

Massachusetts Food Policy Council

White Paper on Education and Training

September 2018

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Executive Summary

The Massachusetts Food Policy Council deeply values education and training for food system workers and has prioritized this area in its recommendations for action based on the goals of the Massachusetts Local Food Action Plan. The Plan places considerable emphasis on education and training for food system workers including both future and current workers. Of the four overarching goals guiding the Plan, one focuses on this very priority. Goal #2 reads as follows: Create jobs and economic opportunity in food and farming, and improve the wages and skills of food system workers; and the discussion of it included in the plan goes on to prioritize training among other strategies. The Council's current focus is to support Massachusetts higher education, UMass Extension, and vocational technical schools to develop and offer appropriate curricula to meet food system needs. The Plan includes multiple sections focused on education and training for current and future farmers: the first Farming goal has this focus; there is a Workforce section in the Implementation part of the plan that covers education and training extensively; Appendix A has an analysis of education, training, and employment in the field; and Appendix B has a comprehensive listing of education and training resources across the Commonwealth. In addition, food processing and food safety are key areas of education and training addressed by the plan within multiple goal sections. These will be covered in greater detail in a white paper focused on regulation, but are also relevant to the education and training priorities discussed here. While there is much happening in Massachusetts in the world of food system education and training, there are still significant gaps between the operation of these programs and the vibrant food system workforce the Council would like to see. Challenges include a disconnect between educational programs and many food system employers, limited K-12 education about farming and food system careers, the need for continuous skill-building for current farmers and farm workers, insufficient funding for our core educational institutions, and a need for education geared towards new and underrepresented farmers.

Problem

Massachusetts is known as a state with a robust local food economy, including vibrant food production and processing across the state, a comprehensive network of farmers markets, and consumers eager to buy their groceries from their fellow residents. While on the consumer side, the food system is bustling, there are significant challenges on the production and processing side. Farmers and farm workers need access to more educational and training opportunities in order to keep up with technical innovations, evolving food safety regulations, climate change, and other 21st century challenges. In addition, food producers, as well as processors and distributors, find themselves at a loss when trying to find enough employees to hire who have at least some knowledge of the industry. Where there are educational and training opportunities for future farmers and food system workers, there may not be enough

communication between those institutions and employers for the transition to be completed. For new farmers or those in underrepresented groups, focused educational programming and business training may be needed in order to achieve a level of success that makes farming viable, or to make advancement within the field a likely possibility.

Recommendations and Current Initiatives

The Food Policy Council fully supports the recommendations put forward by the Local Food Action Plan in the areas of education and training. The recommendations focus on investing in UMass Extension (UME), expanding what vocational high schools and agricultural colleges have to offer, and making relevant training available to current farmers – especially those who are new to farming and/or from underserved populations. Specific recommended action steps related to education and training are included in Appendix B while goals and recommendations, primarily as connected to Food Policy Council presentations, are reviewed below.

Farming Goal 1: Farmers will be supported by a strong network of research, educational, and technical assistance.

Farming Recommendation 1.1: Rebuild UMass Extension's capacity to provide needed agricultural education and technical assistance.

Farming Recommendation 1.2: Focus UMass Extension's agricultural resources on meeting the most immediate informational and technical assistance needs of farmers and the public.

The strength and capacity of UMass Extension is a key focus of the Local Food Action Plan, and is a high priority area for the Food Policy Council. UME has been a tremendously important resource for farmers for generations, and has in fact, in the past, been the primary educational resource for the agricultural industry. Given the history, reach, and scientific grounding of this institution, it remains the best fit to take the lead on providing educational support to farmers in the Commonwealth. Two out of three recommendations under Farming Goal 1 in the Local Food Action Plan are focused on building the capacity of UME for the benefit of the local food system. Recommended action steps include those focused on diversifying and increasing revenue, expanding staffing, and deepening engagement with stakeholders. In addition, creating a permanent seat on the Food Policy Council for the Director of UMass Extension would ensure ongoing dialogue and potential action regarding both support for UMass Extension and assistance in focusing its efforts. Other relevant actions include encouraging collaborations, connecting with urban farmers and home gardeners, and ongoing examination and assessment of relevant educational needs of the state's food system. Please see Appendix B for detailed action steps and recommendations focused on UMass Extension.

Case Study: UMass Extension

UMass Extension staff conduct extensive applied research on the cutting-edge issues facing the agricultural and equine communities in order to be a comprehensive resource and help these

industries thrive in Massachusetts. At the September 15, 2017, Massachusetts Food Policy Council meeting, a panel of UMass Extension staff presented the state of UMass Extension today, emerging needs, and a specific request for support. Staff work in a range of areas from equine to dairy to greenhouse to vegetable and fruit farming to nutrition. Regulation is another area of considerable research and support, given recent changes in the area of food safety in particular. More on regulation and UMass Extension's educational role in implementing it can be found in the separate white paper on regulation that is forthcoming. Research into emerging pests, disease prevention and treatment, effects of climate change, and new breeds of fruit and vegetable crops are some of what UMass Extension can offer to farmers currently, and they have been quite useful in that area. Landscapers, arborists, and home gardeners have been able to engage the agency in supporting their efforts as well. To the extent that they are able, UME staff take the research they have conducted and bring it to farmers in the field. Due to declining funding, there has been less hands-on education available to farmers in recent decades. UME staff do present at conferences and create publications which both play an important role in spreading knowledge.

As mentioned above, however, there is much more potential for UME to have a significant impact on the agricultural industry's success. Staff are aware of the opportunities that exist for them to contribute to strengthening the Massachusetts food system, such as those laid out in the Local Food Action Plan, but currently do not have the financial support needed to turn those opportunities into realities. As Jody Jellison, Director of UMass Extension, discussed at the September 2017 Food Policy Council meeting, there has been a 25% decline in funding, and yet the need for UME's services only grows.

The most promising avenue for increasing funding to UMass Extension to address these issues is through legislative action that provides funds to a state agency, such as the Department of Agriculture (or in the case of Extension's programs beyond agriculture, other agencies such as Department of Transitional Assistance, Department of Public Health, or Department of Energy Resources), for the express purpose of contracting with UMass Extension to provide specific educational and applied research services for the benefit of the local food system. These targeted services could be overseen by the funding agency to ensure they are meeting the needs of farmers, food producers and others. The priorities for UMass Extension for such increased funding were expressed to the Food Policy Council during the first Education session on September 15, 2017. They are, in order of priority, three-year terms for additional extension specialists in integrated pest management, regulatory education, urban food systems education, and economic analysis and prioritization of food system needs.

Farming Recommendation 1.3: Develop and coordinate other educational, research, and technical assistance supports.

The third recommendation under Farming Goal 1 in the Local Food Action Plan addresses the educational resources provided by nonprofits, schools, business associations, and other entities beyond UMass Extension. These institutions are a vital complement to what is offered by UMass Extension, and they face emerging and growing needs, just as UME does. Vocational and

agricultural schools are a particular source of educational opportunities for high school students and can play a significant role in preparing future workers for careers in farming, food processing, food safety, and distribution. One such school presented at the May 2018 Food Policy Council meeting – Smith Vocational and Agricultural High School, located in Northampton.

Case Study: Smith Vocational and Agricultural High School

Smith Vocational and Agricultural High School is the oldest vocational school in Massachusetts. Serving students from across Hampshire County, it uses a “three ring model” of classroom and laboratory instruction, experiential learning, and leadership programs to develop tomorrow’s leaders in the agricultural field as well as others. According to the school’s website, its mission is to “prepare students for social responsibility, employment, and post-secondary education through rigorous, applied technical and academic programs.”

Two components of the school’s curriculum which were highlighted at the May Food Policy Council meeting are the Poultry Capstone Project and Supervised Agricultural Experience. Through the Poultry Capstone Project, students care for birds from when they are two days old until they are slaughtered. They create a small poultry business plan and when the time comes, they learn how to properly process the birds. They also work with students in the culinary arts program to prepare poultry-based meals. In the Supervised Agricultural Experience, the experiential learning arm of the curriculum, students engage in a range of educational activities including engine repair, timber harvesting, cheese-making, and profitability scoring. They are simultaneously trained in professionalism, agribusiness applications, and management skills. A strong work ethic is emphasized, as is preparation for further educational opportunities in the field. Some reported successes include a 2017 graduate who now raises, breeds, and sells his own dairy cattle, and a 2018 graduate who operates his own sap collection and maple processing business.

Students at the Smith School engage actively with the community by raising starter plants for gardeners in the community, teaching elementary school students, doing volunteer work for the community, and donating crops to the Northampton Food Bank. The two school departments that focus on agriculture are Animal Science and Agricultural Mechanics. Students are able to learn the biological sciences in relationship to farming as well as the mechanical side of the industry, and do hands-on projects in both areas. The working animal enterprises are located on 500 acres of land.

Workforce Development Goal 1: Massachusetts’ workforce development resources will meet the needs of food system workers and businesses.

Workforce Recommendation 1.4: Provide appropriate education and training for food system workers through modification, adaptation of existing resources, or development of new ones.

The Local Food Action Plan addresses both education and workforce development. There is a separate white paper on workforce development for the food system covering a range of recommendations and actions within the plan. However, there are also recommendations and actions in the Workforce Development section of the Action Plan that relate directly to education and training for farmers and food system workers. In addition to the critical role farmers play in the success of any local food system, there are many other food system workers who play a key role as well. Education for these workers is an important aspect of ensuring our food system continues to strengthen and meet the needs of the diverse populations across the Commonwealth. Food waste, food safety, food justice, farm-based education for young children, school gardens, and permaculture design are just some of the areas of food system development and change with which those coming into the workforce, or already in it, can engage. For a look at some educational opportunities in these fields, we turn to the Stockbridge School of Agriculture at UMass Amherst, staff of which presented several of their programs at the May 2018 Food Policy Council meeting.

Case Study: Stockbridge School

With the first graduates emerging from the school that would become Stockbridge School in 1871, the school has been providing both undergraduate and graduate degrees in the study of agriculture for generations. According to one of the presenting instructors at the May 2018 FPC meeting, students at Stockbridge primarily used to be youth who had been raised on farms – likely coming to Stockbridge to further their education with an intent to return home to their family farms or start new farms nearby. Now, she stated, the population has diversified quite a lot. New people are coming into the agricultural and food system field and want a formal education in a variety of subject areas. In addition to the core agricultural training offered by Stockbridge, education in other aspects of the food system is proving highly successful amongst its students.

Sarah Berquist, for example, of Stockbridge's Sustainable Food and Farming Program, leads the work in farm-based education. She teaches two courses in this area: Agricultural Leadership and Community Education. In addition to delving into the academic side of these topics, students get to work in partnership with Amherst Public Schools in the development and cultivation of school gardens. Catherine Sands teaches food justice and community food systems. She begins her courses with a look at structural racism, and engages with local food justice programs such as Nuestras Raices in Holyoke and Gardening the Community in Springfield to give students real-world experience with organizations fighting for food justice in underserved communities close to where they are studying. Staff and students engaged in Stockbridge's Permaculture Initiative have won an award and are doing important research in carbon farming – a strategy that could help address climate change. They are taking on a cutting-edge issue given that agriculture is one of the highest contributors to our changing climate and has the potential to provide critical solutions. Students also develop permaculture designs that look 100 years into the future in terms of their development and impact, and the strengthening of public speaking skills are built into the program as well.

Another 21st century priority in the food system is food recovery and preventing food waste. Stockbridge has an entire course focused on this important area of food system sustainability. Students explore the impact of food waste on the food system and investigate social and policy initiatives being used to address it. They engage in reflective practice, attend field trips to local institutions trying to address food waste, and interview producers, distributors and consumers. Community engagement is a core part of this course's curriculum. For example, students in this course analyzed the Franklin County House of Corrections' new Food Recovery Program, made suggestions for further development, and proposed new initiatives to complement that which was already under way.

Through these diverse opportunities at such a highly-acclaimed agricultural educational institution as Stockbridge, students interested in positively impacting the food system are exposed to a range of ways to do that, and get hands-on experience implementing the ideas which they are learning. There is great potential through these programs to provide the Commonwealth with professionals ready to take on key issues across the food system.

Workforce Recommendation 1.6: Develop career pathways and ensure workforce education and training initiatives are available and appropriate for all workers within the food system.

Workforce Recommendation 1.6 includes an action item focused on education and training for food system workers in a range of jobs that provide "pathways out of poverty" as well as another that is devoted to assessing education and training needs for entry-level food system workers. Two programs based in Eastern Massachusetts are focused on providing education and training for new farmers – especially those in underserved communities. New Entry Sustainable Farming Project works locally as well as nationwide providing training for new farmers, with a focus historically on serving immigrant farmers new to Massachusetts. Urban Farming Institute of Boston trains residents, especially those in Roxbury, Dorchester, and Mattapan, to become urban farmers.

Case Study: New Entry

New Entry Sustainable Farming Project's goal is to develop and support the next generation of farmers. Their priority is farmer training, with a special emphasis on getting new farmers established, including immigrant farmers. Their programming includes small business courses, access to rented land for new farmers, crop production courses, and the New Entry Food Hub multi-producer CSA which gives new farmers access to a market to grow their fledgling businesses. In recent years, New Entry's focus has been on developing the National Incubator Farm Training Initiative, which provides over 200 resources compiled from programs across the country to incubator farm projects seeking to train new farmers. They are also launching a federally registered national apprentice program, building off of their work with the National Ag Apprenticeship Learning Network. The organization is 100% self-funded with a budget of

approximately \$1.7 million. Its local work is currently focused on Eastern Massachusetts, and though they would be interested in serving farmers and farm workers statewide, it would require a significant increase in funding.

Case Study: Urban Farming Institute of Boston

Urban Farming Institute of Boston (UFI) was started in 2012 by local Boston residents who sought a way for community members to take charge of their local food system both by learning how to be urban farmers and by reclaiming unused urban land for the purposes of food production. They have graduated 5 cohorts – over 100 graduates – from their Urban Farmer Training Program since that time. The program gives local residents urban farming, small business, marketing and sales skills to be put to use as urban farmers or in other food-related businesses. It involves a 9-week classroom-based program for about 30 people each year, and an additional 20 week on-farm training program for 8-10 trainees who have shown particular promise, skill, and initiative. In addition, UFI founded the Urban Farming Conference which they co-hosted for the 6th time in March of 2018. Each year, hundreds of participants attend the conference to learn about urban farming, homesteading, and other urban food systems issues. UFI also hosts hundreds of volunteers each year of all ages, especially youth, to help with essential tasks on the farm while learning about food justice issues and production practices.

Conclusion

There are a diverse range of educational opportunities for farmers and food system workers in Massachusetts, as is visible in Appendix D: Food System Education and Training Resources Inventory. The case studies included in this white paper are only a sampling. They do, however, highlight some of the key areas of focus for the Food Policy Council. The Council has placed a high priority on the support of public institutions such as UMass Extension, vocational and agricultural schools, and higher education. These institutions are all doing vital work with limited resources, as the case studies above relay. However, for a truly thriving educational network for farmers and food system workers in the Commonwealth, increased financial investment will likely be needed. In addition, collaboration amongst various educational entities may allow for increased impact across our communities.

Appendices

Appendix A: Presenters at Food Policy Council Meetings on Education

Appendix B: Education-Related Goals, Recommendations, and Actions from MA Local Food Action Plan

Appendix C: Massachusetts Food Policy Council Members

Appendix D: Food System Education and Training Resources Inventory (from Massachusetts Local Food Action Plan)

Appendix A: Presenters at Food Policy Council Meetings on Education

Education 1: September 15, 2017

- Phil Korman, Executive Director, Community Involved in Sustaining Agriculture
- Jennifer Hashley, Director, New Entry Sustainable Farming Project
- Alex Risley Schroeder, Program Director, Massachusetts Workforce Alliance
- David J. Ferreira, Executive Director, Massachusetts Association of Vocational Administrators
- UMASS Extension Panel
 - Jody Jellison, Director, UMass Center for Agriculture, Food and the Environment and UMass Extension
 - Kathleen Carroll, Director, UMass Extension Agriculture and Landscape programs
 - Lisa Sullivan-Werner, Director, UMass Extension Nutrition Education Program
 - Kathy Cunningham, SNAP-Ed Multi-Level Specialist, UMass Extension Nutrition Education Program
 - Amanda Kinchla, Extension Assistant Professor, Food Science

Education 2: May 4, 2018

- Sarah Berquist, Lecturer and Advisor, UMass Stockbridge School of Agriculture, Sustainable Food and Farming Program
- Amanda Brown, Director, UMass Student Farming Enterprise Program
- Catherine Sands, Lecturer, UMass Stockbridge School of Agriculture
- Lisa DePiano, UMass Stockbridge School, Carbon Farming Initiative and Permaculture
- Angela Roell and Mary Bell, Lecturers, UMass Stockbridge School of Agriculture
- Liz Wills-O’Gilvie, Gardening in the Community
- Kyle Bostrom, Agricultural Mechanics, and Bethany Wilson, Animal Science Instructor and FFA Advisor, Smith Vocational and Agricultural High School, Northampton
- Abrah Dresdale, Educator, Facilitator, & Consultant, Greenfield Community College: Franklin County House of Corrections Program, College Social Permaculture & Food Justice
- Thomas M. Waskiewicz, Western Mass. Regional 4-H Educator, UMass Extension and Carrie Chickering-Sears, Director of Community Education in Animal Agriculture, UMass Extension
- Rochelle Bellin, Associate Director, Just Roots, Greenfield

Appendix B – Education-Related Goals, Recommendations, and Actions from MA Local Food Action Plan

Farming Goal 1: Farmers will be supported by a strong network of research, educational, and technical assistance.

Recommendation 1.1: Rebuild UMass Extension’s capacity to provide needed agricultural education and technical assistance.

Action 1.1.1: Develop UMass Extension advisory committees of stakeholder representatives to address topical issues, such as livestock, crops, nutrition, energy, pollinators, farm business planning, farm economics, and waste management. These committees would provide guidance on programming and budgets to help ensure that UMass Extension is responsive to the needs of community it serves.

Action 1.1.2: Identify, examine, and pursue a wide spectrum of potential and current revenue sources for UMass Extension that match the current and future needs of the food system in Massachusetts. Ensure that funds raised by UMass Extension from these sources does not result in a reduction in overall support from the University of Massachusetts.

Action 1.1.3: Fully fund the 2014 bond authorization that would support the UMass Center for Urban Sustainability in Waltham. Support the Center’s development as an Extension research and education resource for farmers of all types, as well as for homestead gardening and animal husbandry.

Action 1.1.4: Develop a plan to fully staff a revitalized UMass Extension service with community based educational specialists, campus-based faculty, training specialists in specific topics, economic development practitioners, and research and laboratory services.

Recommendation 1.2: Focus UMass Extension’s agricultural resources on meeting the most immediate informational and technical assistance needs of farmers and the public.

Action 1.2.1: Provide on-farm technical assistance from UMass Extension agents.

Action 1.2.2: Develop UMass Extension’s capacity to help farmers understand and respond to demands of new or revised regulations in a timely manner.

Action 1.2.3: Provide education on topics that are relevant to Massachusetts farmers, with a focus on learning to use new technologies and management practices, and meeting food safety requirements.

Action 1.2.4: Develop educational materials about science that is relevant to a range of topical farm management and operations practices, such as organic certification, genetically modified organisms (GMOs), alternative fuels, and others. These materials should address impacts on the environment, public health, and the economy. Assist farmers, retailers, and retail food chain workers in using these materials to educate consumers about these topics.

Action 1.2.5: Encourage UMass Extension collaborations with complementary programs in New England, Massachusetts, and subregions of the State.

Action 1.2.6: Solicit public and stakeholder input to assist Extension in developing plans for management of crops and animals that may be necessary to adapt to the effects of climate change.

Action 1.2.7: Offer Extension trainings and technical assistance to urban farmers on relevant topics.

Action 1.2.8: Support Extension research and development for crops including grapes, hops, grain, fruits (cider apples, for example), and other ingredients for distilled beverage products and other high growth food categories.

Action 1.2.9: Develop Extension resources and assistance for home gardening, food seasonality, selection, preparation, and preserving.

Action 1.2.10: Encourage and coordinate collaboration among other State Extension services and UMass Extension to reduce overlap, fill gaps in demand for technical assistance and training for farmers, and improve interstate cooperation.

Recommendation 1.3: Develop and coordinate other educational, research, and technical assistance supports.

Action 1.3.1: Create a network of education and technical service providers that includes government agencies, nonprofits, the UMass system and Extension, the MACC, technical high schools, other private and public educational institutions, regulators, and others, to ensure that the work of these groups is relevant to the needs of the farming sector, and to reduce redundancies and improve communication across sectors.

Action 1.3.2: Facilitate coordination among nonprofit service providers so that education and technical assistance offered is relevant to the contemporary challenges farmers face, and presented in ways that are accessible to a broad range of farmers, including next generation farmers and New American farmers.

Action 1.3.5: Increase funding and support for vocational and agricultural high school farmer training programs, as well as community college hands-on agricultural programs.

Workforce Development Goal 1: Massachusetts' workforce development resources will meet the needs of food system workers and businesses.

Recommendation 1.2: Collect, update, and disseminate information on education and training resources to employers and workers.

Action 1.2.1: Expand and update the inventory produced for this plan to develop a robust, up-to-date inventory of education and training resources for food system businesses and workers.

Recommendation 1.4: Provide appropriate education and training for food system workers through modification, adaptation of existing resources, or development of new ones.

Action 1.4.1: Analyze the availability of hands-on training in agricultural production at the vocational high school and community college levels. Determine what kinds of investment will best meet additional needs. Increase funding and support to meet needs.

Action 1.4.2: Assess capacity of existing, current agricultural production education, and training opportunities for youth in urban and rural areas. Determine if additional training is needed.

Action 1.4.3: Evaluate available culinary training through the K-12 and higher education systems, and determine applicability or adaptability for workforce development in food manufacturing.

Action 1.4.4: Assess the efficacy of existing manufacturing training programs and assess their alignment for potential expansion(s) in commercial food manufacturing. Adapt existing training or develop new food manufacturing training as industry need and assessment indicates.

Action 1.4.5: Analyze existing supply chain management training and education offerings to determine if they are sufficient to support food system expansion needs. Address insufficiencies as needed.

Action 1.4.6: Research the applicability and relevance of existing environmental science, basic biology, and STEM programming (focused on science, technology, engineering, and math) offered through the community college and State university system. Determine how it can better support the strengthening of the food system and the education of food system workers. Implement changes as determined.

Action 1.4.7: Determine if existing food service and nutrition education training resources provide sufficient capacity, and provide a better match to worker needs, to support expansion of the role of food service professionals to prepare and serve local food within public education settings.

Action 1.4.8: Assess and modify as necessary the outreach materials (newsletters, best practices publications, technical assistance, and other items) of UMass Extension and MDAR to ensure they are optimized to meet the needs of incumbent food system workers and professionals.

Recommendation 1.5: Explore and foster the development of formal apprenticeship programming in food system businesses.

Action 1.5.1: Work with the Massachusetts Division of Apprenticeship Standards and food businesses to assess applicability of apprenticeships to meet food system occupational training and staffing needs.

Recommendation 1.6: Develop career pathways and ensure workforce education and training initiatives are available and appropriate for all workers within the food system.

Action 1.6.2: Work with businesses and labor to target entry level food system workers in a wide variety of jobs (including farm workers, home health aides, school cafeteria workers, food servers, convenience and bodega store clerks, and others) for education and training that provides for pathways out of poverty and supports professional advancement.

Action 1.6.3: Regularly assess education and training needs to support professional development and advancement of workers, particularly entry-level workers in the food system. Form partnerships with food system employers to do so.

Appendix C: Massachusetts Food Policy Council Members

State Agency Members:

John Lebeaux, Commissioner, MDAR

Jay Ash, Secretary, Designee: Helena Fruscio, MEOHED

Dr. Monica Bharel, Commissioner, Designee: Lea Susan Ojamaa, MPH

Martin Suuberg, Commissioner, MDEP, Designee: Danah Tench

Jeff Riley, Commissioner, Designee: Robert Leshin, MESE

Jeff McCue, Commissioner, Designee: (to be named), MDTA

Legislative members:

Senator Anne Gobi

Representative Hannah Kane

Senator Ryan Fattman

Representative Steve Kulik

Industry Members (appointed by the Governor):

Anna Goldenheim, MD, MPH, Community based nutrition and public health

Jeff Cole, Executive Director, MA farmers markets, direct to consumer marketing

Eric Stocker, Food processor and distributor

Samuel S. Wong, PhD, REHS/RS, Local health department representative

John Lee, Allandale Farm, Farmer

Amanda Kinchla, M.S., Food Safety Extension Specialist, UMASS Amherst

John Waite, Food processor and handler

Staff: Bonita Oehlke, MDAR