat on a cost basis,’ as one distributor said it. This depends on the price of gasoline.
- **Infrastructure improvements** and changes, including new equipment and the addition of processing facilities which will increase local products, including value-added products.

In addition, changes to distribution practices can either increase jobs (by adding new routes that require additional drivers) or decrease jobs because the farmers are making those deliveries rather than distributors

And, distributors are working closely with both farmers and customers to build demand, to help farmers meet regulatory requirements important to customers and to have product offerings that are suited to customer needs either in product diversity or readiness to serve.

Finally, one distributor said “There are a lot of things going on — [people/operations/efforts] are bumping into each other.” This may indicate a collective sense of possibility with everyone finding a way to take advantage of this moment of strong, and in some instances, unmet, demand for local food. It might also be an indication of the challenges in doing so.

Table 11: Where Will The Jobs Be And What Is The Work In Food Distribution?

| WAYS JOBS ARE BEING CREATED/WILL BE CREATED IN FOOD DISTRIBUTION | KINDS OF JOBS | IMPLICATIONS FOR FOOD SYSTEM GROWTH |
|--|---|---|
| Increased availability/increased volume of products | Same as currently available in food distribution e.g. sales, drivers, warehouse workers | More local produce and products means more to distribute, either within the region or beyond. |
| Working with farmers <ul style="list-style-type: none"> • to get GAP certified • to increase the diversity of their products • to better understand demand | On farm jobs doing agricultural work, possibly distribution work | Distributors have a unique perspective on demand and supply and are able to share information with farmers on new products, customers' desire. Also, distributors have information about customer needs in terms of compliance with regulation or purchasers policies — in one instance a distributor is paying for GAP certification on farms. |
| Working with customers <ul style="list-style-type: none"> • by showcasing local food options and products • by providing 'ready to serve' product • by aggregating product offerings | On-farm jobs doing agricultural work, possibly distribution work and light processing | Again, the perspective of distributors can support shifts in purchasing of local produce and products by introducing suppliers to customers and introducing product to customers. One distributor talked of the value of meet the producer sessions which introduce new products. |
| New models of distribution <ul style="list-style-type: none"> • Distributor does not purchase rather provides delivery as a service • Direct to household aggregation service • Combining distribution processing | Technology positions — software developers, IT managers Distribution coordinators Specialty positions | New ways to both meet demand and to stir demand by getting new products to meet existing customer demand or product to new customers. |

What are the Barriers to Job Creation?

Financing was mentioned by several companies looking to expand their operations; it was also mentioned as a significant barrier to new businesses in their sector. Margins in food distribution businesses are tight. The start-up business that we spoke with ended operations before this research was complete because the costs of doing business, both financial as well as practical, were unsustainable for them.

Some distribution companies cited the potential for increasing regulatory complexity, particularly GAP certification, and its effects on new farms which would have to develop the procedures for compliance as well as have staff capable of doing this additional, non-production work. And liability insurance was mentioned by one interviewee as an expense that could be a significant barrier, depending on the product and the market.

Related to the above mentioned regulatory complexity is the trend toward increased trace-ability, including the technological infrastructure that allows for scanning products in and out of the facility. These things come at a cost to the business in terms of ramp up, training, labor and equipment.

Serving and Selling Food

In this sector, expansion is happening. Of the food service and food sales businesses that we spoke with there were new businesses opened, a second shop added, and continued strong growth in sales all of which have resulted in increased hiring. Of those without growth, there was still a strong interest in the value of serving/ selling local food. This commitment was based on nutritional value of the fresh food, as well as the importance of supporting local agriculture specifically and the local community more generally.

Beyond expanding operations and sales at the food service and retail levels, individuals identified other food system areas as having job creation potential. Most particularly they indicated opportunities at the production and processing levels. These include addressing supply gaps, particularly bread, meat, poultry and, to some extent vegetables (due to the seasonality of produce in this region). There were also opportunities identified in filling gaps in the food system's infrastructure, particularly around access to local food and food products, including explicit requests for assistance on the part of distributors with logistics and product identification or in terms of reliability of product delivery and availability. Some of this is being addressed through contract farming agreements between purchasers and farmers or distributors.

The inclusion of local food, specifically produce, in the offerings of either a food service or food sales businesses was not seen as a significant spur to job creation. In fact, the larger operations indicated that changes in produce sourcing, while presenting some challenges, would likely not result in the need for more staff. The



“Using local was the best decision we ever made.”

amount of produce available at a grocery store, whether it is locally or globally sourced, is a function of customer demand and the staff needed to prepare and sell it is largely unchanged by the distinction of locally sourced. To some extent the same is also true for large institutional food service operations, the staffing for which is primarily a function of the overall quantity of food.

Where are the Jobs and What Will the Work Be?

There was also future **opportunity for job creation** in food service and sales seen in the following ways:

- **Composting** of food waste. Those food service operations that weren't already composting food waste cited this as a part of the local food system they felt had promise to grow jobs, not necessarily at their business but at a waste management operation.
- **Fanning consumer interest in local food.** Despite repeated mentions of price differences, or consumer perception of price difference, between conventional, globally sourced produce and locally sourced produce, all those spoken with felt that consumer demand was growing and would drive job creation in a number of parts of the regional food system, most occurring by their estimation in the production and processing parts of the system. This could be achieved with increased volume of local food, increased variety of local food products and new businesses catering to the local food demand. Consumer interest in local foods was felt to be a very rich area for development.
- **Increasing the effective functioning of the regional food system.** There was a collective sense that 'everybody is busy' and that that prevents more coordinated action to build a system that better meets local food sourcing/serving requirements. Interestingly, the cooperative grocery spoke about their participation in the development of frozen fruit and vegetable products to address the limited local frozen food products. This is an example of one part of the system straying into the 'territory' of another part of the system to meet consumer demand and address a market gap. The side effect of this is the potential improvement of overall food system functioning.
- **Educating consumers.** Consumer interest in local food was seen as needing to be consciously cultivated. Food service managers at schools spoke about the interest children and students have in different foods but that they might need to be educated about those foods. Also noted was that consumers need to be educated about price and the reasons for pricing differences between conven-



The food system needs people that can operate heavy equipment.

tional, globally sourced foods, locally sourced foods and organically produced foods. Pricing was felt to be approaching a ‘level playing field’ by one distributor because of the increasing transportation costs that were burdening food imports. It was also clear that any consumer education about food pricing has to include clear data about the value local food has for the local economy.

One food service manager said that “kids need education about broccoli, peas, cranberries, melons and apples.”

Table 12: Where Will The Jobs Be And What Is The Work In Selling And Serving Food?

| WAYS JOBS ARE BEING CREATED/ WILL BE CREATED IN FOOD SERVICE AND FOOD SALES | KINDS OF JOBS | IMPLICATIONS FOR FOOD SYSTEM GROWTH |
|---|--|---|
| Expansion of operation/ growth of sales; increasing number of local food focused food service businesses. | Same as currently available in food service and sales, including food preparation staff, servers, cafeteria workers, stock clerks, management and purchasing positions. | Increased demand for local food that results in small business development focused specifically on local ingredients. |
| Growing consumer interest and demand and finding market openings that tap unmet consumer needs | Same as currently available in food service and sales; this area is a good spot in the food system for entrepreneurial efforts that build on local food demand and meet unmet needs. | Expansion of demand and product offerings grows businesses and jobs |
| Increase affordability of local food | Same as currently available in food service and sales | Will help to expand demand that can grow businesses and thus jobs. |

The businesses and individuals in food service and sales that were interviewed were clear that although there may be job creation due to business expansion, that from their point of view, job creation was much more likely to occur at other points in the Pioneer Valley food system. Specifically, they pointed to addressing local supply issues (both product and seasonality) either through season extending techniques (on farm) or food preservation techniques or through new food system infrastructure (like flash freezing equipment, meat processing facilities), or strategies that would make local food sourcing easier, more convenient and less cumbersome. In addition, new local food product development was felt to also hold promise for job creation. The jobs created through these avenues would be located in other parts of the food system, particularly food manufacturing. Also noted was the value chain implications in terms of construction work on new manufacturing facilities and sales of food manufacturing equipment.

What are the Barriers to Job Creation?

Those food service and sales operations that indicated some potential for job creation were operations where local food was one of the defining features of their operation. For these businesses, increased demand for locally sourced food, or products created with local ingredients, had the potential to grow their businesses through increased sales. The barriers to job creation identified included more traditional barriers like financing, managing a growing business, finding good workers, meeting consumer demands, as well as some specific to the inclusion of local food in their food offerings. These businesses told us that in order to create jobs they would need to expand, and that their capacity to take on additional debt or expenditure to expand would be a barrier. They also mentioned the burden of complying with regulations of all sorts. One regulation specifically noted, was the MA health insurance regulations which, as a company's staff grew, would require greater employer support.

Some of the respondents indicated that expansion, while attractive in some ways, would also take them farther away from the work that had initially inspired them to build the business. Because of that implication, they would think hard about such an expansion because it would come at a personal and professional cost to them.

Finally, larger institutional kitchens indicated that the shift to more food preparation had a cost in terms of the machinery and implements necessary to process fresh food in quantity — things like mechanized peelers.

All of the above barriers were noted in the context of a strong demand for their product or service and the increasing demand for local food that they see and envision. Without these things, expansion wouldn't be something they were able to pursue.

One final note on the impact of local food on food service and sales businesses was noted by the grocery chain. GAP certification (Good Agricultural Practices) is not currently federally mandated (although some purchasers do require it). Should it be required, the effort to switch the internal computerized record keeping would be significant for the grocery store chain. The grocery chain spoken with has a long standing and deep relationships with local growers so a move to mandated GAP certification would not necessarily hinder these relationships, but would require substantial changes for farmers as well in order to meet produce tracking requirements. It was pointed out that North Carolina has a program to provide" financial

support in obtaining a third party audit to verify they are following effective food safety practices”.⁵³ This kind of programming would help Pioneer Valley farmers to maintain purchasing arrangements should federal regulations shift.

Food Waste Management

While this aspect of the Valley food system is the least well-developed there is a solid sense of coming job creation potential. In 2014, the Commonwealth of Massachusetts will roll out regulations governing the disposal of food waste by large producers, likely including food manufacturers and large institutions (hospitals, prisons, colleges and universities). There are, however, limitations to the job creation potential and any significant job creation will need to address several challenges.

Compost operations have siting challenges. They require a great deal of land and can be faced with arguments from neighbors about potential smells from composting materials, and concern over truck traffic delivering and distributing materials. In addition, composting processes that use food waste are very concerned with quality input materials. The inclusion of non-compostable materials in food waste supplies can render the compost product unfit for sale. This is a continuing issue for existing Pioneer Valley compost operations. Those that advise businesses looking to compost food waste talk about the importance of matching generators with appropriate food waste management operations. So, food waste generators that are unable to control for certain kinds of contamination need to be paired with compost operations that can screen those contaminants out. In addition, food waste generators have to have well thought out collection strategies: is there enough room for a food waste bin on their property? What pick-up schedule is appropriate for the volume of waste? Would on-site food waste processing equipment be more appropriate than a bin?

Another challenge is that food waste composting is at the front end of the development of alternative management strategies. Currently, Massachusetts is developing anaerobic digestion facilities on five farms in Massachusetts. This technology is new and the roll-out is just beginning with one farm (in Rutland, Massachusetts) having an operational system. Much is not yet known about the job creation impact of this



Sourcing quality inputs is key to a saleable compost product. Compost operators have found in “food” waste:

- Sink
- Bed frame
- Plastic trash
- Dishware
- Flatware
- Latex gloves
- Thousands of small produce pricing stickers
- Egg beaters
- Whole uncooked ham

And many other things inappropriate for compost.

⁵³ North Carolina Department of Agriculture and Consumer Services. “GAP Certification Cost Share Assistance.” ncagr.gov/markets/NCgradesvc/ (retrieved 12-2-12).

food waste management strategy. Areas to watch for potential job creation include waste transportation, food waste preparation, and some value chain positions in terms of equipment manufacturing.

Where are the Jobs and What Will the Work Be?

Increasing food waste management, either through compost processes or anaerobic digestion processes will likely grow jobs. In compost operations, the increase projected will likely be a combination of a greater number of operations, and operations increasing in size. In anaerobic digestion operations, the increase will occur as anaerobic digestion operations become more prevalent. The increase in these operations is predicated on favorable regulatory and business climate and the job growth implications are as yet unclear.



Big Y compost container

Table 13: Where Will The Jobs Be And What Is The Work In Food Waste Management?

| WAYS JOBS ARE BEING CREATED/WILL BE CREATED IN FOOD WASTE MANAGEMENT | KINDS OF JOBS | IMPLICATIONS FOR FOOD SYSTEM GROWTH |
|--|---|---|
| Pending regulatory changes will increase volume of food waste diverted from the waste stream | Hauling jobs, heavy equipment operators, sales/marketing. Value chain work including manufacturing of containers and processing equipment | Regulations will drive sector expansion and with that will come increased jobs, although the volume of jobs will likely be small as existing waste management companies will likely initially add additional collection routes. |
| Source-end education to improve source material quality | Food service jobs, marketing, customer service positions at the hauling firm and waste management firm | Improving the quality of source materials makes a better product which helps to grow the market |
| Development of new technologies for food waste management | Research and development, technicians, construction, installation, maintenance, sales | Linkages with on-farm energy generation |

What are the Barriers to Job Creation?

The barriers to job creation in food waste management include:

- Access to sufficient capital to purchase equipment. Composting operations require expensive equipment, like screeners that help pull out inappropriate materials in the compost, and backhoes. Capital is also needed for land. Anaerobic digestion facilities are very capital intensive operations.
- Siting pressures for both compost operations and anaerobic digestion facilities is also a barrier for job creation.
- The unfolding of the new technologies. One Massachusetts waste management company is exploring purchasing a vehicle that will process food waste during transport; this will allow for lower transportation costs and reduced logistics for food waste management using anaerobic digestion processes.



Compost screener, Martins Farm. Photo courtesy Amy Donovan

Recommendations

Strategies and Steps to Grow Jobs in the Pioneer Valley Regional Food System

Job creation in the Pioneer Valley food system is already happening. Increasing it and targeting it to best meet the needs of employers and workers, particularly lower-skill workers, requires a varying mix of technical assistance, regulatory change, vision, partnership development and strengthening and, finally and critically, a commitment to system building. Understanding these efforts in the largest view — inclusive of food access, food safety, food security and good job creation-- is essential.

The primary take-away **imperative is to ‘take a systems’ view**. Without this systems perspective, the capacity of different parts of the food system to grow jobs, to further develop the necessary relationships, and to make action possible in ways that are consonant with the larger goals of a sturdy regional food system, will be compromised and hampered.

This research has used a small lens to look at a very large landscape and the following recommendations are shaped by the array of conversations we were able to have. Our findings and recommendations may be applicable to other Massachusetts regions as they consider local food sourcing as a means to strengthen the linkages between parts of the food system and as a tool for job creation.

There are **five overall recommendations** to spur job creation.

1. Develop a Massachusetts food system plan

A comprehensive assessment of the strengths and gaps in our Massachusetts food system, including its capacity to grow business and employ residents, benefits the Pioneer Valley’s food system. A statewide food plan is important because the work to build and re-engineer the parts of our food system is bigger than any one region of the state, and bigger than any one organization or state department. In the Pioneer Valley, as in other regions of the state, the local/regional foodshed extends well beyond state borders. A clear Massachusetts plan, developed and exercised in relation to other New England states, allows us to make productive connections across state lines with other states and their plans. The Massachusetts Food Policy Council is a logical location for such work to begin; as of June, 2012, the process has begun.

2. Continue to build consumer demand for locally produced food

The food industry in the Pioneer Valley is driven by growing local demand. Continuing support for efforts like CISA's Local Hero program and other efforts to build demand through widespread public education and promotion are vital. Programs like the Massachusetts Farm to Institution initiative and other methods to get local food to large institutions are well-recognized ways to spur the market and should also be a high priority.

It is also critical to continue to work in partnership with health efforts that bring produce to stores as a way of increasing consumer awareness of healthy eating along with comfort in purchasing, preparing and consuming produce. Increasing the amount and variety of produce in stores benefits consumers and it needs to engage the full spectrum of retail food outlets — bodegas, convenience stores, supermarkets and grocery store operations— so that retailers can master purchasing, displaying, storing and marketing these products successfully. Local food policy councils, CISA, and food security organizations are well-suited to foster and spur the kinds of education needed on a store-by-store, neighborhood-by-neighborhood basis. For this to be maximally effective, it must be paired with a comprehensive consumer education effort

3. Develop a comprehensive public education effort about the multiple values of sturdy food systems

CISA and the USDA both launched campaigns that bring parts of the local food system message to the public. Organizations like PVGrows, the Massachusetts Department of Agricultural Resources and NOFA (Northeast Organic Farmers Association) help to build connections or bridges in terms of funding, system-functioning and the development of expertise. Less evident, is the more general message about food systems. For years, Northeast Sustainable Agriculture Working Group (NESAWG) has been taking a systems view, but the reach of their efforts has been limited to food and agriculture organizations. What is needed is a message articulating the value of sturdy food systems, not only to diverse stakeholders, but also to groups who don't see their work or agendas as related to food systems, food security, or a food economy. This campaign should articulate the value of linking food system parts because food systems, whether regional or global, are not something everyone knows about or understands. This includes helping consumers as well as participants to know the ways in which the system operates and to see the value of participating in strengthening the food system. Similar to the "Let's Make Smoking History" campaign, or the recent push to build consumer understanding of the

value of energy efficiency, this campaign could clarify connections between health and security and economics — painting the picture that local food sustains us in more ways than just nutrition.

4. Take a systems view

It is important to anticipate the effects on our regional food system from beyond the system and to understand the implications of interdependent drivers that affect production and consumption of local food. This report notes a number of interdependent drivers spurring the growing demand for locally produced food. Consider the potential for volatility (such as food price increases, crop failures, food safety recalls, for example). Such volatility could have short and longer-term detrimental effects on our food supply, on food safety, on our agriculture economy, on equitable access to good food, and on jobs in the Pioneer Valley's regional food system. By anticipating these factors and taking a systems perspective we can take a strategic approach to infrastructure development and encourage resiliency. System integrity should be a priority.

5. Engage in targeted research in the areas identified as having the most significant and immediate job creation potential including

- system infrastructure, including large-scale improvements (e.g. dairy processing plant, meat processing facilities) and smaller scale improvements on farms and for distribution,
- on-farm season extending, processing and food waste management facilities,
- infrastructure and systems relating to upcoming changes to Massachusetts food waste management regulations, taking both the big picture view as well as the small view from the back door of a restaurant.

From a workforce development perspective, the key information to understand is the nature of the work, the job tasks, skills and credentials needed, as well as wage information.

Recommendations for Pioneer Valley Food System Workers and Workforce Development System Staff

Development of a fully functioning food system in the Pioneer Valley will require addressing current labor and workforce development challenges.

- Work with farmers to solve their labor challenges, including ways to get

enough, skilled, reliable workers and to retain those workers year round.

- Support exemplary application of the migrant/immigrant farm worker programs locally.
- Build out programs that provide health, safety and legal protections for these workers sufficient to meet needs.
- Ensure that migrant and immigrant workers, as well as low-wage food service workers, have adequate access all year long to healthy food themselves.

In addition, there are ways to prepare workers for coming work in a sturdier Pioneer Valley regional food system.

- Research, design and develop food system career pathways that span different parts of the food system in conjunction with employers at different parts of the system.
- Enhance existing training programs by incorporating regional food system education.
- Pilot collaborative employment models in partnership with employers where food prep workers move between food service jobs and farm-based processing work and other kinds of collaborative employment arrangements.
- Develop information resources for job seekers that describe food system work, overall food system functioning, career pathways and training resources; develop these through partnerships between Pioneer Valley workforce development organizations and food system employers.

Recommendations to Strengthen Food System Businesses and Spur Job Creation

Finally, there are a series of recommendations to spur job creation that are specific to the different parts of the Pioneer Valley food system. However, financing and regulatory hurdles currently inhibit implementation. Fortunately, in the Pioneer Valley, a number of local organizations are already working to diminish or eliminate these hurdles, including, among others, PVGrows, Common Capital, the New England Farmers Union and CISA. There are also statewide, regional and national groups whose work can assist with achieving these recommendations.

Growing

Help Pioneer Valley farmers to continue to:

- diversify crops to reach new and different markets
- extend their growing season through the incorporation of season-extending technologies like greenhouses, hoop houses, and root cellars
- develop new revenue streams, including further diversification of products (cut flowers, compost) or new services (lightly processed produce)
- develop on-farm processing facilities or make productive linkages with off-site processing facilities

Processing/Food Manufacturing

Help Pioneer Valley food manufacturers and entrepreneurs to:

- Study and develop market match between local products and local demand
- Develop partnerships across state lines to accomplish food processing efficiently

Distributing

Help distributors and entrepreneurs located in the Pioneer Valley and serving the Pioneer Valley to:

- Meet Pioneer Valley producers through local product awareness events that also include information about unmet product needs
- Continue to develop alternative business models for distribution based on market research to engage with different markets (e.g. ready to serve, home delivery)

Serving and Selling

Help Pioneer Valley food vendors continue to:

- connect with local producers through ongoing and increased technical assistance
- increase their access to products difficult to source locally including beef, pork, eggs and greens across the four seasons
- share success stories that describe the ways in which different food service providers have increased the percentage and volume of local food in their offerings across the year, particularly modeling successful negotiations, effective systems and innovative uses of products

The UMass Amherst Dining Services has been honored nationally and statewide for supporting local agriculture... [and] sustainable food production ..."

The Republican, Monday May 14, 2012.

A chef said: "using local is not a question; it will taste better."

- Continue to celebrate the ways in which local food builds community as a marketing strategy

Managing Food Waste

Help Pioneer Valley food waste trucking and management companies to

- Continue to prepare for changing regulations, including exploration of collection infrastructure (on-site, mobile, for example) and consumer education
- Expand markets for compost, including exploring ways to meet the needs of farmers in terms of soil improvement and amendment through development of relationships with composting operations that don't further strain farm financial circumstances
- Continue to pursue additional technological approaches like anaerobic digestion through research, development, regulation, investment and workforce training

Help municipalities and food waste generators to

- continue to prepare for changing regulations including information about reducing source contamination (exclusion of silverware, non-compostable items, etc.), on-site storage and/or processing as well as the importance of food waste in the food system for energy generation
- develop and disseminate educational materials the value of food waste management in terms of the food system and energy generation an specifically about source contamination and effective collection and storage procedures as well as future regulatory enhancements in this area

Continue to help farmers to

- pursue alternative technological strategies for managing manure, silage and food waste on farms, e.g. anaerobic digestion

The Pioneer Valley food system already links producer, processor and consumer: for example, local strawberries, peaches and ginger are in locally produced ice cream; CISA's annual local food guide steers residents to local food producers; Valley education institutions offer training and education; menus identify local sources. Strengthening these existing connections or relationships while holding a view of the entire system central allows Valley residents, businesses and organizations to strengthen the food system and meet food access, food safety and food security goals while creating good jobs.

Agriculture is emerging as a solution to mitigating climate change, reducing public health problems and costs, making cities more livable, and creating jobs in a stagnant global economy.

Danielle Nierenberg, Director of Worldwatch Institute's Nourishing the Planet project.

Appendix A: Finding Local Food Businesses in Pioneer Valley

Knowing the Pioneer Valley businesses and organizations that produce, process, distribute, serve, sell and manage food waste is important to workforce development professionals and organizations seeking an understanding of and connections with the Pioneer Valley food system, policy makers working to understand the needs of businesses that comprise a regional food system, food system advocates and organizers as well as, job seekers interested in local food system work.

In the Pioneer Valley, the most complete resource for local food businesses is

CISA's online Farm Guide (<http://www.farmfresh.org>).

This extensive database is searchable by:

- Food categories, including, basics: dairy and eggs, fruit, herbs, honey and maple, meat, seafood, and, vegetables; drinks: beverages, wine and liquor; “more from the farm: breeding stock, dry goods, grains and feeds, fiber, nursery and flowers, pet food, wood; value-added products including: baked goods, specialty products, spreads; and, by growing method, including organic, IPM (Integrated Pest Management).
- Where to purchase farm products directly, including: farmers markets, pick your own, farm stands, community supported agriculture (CSA) and, “fun on the farm”;
- Information important for business buyers, including: delivery routes, sells to restaurants, sells wholesale, and, distributors;
- Purchasers of local products including: restaurants and cafes, groceries and retailers, schools and cafeterias, caterers, inns and bed and breakfasts, personal chefs; and,
- Location.

In addition, farms can be found by using the following databases:

Massachusetts Grown (<http://www.mass.gov/agr/massgrown/>), a database maintained by the Massachusetts Department of Agriculture. The geography search function is most useful for Pioneer Valley purposes. In addition, the database is searchable by operation name, and by product, including:

annuals, apples, blueberries, cheese, Christmas trees, sweet corn, cranberries, cut flowers, eggs, ethnic crops, ice cream, maple, maze, milk and raw milk, peaches, perennials, pumpkins, raspberries, strawberries, tomatoes, turkey, vegetables, wine and wood products.

NOFA Massachusetts' *Organic Food Guide* is a searchable statewide database of organic and sustainable farms and businesses (<http://theorganicfoodguide.com/>).

Job seekers interested in food system work can use the above databases to identify businesses. They can also use Job Quest, the job search tool managed by the Massachusetts Executive Office of Labor and Workforce Development (<http://web.detma.org/JobQuest/Search.aspx>). Searching for food system job openings would include searching the following job categories: farming, fishing and forestry occupations and, food service and preparation occupations and may include sales and related occupations or transportation and material moving occupations. Using the Advanced Search feature allows for searches specific to Franklin, Hampshire and Hampden regions.

Appendix B: Local Food and Agriculture Training Opportunities in the Pioneer Valley (and a bit beyond)

Growing Food

Farm Training, Internships, and Apprenticeships (in addition to the below, there are individual farms that are open to hosting interns and apprentices).

C.R.A.F.T (Collaborative Regional Alliance for Farming Training)

<http://www.craftfarmapprentice.com/>

C.R.A.F.T. is a cooperative effort of local organic and biodynamic farms organized to enhance educational opportunities for farm apprentices in the Hudson Valley, Berkshires, and Pioneer Valley. The program functions through a number of participating farms where apprentices work, attend workshops, visit other farms, and have access to a variety of resources. The website includes contact information for all participating farms. See individual websites for specific requirement details.

The Farm School

http://www.farmschool.org/prog_practicalfarm.html

Contact: Director Patrick Connors

Sentinel Elm Farm, 488 Moore Hill Rd, Athol, MA, 01330

Phone: (978) 249-9944

Email: patrick@farmschool.org

In contrast to informal apprenticeships on individual farms, The Farm School offers a curriculum-based agricultural educational program that has been established for the specific benefits of the participants.

College credit is possible with partnering institutions and limited financial aid is available, depending on individual needs.

Seeds of Solidarity

Contact: Executive Director, Deb Habib

165 Chestnut Hill Rd., Orange, MA 01364

Phone: (978) 544-9023

solidarity@seedsofsolidarity.org

A community based agriculture and training program rooted in the North Quabbin area, Seeds of Solidarity runs a youth agriculture and leadership program called

SOL Garden, (Seeds of Leadership Garden) which engages youth in growing food for their community. They also coordinate a Grow Food Everywhere initiative which provides low-income families with information, training and support to grow a three-season garden.

Gardening the Community

Contact: Program Director, Anne Richmond; Youth Director: Ibrahim Ali
PO Box 90744, Springfield, MA 01139
Phone: 413-693-5340

GTC is a youth-led food and justice organization that trains and supports youth to grow organic fruit and vegetables on empty lots in Springfield, MA. Food is sold through a CSA and at Farmers Markets.

Higher Education

Greenfield Community College, Farm and Food Systems

<http://web.gcc.mass.edu/farmandfoodsystems/>

Contact: Abrah Dresdale, Faculty
1 College Drive, Greenfield, MA, 01301
Phone: (413) 775-1107
Email: dresdaleA@gcc.mass.edu

The Farm & Food Systems program at GCC is an Associate of Arts degree option that explores the broad field of sustainable farming and local food systems. The program provides students with an interdisciplinary understanding of the ecological, economic, political and social systems as they relate to food and farming. Through additional applied courses and internships, students learn hands-on skills such as food cultivation, preservation, processing, techniques for propagation and season-extension, and design of annual and perennial production systems. Students engage in community partnerships and participate in bioregional efforts to support food security, local economies and planning for resiliency.

Holyoke Community College

<http://www.hcc.edu/>

Admissions Office
303 Homestead Drive, Holyoke, MA
Phone: (413) 552- 2321
Email: admissions@hcc.edu

Holyoke Community College offers Associate degree and other certificate options. While HCC does not have a specific agricultural program, it offers courses in Sustainable Agriculture and Associate degrees in Sustainability and Environmental Science. HCC also facilitates transfers to UMass Amherst to pursue Bachelor degrees in food and agriculture.

University of Massachusetts, Amherst

a) UMass College of Natural Sciences (CNS)

<http://www.cns.umass.edu/>

Undergraduate Admissions Office

Mather Building, 37 Mather Drive, Amherst, MA, 01003

Phone: (413) 545-0222

Email: mail@admissions.umass.edu

CNS is a central nucleus of science education and research at UMass Amherst, with 15 departments, including Food Science, and the Stockbridge School of Agriculture. The college offers Associates degrees and Bachelors degrees.

b) UMass Extension Service

<http://extension.umass.edu/index.php/home>

Extension Director's Office

319 Stockbridge Hall, 80 Campus Center Way, Amherst, MA

Phone: (413) 545- 4800

The Extension Service strives to address public agricultural concerns of high priority in Massachusetts through educational and community support and outreach programs, information, resources, services and training programs. Among the programs are The Extension Agriculture and Landscape Program, The Extension Natural Resources and Environmental Conservation Program, and The Extension Nutrition Education Program. Food Safety training and resources are part of the offerings in the Extension Nutrition Education Program and include training in GAP (good agricultural practices), seminars on HACCP (Hazard Analysis and Critical Control Points), courses on food safety and nutrition.

c) Massachusetts Center for Agriculture

<http://ag.umass.edu/>

319 Stockbridge Hall, 80 Campus Center Way, Amherst, MA

Phone: (413) 545- 4800

The Center for Agriculture at the University of Massachusetts Amherst integrates the research, applied education and outreach work in agriculture, food systems and natural resources at the University of Massachusetts Amherst. The Center is the contemporary standard bearer of the university's land-grant origins and provides a link to the vibrant agricultural business sector in the state. It brings together programs from Stockbridge School of Agriculture, UMass Extension, and the Massachusetts Agricultural Experiment Station. The Center is a portal through which individuals, industries, and agencies connect with scientists and educators.

d) Stockbridge School of Agriculture

<http://stockbridge.cns.umass.edu/>

Contact: Kathy Conway, Admission Counselor

111 Stockbridge Hall/UMass Amherst, Amherst, MA, 01003

Phone: (413) 545-2222

Fax: (413) 577- 0242

Email: kmconway@ncs.umass.edu

The Stockbridge School of Agriculture offers both two-year Associate of Science degree programs and Bachelors programs, including an Associates degree in Sustainable Food and Farming, and Bachelors degrees in Plant, Soil and Insect Sciences and Sustainable Food and Farming. The school is affiliated with UMass Amherst where students may pursue related bachelor degree programs.

Hampshire College

a) Hampshire College Farm Center

<http://www.hampshire.edu/academics/5728.htm>

Contacts: Leslie S. Cox and Nancy Hanson, Managers

893 West St, Amherst, MA, 01002

Phone: (413) 559-5599

Email: lcox@hampshire.edu, nehFC@hampshire.edu

The Hampshire College Farm Center is a working farm and thriving educational center, providing agricultural programs for the College, local community members, and school groups. The Farm Center supplements academic classes at Hampshire College, offers internship, assistantships, and work-study opportunities, and welcomes visitors and volunteers.

b) Food Farm and Sustainability Institute

<http://www.hampshire.edu/academics/Food-Farm-and-Sustainability-Institute.htm>

893 West St, Amherst, MA, 01002

Phone: (413) 559-5599

Email: ffs@hampshire.edu

The Food, Farm, and Sustainability Institute at Hampshire College is an interdisciplinary academic program focusing on food production and sustainable agriculture, centered at the vibrant Hampshire College Farm Center. During the six-week long summer program, students gain hands-on work experience with the guidance of the Farm Center staff, learn through inquiry-based projects mentored by faculty with a range of expertise, and acquire ownership of knowledge through independent research projects.

c) Agricultural Studies and Rural Life

<http://www.hampshire.edu/admissions/agriculture.htm>

Office of Communications

893 West St, Amherst, MA, 01002

Phone: (413) 559-5482

Email: communications@hampshire.edu

In pursuit of a Bachelor degree at Hampshire College, the study of food, agriculture, and rural life brings together faculty and students interested in the central intellectual, political, scientific, and cultural issues that dominate contemporary discussion of food and agriculture. The program combines a diverse academic curriculum with practical experience at the Hampshire College Farm Center, an organic working farm, and workshops with visiting writers, artists, and scholars. Students gain experience with the complex issues of sustainability through internships and apprenticeships with farms and advocacy groups.

Vocational Technical Schools

Smith Vocational and Agriculture High School, Agricultural Mechanics/Animal Science

http://agriculture.smith.tec.ma.us/modules/groups/integrated_home.phtml?&gid=1507962&sessionid=dff531e57aabf0cabe64fb381db1146a

80 Locust St, Northampton, MA, 01060

Phone: (413) 587-1414

Smith Vocational and Agricultural High School has the only vocational and agricultural program in Western Massachusetts that offers majors in both animal science and agricultural mechanics. Students in the Agriculture program spend their time studying and working outdoors, nurturing living things, operating and repairing equipment, and working with natural resources.

Only students entering high school in the Hampshire regional district are eligible to apply. Upon graduation students receive a high school diploma and a diploma for their shop hours, which can be used towards apprenticeships, etc.

Agricultural Organizations

Northeast Organic Farming Association (NOFA)

<http://www.nofa.org/index.php>

General Office

Box 164, Stevenson, CT, 06491

Phone: (203) 888-5146

Email: web@nofa.org

NOFA Massachusetts Office

www.nofamass.org

411 Sheldon Rd, Barre, MA, 01005

Phone: (978) 355-2853

Email: nofa@nofamass.org

Northeast Organic Farmers Association (NOFA) is a loosely coordinated group of state NOFA chapters whose purpose is to advocate for and educate about organic and sustainable agriculture, family-scale farming and homesteading both rural and urban, agricultural justice, and related issues. NOFA offers a variety of educational programs, workshops, and seminars for farmers, agricultural workers, and consumers.

New England Small Farm Institute (NESFI)

<http://www.smallfarm.org/>

P.O. Box 937, Belchertown, MA, 01007

Phone: (413) 323-4531

Fax: (413) 323-9594

Email: info@smallfarm.org

The New England Small Farm Institute is a non-profit educational organization that promotes small farm development by providing information and training for aspiring, beginning, and transitioning farmers. NESFI has a Small Farm Development Center, which offers a systemic approach to small farm career development through peer-guided programs and services to help people acquire the knowledge, skills, and resources they need to succeed as small farm operators. These services include educational courses and workshops; mentoring through the Northeast Regional Support Network; access to the Small Farm Library; access to New England Land Link, a regional listing of available farm properties and opportunities; access to Northeast Workers on Organic Farms, a listing of farms seeking apprentices; and other research projects and development activities.

Professional Development

UMass College of Natural Sciences, Center for Agriculture

See first entry (1a) under the Higher Education section.

a) UMass Extension Service, Green Directory

<http://extension.umass.edu/agriculture/index.php/services/green-directory>

Phone: (413) 545-0895

Email: greeninfo@umext.umass.edu

The Green Directory is a comprehensive guide to educational resources for Massachusetts Agriculture industry professionals, now available as a hard copy and online. See the second entry (1b) in the Higher Education section for additional information.

b) UMass Extension Service, Beginning Farmer Services

<http://extension.umass.edu/agriculture/index.php/beginning-farm>

Beginning Farmer Services give farmers access to technical resources and professional, research-based assistance through the UMass Extension Service. The Beginning Farmer Services website has a compilation of resources and information, outlining programs such as the Stockbridge School (Higher Learning section, 1d), certification programs, and online courses.

Massachusetts Department of Agricultural Resources- Agricultural Business Training Program (ABTP)

<http://www.mass.gov/agr/programs/abtp/index.htm>

Contact: Rick Chandler

Phone: (413) 548-1905

Email: rick.chandler@state.ma.us

The Agricultural Business Training Program addresses farmers' financial, economic, educational, and environmental needs by raising awareness and providing a forum for feedback and support. ABTP breaks down into three programs for farmers of varying skill and experience levels:

“Exploring Your Small Farm Dream” is an entry-level course for pre-venture and just beginning farmers.

“Planning for Startup” is a course for farmers who have firm access to land and a clearer sense of their interests and capabilities, but are still lacking the financial, marketing, and professional experience for their enterprise.

“Tilling the Soil of Opportunity” is a program for agricultural enterprises with at least two years of income generating operation and farm recordkeeping, who are seeking an in-depth tune up and/or preparing to make new investments/expansions.

Application instructions for all three programs are available on the website.

Other

New Lands Farm

<http://www.lssne.org/NewLandsFarm.aspx>

Western MA Office

Contact: Shemariah Blum-Evitts, Agriculture Program Coordinator

334 Birme Ave, West Springfield, MA, 01089

Phone: (413) 787-0725 ext:422

Email: sblum@lssne.org

Central MA Office

Contact: Ashley Carter, Agriculture Program Coordinator
96 Eight Lots Rd, Sutton, MA, 01570
Phone: (508) 754-1121 ext:439
Email: acarter@llsne.org

New Lands Farm is a refugee farmer collective run by Lutheran Social Services. New Land Farm's mission is to empower new Americans through agricultural programs to honor their food traditions, earn supplemental income, and contribute in a meaningful way to their new community and the local food system. The collective connects families with farm jobs and training programs, urban gardening initiatives, and helps refugees launch their own market garden operations.

Nuestras Raices

<http://www.nuestras-raices.org/thefarm.html>
329 Main St, Holyoke, MA, 01040
Phone: (413) 535-1789

Nuestras Raices is a grassroots urban agricultural non-profit organization. Founded by a group of Puerto Rican migrant farmers, Nuestras Raices, or Our Roots in English, is a network of 10 community gardens in Holyoke, MA. The organization also runs an environmental program, a food and environmental education and activism program for inner-city youth, and a 30-acre inner-city farm that focuses on food systems, economic development, and agriculture.

Western Massachusetts Permaculture Guild

<http://lists.thepine.org/mailman/listinfo/westernmapermacultureguild>

The Western Massachusetts Permaculture Guild is a list server that promotes regional permaculture events and helps connect permaculture professionals and enthusiasts. See website to subscribe and access current archives and listings.

Massachusetts Agriculture in the Classroom (MAC)

<http://www.aginclassroom.org/>
P.O. Box 345, Seekonk, MA, 02771
Email: massaginclassroom@earthlink.net

Massachusetts Agriculture in the Classroom is a non-profit organization that provides agricultural education and training programs for teachers and other educators, with the goal of promoting agricultural knowledge in Massachusetts' students and schools. Workshops are free, while conferences and programs participation fees vary.

Northeast Sustainable Agriculture Working Group (NESAWG)

<http://www.nefood.org/>

P.O. Box 11, Belchertown, MA, 01007

Phone: (413) 323-9878

Email: neswag@smallfarm.org

The Northeast Sustainable Agriculture Working Group is the Northeast's food and farm network. NESAWG strives to build a sustainable and secure regional food and agriculture system. Its mission is to strengthen the work of its members by providing active support and assistance in achieving shared food system goals.

NESAWG focuses on farm economic viability and food system economic development, natural resource conservation and enhancement, community food systems and food security, and food "citizenship." NESAWG addresses these areas through public policy and development; professional training and education; promoting accountability in publicly funded institutions; public education; and member services and capacity building.

Massachusetts Vocational Technical Education Frameworks

Agriculture and Natural Resources Cluster

<http://www.doe.mass.edu/cte/frameworks/?section=agriculture>

These frameworks outline the skills, competencies and knowledge required. While designed for vocational education settings, these listings are useful to job seekers and workforce development staff when considering fit of job seekers with an occupation.

Agriculture and Natural Resources cluster includes agricultural mechanics, horticulture, and animal science.

Hospitality and Tourism cluster (<http://www.doe.mass.edu/cte/frameworks/?section=hospitality>), includes culinary arts and hospitality management.

Processing, Serving, Selling Food

Vocational Technical Schools

William J. Dean Technical High School
1045 Main Street, Holyoke, MA
413-626-9387
<http://deantechpride.org/>

“The Culinary Arts Program teaches the basics of culinary arts including the study of cooking, pastry preparation, restaurant management, and dining room services. All students receive training in sanitation and the safe handling of food. Program participants gain hands-on experience in The Apprentice Restaurant, a full-service restaurant open to the public and run by the Culinary Arts department. Graduates may receive certification from the American Culinary Program Federation and pursue careers as assistant cooks, bakers, sous chefs, chefs, or wait staff.”

Smith Vocational and Agriculture High School

80 Locust St, Northampton, MA, 01060
Phone: (413) 587-1414
http://culinary-arts.smith.tec.ma.us/modules/groups/integrated_home.phtml?&gid=1510081&sessionid=a65bb8cad86b626c24e439fed4fba4d9

“The Culinary Arts program is designed to provide students with the various skills necessary for employment in the food service industry. In a modern, fully equipped kitchen laboratory, students receive instruction in commercial cooking, baking, meat preparation, and food service sanitation. In the guest dining area, table setting, service and artistic food displays are practiced. The classroom studies include pricing, selecting, and purchasing. Sound management and business practices related to this industry are also explored.”

Franklin County Technical School

82 Industrial Boulevard
Montague, MA 01376
(413) 863-9561
<http://www.fcts.org/cul/culcert.html>

Culinary Arts Career Program: “The focus of the program is on the general study of cooking, baking, customer service and management related to restaurants, hotels, and institutions. The program is designed to prepare individuals for a variety of jobs in the hospitality industry.” Students receive instruction in three shop areas: the range, the bakery and the dining room. The school has a restaurant which provides real-life training.

Roger L. Putnam Vocational Technical Academy

1300 State Street

Springfield, MA 01009

413-787-7424

www.putnamacademy.com

“The Culinary Program is designed to provide students with training for a successful career in the food service/hospitality industry. As one of the fastest growing service areas, students are trained for entry-level employment. Culinary Arts also offers a Servsafe (Food Safety) certification and a ten hour OSHA (Occupational Safety and Health Administration) card to all students. Students are encouraged to pursue advance training in post-secondary schools and/or colleges. Students who have fulfilled the learning outcome objectives in Putnam’s Culinary Arts/Hospitality Management program, and who are recommended as being competent in this subject matter, will be recognized for 14 credits in Hospitality Management at Holyoke Community College.”

Higher Education

Holyoke Community College

<http://www.hcc.edu/>

Admissions Office

303 Homestead Drive, Holyoke, MA

Phone: (413) 552- 2321

Email: admissions@hcc.edu

Hospitality and culinary arts program has 2 certificates and 3 degrees and well articulated transfer relationships with UM Amherst.

The two certificates are:

1. Culinary Certificate which prepares students for cooking positions and is accredited by the American Culinary federation. HCC is the only MA community college with this certification.

2. Hospitality Management Certificate which allows industry professionals and students college level coursework in hospitality management. This program can be done online.

The three Associates degrees are:

1. Food Service Management option which prepares students for culinary arts and entry-level management positions in food service.
2. Hospitality Management option which prepares students for management positions in the hospitality industry, including the restaurant industry.
3. Hospitality Transfer option which prepares students to transfer to the University of Massachusetts Amherst's Isenberg School of Management as a third-year Hospitality and Tourism Management major.

University of Massachusetts, Amherst

a) UMass College of Natural Sciences (CNS)

<http://www.cns.umass.edu/>

Undergraduate Admissions Office

Mather Building, 37 Mather Drive, Amherst, MA, 01003

Phone: (413) 545-0222

There are four Food Science Concentrations for Food Science majors in the College of Natural Sciences at the University of Massachusetts Amherst. They include:

- **Concentration in Food Science and Technology.** This curriculum is accredited by the Institute of Food Technologists and is suggested for students who know they want a job in the food industry and may in the future be interested in graduate or professional school.
- **Concentration in Food, Health and Wellness.** For students who want the training to work in the food industry but are also interested in Health and Wellness. This curriculum has the flexibility for students to choose program electives to gain a broadened education with coursework from the Departments of Nutrition, Public Health and Exercise Science and the Environmental Science Program.
- **Concentration in Food Safety.** For students who want the training to work in the food industry and desire additional information about the safety of

food. This curriculum has the flexibility for students to choose program electives to gain a broadened education with coursework from the Departments of Resource Economics, and Public Health and the Environmental Science Program.

- **Concentration in Culinary Science.** Culinary Science one of the hottest areas of the Food and Food Service Industries. The Department of Food Science has developed a unique concentration that has been recognized by the Research Chef's Association. This program combines Culinary Arts and Food Science by accepting students with a 2 year culinary arts degree and providing them with a science-oriented framework that enables them to obtain a B.S. in Food Science from the University of Massachusetts in 3 years.

UMass Extension Service

<http://extension.umass.edu/index.php/home>

Extension Director's Office

319 Stockbridge Hall, 80 Campus Center Way, Amherst, MA

Phone: (413) 545- 4800

The UMass Extension Service Extension Nutrition Education Program offers food safety training, services and resources.

Other

Massachusetts Vocational Technical Education Frameworks

Hospitality and Tourism Cluster

<http://www.doe.mass.edu/cte/frameworks/?section=hospitality>

These frameworks outline the skills, competencies and knowledge required. While designed for vocational education settings, these listings are useful to job seekers and workforce development staff when considering fit of job seekers with an occupation.

Hospitality and Tourism cluster includes culinary arts and hospitality management.

Composting Food Waste

Massachusetts Department of Environmental Protection (MassDEP)

<http://www.mass.gov/dep/recycle/reduce/composti.htm>

1 Winter St, Boston, MA, 02108

Phone: (617) 292-5500

The Massachusetts Department of Environmental Protection promotes residential, commercial, and institutional composting, recycling, and reuse of grass clippings, yard wastes, food materials, and other organics. MassDEP has online resources, reports, guides, site directories, and regulatory information for all scales of composting. MassDEP also runs awareness campaigns that focus on food waste reduction and reuse, including information on the financial, environmental, and social benefits of the project for individuals and large industrial facilities.

Maine Compost School

<http://www.composting.org/>

Contact: Jeanne Pipicello, Knox-Lincoln Cooperative Extension

377 Manktown Rd, Waldoboro, Maine, 04572

Phone: (207) 832-0343

Email: Jeanne.pipicello@maine.edu

The Maine Compost School provides training for people who are interested in or involved with medium to large-scale composting operations. The certification program trains personnel to be qualified compost site operators. Participants receive classroom instruction, laboratory experience, and hands-on project exercises. Tuition for the five-day program is \$525. Participants are responsible for their own transportation and lodging during the program.

US Compost Council (USCC)

<http://compostingcouncil.org/>

5400 Grosvenor Lane, Bethesda, MD, 20814

Phone: (301) 897-2715

US Compost Council is a national, non-profit trade and professional organization that promotes the recycling of organic materials through composting in order to enhance soils and increase economic and environmental benefits. USCC offers training courses and educational workshops taught by leading composting professionals and educators. Participation fees vary by program. The website offers online resources, forums, and job listings.

Appendix C: Resources for Workforce Development Professionals and Policy Makers for Further Investigation of Food Systems and Food Systems Jobs

Food Systems and Job Creation

- Conservation Law Foundation. “Growing Green: Measuring Benefits, Overcoming Barriers, and Nurturing Opportunities for Urban Agriculture in Boston.” 2012. <http://www.clf.org/our-work/healthy-communities/food-and-farm-initiative/>
- Farm Credit East. “Northeast Agriculture: The Overlooked Economic Engine.” 2012. https://www.farmcrediteast.com/en/News-and-Events/News/~~/media/Files/Knowledge%20Exchange/FCE_EconImpact-%20FINAL.ashx
- Food Chain Workers Alliance. “The Hands That Feed Us: Challenges and Opportunities for Workers Along the Food Chain.” June 6, 2012. <http://foodchainworkers.org/wp-content/uploads/2012/06/Hands-That-Feed-Us-Report.pdf>
- Green for All. “Green Jobs in a Sustainable Food System.” <http://greenforall.org/resources/reports-research/green-jobs-in-a-sustainable-food-system/>
- O’Hara, Jeffrey K. “Market Forces: Creating Jobs through Public Investment in Local and Regional Food Systems.” August, 2011. Union of Concerned Scientists. http://www.ucsusa.org/assets/documents/food_and_agriculture/market-forces-report.pdf
- Yen Liu, Yvonne. “Good Food + Good Jobs For All: Challenges and opportunities to Advance Racial and Economic Equity in the Food System. July 2012. Applied Research Center. [Arc.org/foodjustice](http://arc.org/foodjustice).

Pioneer Valley Food System Information

- American Farmland Trust. “Increasing Local Milk Processing Capacity: Benefits to Pioneer Valley Consumers & Communities.” January 2011. [Buylocalfood.org http://www.buylocalfood.com/upload/resource/IncreasingLocalMilkProcessingCapacity.pdf.pdf](http://www.buylocalfood.com/upload/resource/IncreasingLocalMilkProcessingCapacity.pdf.pdf)

- CISA (Community Involved in Sustaining Agriculture). Buylocalfood.org
- CISA. “Scaling Up Local Food – Investing in Farm & Food Systems Infrastructure in the Pioneer Valley.” [Buylocalfood.org. http://www.buylocalfood.org/upload/resource/ScalingUp10-17-11lrwithLinks.pdf](http://www.buylocalfood.org/upload/resource/ScalingUp10-17-11lrwithLinks.pdf)
- Franklin Regional Council of Governments. “DRAFT - Sustainable Franklin County.” [Frcog.org. http://www.frcog.org/services/landuse/landuse_HUD.php](http://www.frcog.org/services/landuse/landuse_HUD.php)
- Local Food Policy Councils, including Springfield Food Policy Council (<http://www3.springfield-ma.gov/planning/388.0.html>), Holyoke Food and Fitness Council (<http://holyokefoodandfitness.org/>)
- Pioneer Valley Planning Commission. “DRAFT: The Pioneer Valley Food Security Plan.” [Sustainableknowledgecorridor.org. http://sustainableknowledgecorridor.org/site/sites/default/files/PV_Food_Security_Plan_10-12-12_DRAFT.pdf](http://sustainableknowledgecorridor.org/site/sites/default/files/PV_Food_Security_Plan_10-12-12_DRAFT.pdf)

Massachusetts Food System Information

- Massachusetts Food Policy Alliance. Mafoodpolicyalliance.org
- Massachusetts Food Policy Council. <http://www.mass.gov/eea/agencies/agr/boards-commissions/massachusetts-food-policy-council-fpc-generic.html>

New England

- “A Proposal for Growing Connecticut Farms, Food and Jobs.” White paper prepared by the [CT] Farms, Food and Jobs Working Group. December 2011. CT Department of Agriculture. Ct.gov/doag. Food Solutions New England. “New England Food Vision.” [Foodsolutionsne.org. http://www.foodsolutionsne.org/](http://www.foodsolutionsne.org/)
http://www.ct.gov/doag/lib/doag/boards_commissions_councils/governors_council/growingctfarmsfoodandjobs2011.pdf
- Rhode Island Agricultural Partnership. “A Vision for Rhode Island Agriculture: Five-Year Strategic Plan.” May 2011. [rifoodcouncil.org. http://www.rifoodcouncil.org/sites/default/files/RI_agriculture_5yr_strategicplan.pdf](http://www.rifoodcouncil.org)
- Vermont Sustainable Jobs Fund. “Farm to Plate Strategic Plan.” [Vsjf.org. http://www.vsjf.org/project-details/5/farm-to-plate-initiative](http://www.vsjf.org)

Appendix D: Who We Spoke With

Growers:

- Joe Czajkowski, Czajkowski Farm, Hadley
- DeWitt Thomson, Happy Valley Organics, South Deerfield
- Tim Wilcox, Kitchen Garden Farm, Sunderland
- Liz Adler, Mountain View Farm, Easthampton
- Sarah Voiland, Red Fire Farm, Granby and Montague
- Sorrel Hatch, Upinngil Farm, Gill
- Michael Doctor, Winter Moon Farm, Hadley

Food Manufacturers/Processors:

- Larry DiLuzio, Food Processing Center, Franklin County Community Development Corporation, Greenfield
- Michael Baines, Franklin Hampshire Regional Employment Board
- Herb Heller, Hot Mama's Foods, Springfield
- Dan Rosenberg, Real Pickles, Greenfield
- Gary Schaefer, Snow's Ice Cream, Greenfield

Distributors:

- Eric Atkins, Black River Produce, North Springfield, VT
- Joe Czajkowski, Czajkowski Farm, Hadley
- Manny Costa, Costa Fruit and Produce, Boston
- Andrew Morehouse, Food Bank of Western Massachusetts, Hatfield
- Joe Blotnik, Fresh and Local, Northampton (now closed)
- JD Kemp, Organic Renaissance/Food Ex, Boston
- Peter Allen, Pioneer Cold
- Bill Barrington, Pioneer Valley Growers Association, South Deerfield
- Eric Stocker, Squash, Inc., Belchertown

Food Servers and Sellers

- Jason Pacheco and Matt Perpetua, Baystate Health Systems, Springfield
- Pat Schewchup, Lindsay Pratola and Kevin Barry, Big Y, Springfield
- Elizabeth Martinez, Bistro les Gras, Northampton
- Joanne Lennon, Chicopee Public Schools, Chicopee
- Phillip Hillenbrand, Cucina Bottega, West Springfield

- Brent Menke, Farm Table, Bernardston
- Molly Feinstein, GoBerry, Northampton and Amherst
- Rochelle Prunty, River Valley Market, Northampton
- Bill O'Brien, Springfield Public Schools, Springfield
- Ken Toong, University of Massachusetts, Amherst

Food Waste Management

- Bill Obear, Bear Path Farm, Whately
- Lorenzo Macaluso, Center for Eco Technology, Northampton
- Eric Mathieu, Farmer's Friend, Belchertown
- Amy Donovan, Franklin County Solid Waste District, Greenfield
- Bob Martin, Martin's Farm Recycling, Greenfield
- John Fischer, Massachusetts Department of Environmental Protection, Waste Planning and Commercial Waste Reduction, Boston
- Peter Gaskill, Triple T Trucking, Brattleboro, VT

Local Food Organizations and Efforts

- Margaret Christie, Kelly Coleman, CISA (Community Involved in Sustaining Agriculture), South Deerfield
- Christa Drew, Massachusetts Food Policy Alliance
- Massachusetts Food Policy Council
- Ann Deres, Franklin Hampshire Career Center, Northampton
- Kelly Erwin, Massachusetts Farm to School Initiative, Amherst
- Catherine Ratte, Pioneer Valley Planning Commission, Springfield
- Fred Rose, Wellspring Initiative and University of Massachusetts, Amherst

Agricultural Worker Programs

- Carrie Love, Community Legal Aid, Pittsfield
- Marty Nathan, Farm Worker Clinic of Baystate Medical System, Springfield
- Jeannette Gordon, New England Farm Workers Council, Holyoke
- Daniel Ross, formerly of Nuestras Raices, Springfield (now of Wholesome Wave, Bridgeport, CT)
- Maria Cuerda, formerly of Western Massachusetts Legal Services

Appendix E: Methodology

Data collection was done through interviews as well as less structured conversations. Selection of businesses, organizations and individuals to be interviewed was done with assistance from key informants in the Pioneer Valley food system, particularly staff from CISA, the Franklin Hampshire Regional Employment Board and Career Center and PVGrows, as well as the Massachusetts Farm to School Initiative, the Massachusetts Food Policy Alliance and the Hampden County Regional Employment Board. The strategy for identifying potential interviewees placed a high priority on connecting with businesses and organizations in each of the five parts of the food system that had a high commitment to local food and/or local food system growth, that represented a spectrum of models and purposes, and that were innovating in some way.

Most interviews were conducted by telephone, although several were done on-site at the business or organization. Interviews followed a template for questions and also allowed for more wide ranging conversation. In some cases, follow up conversations, either by phone or email, were conducted for greater clarification. Some interviewees reviewed sections of the report.

The overall report was reviewed by staff from CISA and the Franklin Hampshire Regional Employment Board, as well as the Massachusetts Workforce Alliance.

The interviewer was also able to gain information about the Pioneer Valley food system, as well as food system development in Massachusetts and New England, through her participation as a Steering Committee member for PVGrows, as an advisory member for the Pioneer Valley Planning Commission's food security plan, attendance, both in person and via telephone, at Massachusetts Food Policy Alliance and Food Policy Council meetings and attendance at the 2011 NESAWG conference.

There were challenges in conducting the research including the timing of the research which began in March just as early spring conditions pushed growers to begin planting earlier than usual. Interviews continued throughout the summer and fall, prime time for growers and processors. Many of the individuals interviewed work outdoors and phone conversations and in-person interviews were sometimes conducted while the interviewee was standing in a field.