

A close-up photograph of a person's hands kneading a ball of dough on a wooden surface. The hands are positioned in the foreground, with the dough being worked. In the background, several other balls of dough are visible, slightly out of focus. The lighting is warm and natural, highlighting the texture of the dough and the wood.

2021 -

**VERMONT AGRICULTURE &
FOOD SYSTEM STRATEGIC PLAN**

farm^{to}*plate*

2030

ABOUT THE VERMONT SUSTAINABLE JOBS FUND:

The Vermont Sustainable Jobs Fund (VSJF) was designated by the Vermont Legislature in 2009 to serve as the administrator of the Farm to Plate Investment Program, with the aim of strengthening Vermont's food system over ten years. In 2019, the Legislature reauthorized another ten years of the Farm to Plate Investment Program to:

1. Increase sustainable economic development and create jobs in Vermont's food and farm sector;
2. Improve soils, water, and resiliency of the working landscape in the face of climate change; and
3. Improve access to healthy local foods for all Vermonters.



ABOUT THE FARM TO PLATE NETWORK:

The Farm to Plate Network is comprised of farms, food production businesses, specialty food producers, educational institutions, nonprofit organizations, funders, capital providers, and government personnel. Our network approach develops strategic conversations and action across multiple sectors and perspectives to make systemic change that no organization can accomplish alone.



ABOUT THE VERMONT AGENCY OF AGRICULTURE, FOOD AND MARKETS:

The Vermont Agency of Agriculture, Food and Markets (VAAFAM) facilitates, supports, and encourages the growth and viability of agriculture in Vermont while protecting the working landscape, human health, animal health, plant health, consumers, and the environment. Currently with 138 staff across six divisions, VAAFAM helps to develop a safe, secure, ecologically responsive, profitable, and fair local foods system for Vermont and Vermont customers. VAAFAM's staff maintain a leadership position important to the evolving local, regional, and global food system, through regulatory compliance and enforcement, access to and the application of resources (human, financial, social, and environmental), policy development, and by supporting the creation of new markets and innovation opportunities.

Administration Division: 13 staff

Food Safety and Consumer Protection Division: 38 staff

Public Health and Agricultural Resource Management Division: 23 staff

Vermont Agriculture and Environmental Laboratory: 14 staff

Water Quality Division: 29 staff

The Agriculture Development Division (21 staff) provides technical assistance, business and financial planning, contacts, funding opportunities, and resources to help local agriculture and food businesses meet their goals. We strive to meet the needs of Vermont's agricultural community by improving agricultural business capacity, consumer awareness and access, and farmland stewardship through technical assistance, grant funding, promotional opportunities, and collaborative efforts.

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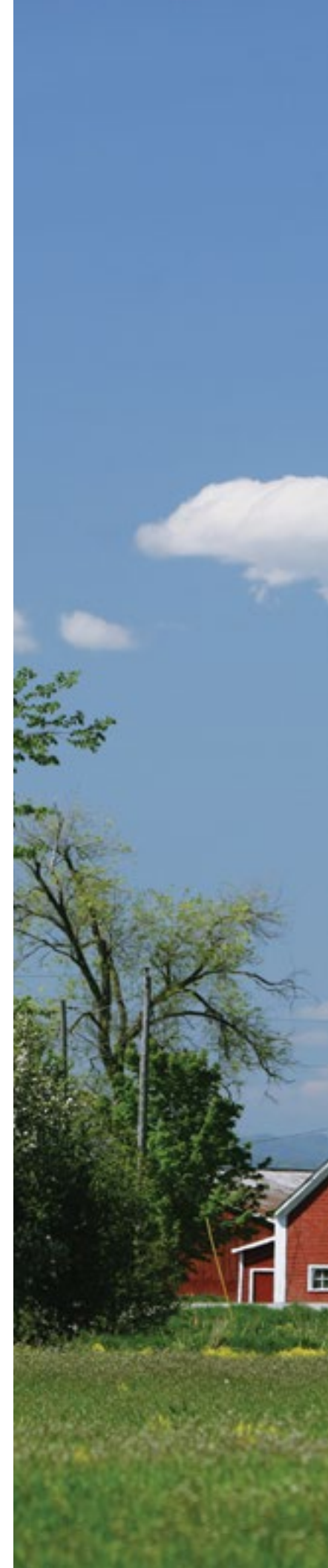


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We are on the land which has served as a site of meeting and exchange among indigenous peoples for thousands of years and is the home of the Western Abenaki People. The Farm to Plate Network honors, recognizes, and respects these peoples, especially the Abenaki, as the traditional stewards of the land and waters. In that spirit, we acknowledge that we are guests in this land. We need to respect and help protect the lands within our use. Those who will implement this Strategic Plan have a responsibility to help make this truth visible, to support efforts toward indigenous sovereignty and well-being, and to dismantle the legacies of colonialism here in Vermont.



ACKNOWLEDGMENTS

Strategic planning for the continued development of Vermont’s diverse food system must, by definition, involve the perspectives of those whose lives and livelihoods rely on that food system. This plan has been shaped by farmers, food entrepreneurs and workers, government personnel and elected officials, nonprofit organizations, technical and business assistance providers, educators, researchers, capital providers, and Vermont food consumers. Over 1,500 people, from all of these groups, contributed to the development of this plan over an 18-month period.

We are deeply grateful to the 52 lead authors and 111 expert contributors who created the 54 product, market, and issue briefs contained in the Supplemental Materials section of this document (pages 37–202), the 120 food producers and other food system professionals who participated in focus groups, as well as the 1,159 Vermont residents who contributed to a statewide survey on the future of Vermont’s agriculture and food system. Their knowledge, expertise, and passion for our food system built this plan and the action steps we will take together over the next ten years.

We would like to thank Governor Phil Scott and the 2019 Vermont General Assembly for reauthorizing the Farm to Plate Investment Program and providing the impetus for the Vermont Agriculture and Food System Strategic Plan 2021–2030.

Our deep gratitude is also extended to the 21 staff at the Vermont Agency of Agriculture, Food and Markets who wrote and/or reviewed the food system briefs and provided valuable insights and edits to the Strategic Plan.

Our biggest appreciation goes out to all of the farmers, food workers, and food entrepreneurs who work tirelessly to grow, raise, and create the food that graces our kitchen tables and nourishes us all. As the popular American Farmland Trust bumper sticker says, “No Farms, No Food.” For all you do every day, 365 days a year, rain or shine or snow, THANK YOU!





Introduction

Vermont's agriculture and food system has blossomed over the past decade. Vermont food is found across the state and region at farmers markets and cafeterias, on websites and grocery store shelves, and in restaurants and food pantries. Vermont's farm and food products now represent 13.9% of all in-state food purchases. The sights, tastes, and character of Vermont's farms also draw visitors from around the world. Dairy, maple, and apples continue to drive the agricultural economy, and Vermont farm products are increasingly available throughout the year. Cheese makers are creating a wider array of cheeses and working closely with dairy farms to do so. Our specialty food and beverage producers continue to win national and international prizes. These are just a few examples of how agriculture and food support Vermont's economic development and our quality of life.

The increase in farm and food sales, jobs, food businesses, and local food consumption between 2011-2020 is a result of the skills of Vermont food business owners and employees, and the effectiveness of statewide collaboration. In 2009 the Vermont Legislature tasked the Vermont Sustainable Jobs Fund (VSJF) with administering the Farm to Plate Investment Program (10 V.S.A. § 330), to "create a strategic plan for agricultural and food system development, which may be periodically reviewed and updated." The Farm to Plate Network formed in 2011, and set about implementing the first statewide Farm to Plate Strategic Plan. We came together out of a love for good food, strong communities, and our working landscape, to intentionally support the farmers, food entrepreneurs, and farm and food workers who provide nutritious, delicious food for us all.

FOOD SYSTEM GROWTH 2011-2020

Vermont's food system economic output **expanded 48%, from \$7.5 billion to \$11.3 billion**, which includes **\$3 billion (26.5%) from food manufacturing**—Vermont's second-largest manufacturing industry.¹

The food system **added 6,560 net new jobs** (11.3% increase).²

More than **64,000 Vermonters** were directly employed by over **11,500 farms and food-related businesses**.³

Local food purchases **rose from \$114 million (5%) to \$310 million (13.9%)** of the total \$2.2 billion spent on food in the state annually.⁴

Vermont farms sold **\$781 million** worth of products in 2017.⁵

Top Left: Abenaki elder Aunt Sarah in front of her "Aunt Sarah" cultivar sunflowers (*Helianthus annuus*), with a barely visible "Koas" cultivar cornfield in the background (ca. 1900). Photo credit: Seeds of Renewal Project.

Recognizing the success of the first Plan and the continued importance of agriculture and food to Vermont’s economy, environment, and culture, the Vermont Legislature and Governor Scott reauthorized the Farm to Plate Investment Program in 2019. The legislation directs the Farm to Plate Investment Program (Farm to Plate) to achieve the following outcomes by 2030:

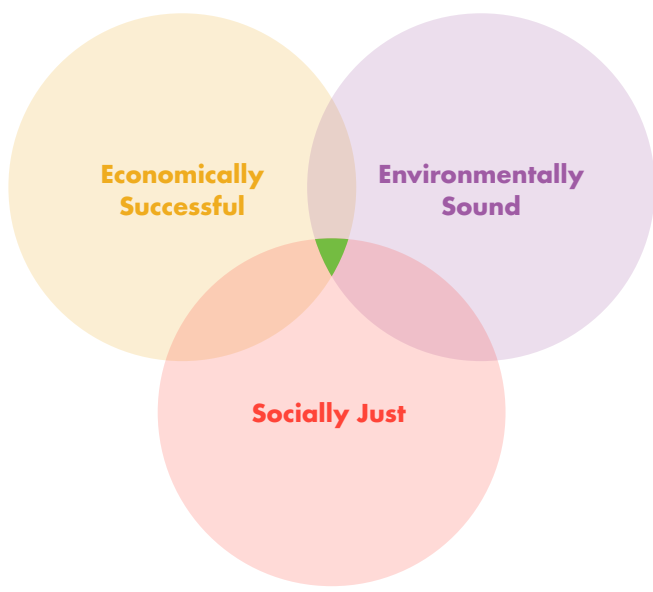
1. Increase sustainable economic development and create jobs in Vermont’s food and farm sector
2. Improve soils, water, and resiliency of the working landscape in the face of climate change
3. Improve access to healthy local foods for all Vermonters



Development pressure, a generational transfer of farm assets, changing consumer preferences and markets, income inequality, and food insecurity are informing and accelerating the need for strategic action. Vermont’s dairy industry—the foundation of our agricultural sector—is in a crisis brought on by sustained low milk prices. Ecological stressors are on the rise, as Vermont will face considerable disruption to the local food system and farm viability because of climate change, and the urgency of controlling nutrient runoff and improving water quality absorbs resources and time across the sector. The continued consolidation of grocery and distribution businesses makes it challenging for Vermont producers to expand out of the state and benefit from high-value sales outlets across the Northeast. Prior to the COVID-19 pandemic, one in ten Vermonters were food insecure, and many more, while officially food secure, were unable to afford or access local food. Explicitly redressing racial inequity and the historical disenfranchisement and exclusion of Black, Indigenous, People of Color (BIPOC) from business and land ownership is also essential to local food system development in the coming decade.

The challenges and opportunities we face require bold and decisive action. A thorough strategic planning process was necessary to create an effective new Strategic Plan to guide us through these challenges and achieve a sustainable food system.

THE DEFINITION OF SUSTAINABILITY



Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. It is development that achieves economic viability, environmental sustainability, and social equity and well-being.

There is much to celebrate and build upon in the coming decade. The resiliency of Vermont’s farms and food system during the COVID-19 pandemic is a clear example of the benefits of food system investment and support. Unfortunately, despite Vermont’s long history of agricultural production and the recognized strength of our food enterprises, a number of recurring and structural problems threaten the health of our food system.

THE DEVELOPMENT OF THE 2021–2030 STRATEGIC PLAN

In 2019, the Vermont Legislature, in [Act 83](#), “An Act Relating to Agricultural Development,” called for the Secretary of Agriculture, Food and Markets, in consultation with the Vermont Farm to Plate Investment Program and industry stakeholders, to deliver a report with recommendations to stabilize and revitalize Vermont’s agricultural industry. Legislators wished to explore additional opportunities to address the ongoing dairy crisis and other significant changes happening within Vermont’s agricultural and food sector, and to stimulate more rural economic development as well as

regional market access for Vermont products. The requested report, “Vermont Agriculture and Food System Plan: 2020 Part One,” submitted to the Legislature in January 2020, was also the starting point for the 2021–2030 strategic planning process.

The components of the 2021–2030 Strategic Plan are derived from the knowledge, insights, and expertise of over 1,500 dedicated and passionate food system professionals and Vermont residents. VSJF and VAAFM enlisted 52 subject matter experts to author 54 food system briefs assessing the current conditions of the Vermont food system, and these authors worked with an additional 111 contributing experts. The briefs examine the bottlenecks, gaps, and opportunities for specific products, markets, and food system issues, and recommend strategies to advance them. The briefs are located in the Supplemental Materials section of the Plan, and their recommended strategies are the basis for action over the next ten years.

The briefs provided a framework for robust conversations, stakeholder focus groups, and surveys to inform the Strategic Plan. During three annual Farm to Plate Network Gatherings, 13 industry focus groups, and Network and organizational leadership meetings, food producers and industry experts determined the vision, goals, and objectives to guide us to 2030. Over 1,100 Vermont residents also provided their values, hopes, concerns, and vision for the Vermont food system through a public survey.



INVESTING IN OUR FOOD SYSTEM'S FUTURE

The strategic planning process confirmed that Vermont’s residents and elected officials value our agriculture and food system. It affirmed that Vermont’s renowned agricultural innovation and leadership can be brought to bear on the challenges of 21st century food production—but farmers and food business owners will need consistent support as they lead the way on sustainable economic growth, resiliency, and food access for all. The Strategic Plan contains the goals,

objectives, and strategies to provide that support, and selected themes are previewed here.

The Plan confirms the need to prioritize our agricultural land base, infrastructure, and food security in order to increase Vermont farm and food system resilience to the impacts of climate change. Bolstering short and reliable regional food supply chains will reduce our exposure to global food system disruptions, and meet the needs of our most vulnerable communities. Additional training, education, financial support, and research will help farmers and food entrepreneurs adapt.



The Plan identifies promising opportunities for business development and diversification across food system enterprises, and recommends strategies to enable farmers and entrepreneurs to pursue them. Research and development is needed, for example, to improve product quality, develop crop varieties and genetic stock adapted to Vermont’s climate, and explore new value-added products which entrepreneurs can then commercialize. Farm businesses seeking to diversify or transition to new enterprises, and emergent industries looking to grow (e.g., grass-fed beef, cheese-quality milk, food-grade grains), will also need more technical assistance, processing facilities, shared marketing, etc., in order to succeed. The Plan estimates an additional 33 full-time personnel are needed to provide the identified business and technical assistance support.

There is universal agreement that support for food and farm businesses must be coupled with funding and policy to enable low-income consumers to access this local food. Recommended actions to this end include funding for the charitable food system to purchase local products (e.g., Vermonters Feeding Vermonters), programs that supplement 3SquaresVT (e.g., Crop Cash), models such as produce prescription programs, and more.

Public policy that supports new and existing agricultural and food enterprises, protects our agricultural and water resources, improves food access, and expands the reach of our statewide food system is also needed and addressed in detail in the [Priority Strategies](#) as well as the briefs. The Plan

also makes clear that expanding cross-sector collaborations (e.g., with the health care sector) will be crucial to meeting our objectives.

In total, the Plan estimates that additional public (federal and state) and philanthropic investment is needed over the next ten years: approximately \$9.7 million in one-time funding and \$23.3 million in recurring funding. This level of funding will ensure sufficient land access and conservation, climate resilience, food security, infrastructure investments, regional market development, and workforce development to meet the growing needs of the sector. This funding will also support the necessary personnel who can provide high-quality business assistance, marketing support, regulatory capacity, product research and development, grant programs, and farmer-to-farmer educational opportunities. Public and early stage philanthropic funding will also stimulate additional private sector investment.



If we successfully implement the recommended investments, policies, and coordinated cross-sector strategies over the coming decade, we will achieve our goals. Now is the time to come together to ensure our collective food security in the face of climate change, strengthen our agricultural economy and working landscape, and provide healthy local food for all Vermonters.

FOOTNOTES

1. Kavet, Rockler & Associates, *The Vermont Farming, Food Production, and Food Distribution Industries, 2020 Update*, April 2020
2. Bureau of Labor Statistics (2019), *U.S. Bureau Nonemployer Statistics (2019)*, and *U.S. Census of Agriculture (2017)*
3. *Ibid*
4. *2017 Vermont Farm to Plate Local Food Counts*
5. *U.S. Census of Agriculture, 2017*



UNDERSTANDING THE PLAN

The Plan starts with a vision statement articulating our desired future, and then outlines, with increasing specificity, how we will achieve that future—from goals, to objectives, to priority strategies.

The Vision describes the Vermont agriculture and food system we are striving to create. It emphasizes human well-being, environmental sustainability, equity, trust, collaboration, and ingenuity.

The Strategic Goals express the conditions we will create in the food system by 2030.

Objectives measure our progress toward each goal. Objectives help us answer the question, “How do you know if the goal has been accomplished?” Objectives by themselves are not an indicator of whether the goal has been accomplished, nor do they tell the whole story. Rather, in aggregate they give us a starting point to evaluate our progress over time.

Priority Strategies are the recommended programs, investments, and policies which will lead us to meet our objectives and reach our goals. In most cases, the priority strategies are a distillation of interrelated recommendations from the food system briefs.

The Supplemental Materials include the 54 food system product, market, and issue briefs. The briefs contain specific recommended action steps to guide food system development in the next decade.





Our Vision for Vermont's Food System in 2030

Vermont's agriculture and food system will be defined by human well-being, environmental sustainability, equity, trust, collaboration, and ingenuity. It will be based on Vermont agricultural traditions of hard work, self-determination, and neighbor helping neighbor. Farms and food businesses of all sizes will thrive across Vermont, serving our state and region with a diversity of products sold everywhere from local farmers markets and restaurants to school cafeterias and grocery store shelves across the Northeast.



Access to land, infrastructure, education, capital, and technical assistance will be sufficient and equitable, so future generations of farmers and food entrepreneurs can build on the strengths of the past as they bring forward new energy and ideas. All of those who produce, process, sell, and distribute our food will feel at home in Vermont, earn livable wages, and have an economically secure quality of life.



We envision a working landscape where agricultural soils are protected and respected for their ability to sustain us in good times and hard times, in which farming and food production generate clean water, clean air, healthy soils, and ecological diversity. All Vermont residents will share responsibility for reducing food waste and managing nutrients for highest and best use. Agricultural stewardship that builds resilience and benefits communities will be publicly recognized and rewarded, cultivating deep appreciation for our farmland, farmers, and food producers. Connection to a sustainable food system will help our rural and urban areas work in concert to adapt to the changing climate.

We envision a food system in which there are no social, cultural, or infrastructure barriers to obtaining and enjoying local food. All Vermont residents will be well-nourished, and have easy access to healthy and culturally appropriate food. Race, age, gender, ethnic heritage, birthplace, and formal education will not determine who can participate in the food system, from owning a food system business to enjoying the fruits of the land. Vermont's food system will belong to us all.







Vermont Agriculture and Food System Strategic Goals

Fifteen strategic goals articulate the results we will achieve by 2030, in service to the Vermont Legislature’s intended outcomes for the Vermont Farm to Plate Investment Program:

1. Increase sustainable economic development and create jobs in Vermont’s food and farm sector
2. Improve soils, water, and resiliency of the working landscape in the face of climate change
3. Improve access to healthy local foods for all Vermonters

The 15 statewide food system strategic goals are first presented together, and then each goal is presented with its objectives, the measurable improvements that represent progress and will be tracked over time to indicate the degree to which the goal has been accomplished. Some objectives already contain known targets, while other objectives require additional work to establish baselines and set specific improvement targets. The objectives will inform the actions to be taken by the Farm to Plate Network, policy makers, state agencies, and others, and will hold us all accountable to achieving our intended goals. However, they do not tell the whole story about progress toward our goals, and the absence of data should not be used to dismiss individual experiences or delay taking action on an issue. We include one data visualization per goal, with sources listed on page 27. Additional data visualizations will be available on the Farm to Plate website as they are developed. Please note that the goals are not in priority order.

GOAL CATEGORIES

Goals are divided into four categories. The first three correspond with the three legislative outcomes. The fourth is our commitment to racial equity.

- Sustainable Economic Development
- Environmental Sustainability
- Healthy Local Food for All Vermonters
- Racial Equity

SUSTAINABLE ECONOMIC DEVELOPMENT GOALS

- 1. Food system economic output, employment, and establishments in Vermont will increase.**
- 2. Demand for Vermont food will increase.**
- 3. Vermont's production portfolio is more diverse, farm and food businesses of all types will increase their economic viability, and businesses have equitable access to capital and to production, processing, aggregation, and distribution infrastructure appropriate to their needs.**
- 4. Vermont food system jobs provide livable wages, safe, healthy, and supportive workplace conditions, and access to health care and other benefits.**
- 5. Vermont farms and food system businesses have sufficient, diverse, and reliable employees, and there are accessible and equitable opportunities in Vermont to gain the knowledge and skills for food system careers.**

ENVIRONMENTAL SUSTAINABILITY GOALS

- 6. Vermont farm and food businesses will increase carbon sequestration and reduce food system-related greenhouse gas emissions, and are able to adapt to climatic changes due to global warming, including floods, droughts, extreme storms, and pest and disease pressures.**
- 7. Vermont farm stewardship is increasing ecological diversity and improving soil and water quality, and farm stewards are supported, compensated, and recognized for their positive contributions to the environment and public good.**
- 8. Vermont's agricultural land remains in productive agricultural use, access to that land is more affordable and equitable, and land-use planning decisions maintain and promote a strong and viable food system.**
- 9. Edible food, food scraps, and other food residuals are used for their highest purpose, and not considered waste.**

HEALTHY LOCAL FOOD FOR ALL VERMONTERS GOALS

- 10. The amount of Vermont-grown food that fulfills the dietary and cultural needs of people in Vermont will increase.**
- 11. All people in Vermont increasingly have the financial resources to access local food, including through programs that provide support for purchasing local food.**
- 12. All people in Vermont are able to access locations in which local food is sold, served, or provided.**
- 13. All people in Vermont can access the knowledge, skills, and resources to select, grow, hunt, fish, forage, process, store, and prepare local food.**
- 14. Vermont's food system is resilient and able to provide adequate and accessible healthy local food in the face of emergencies—including climate-related natural disasters.**

RACIAL EQUITY GOAL

- 15. Food system organizations and stakeholders prioritize racial equity and actions to eradicate structural racism in their work, are accountable to Black, Indigenous, People of Color (BIPOC) leadership, and support BIPOC participation and representation.**

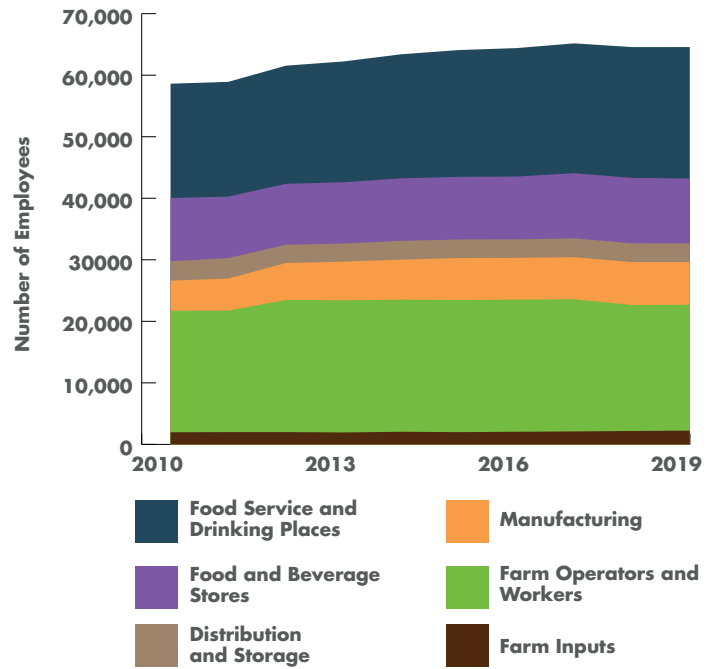
GOAL 1: Food system economic output, employment, and establishments in Vermont will increase.

OBJECTIVES:

- Food system economic output will increase by \$3 billion (a 26.5% increase) by 2030.
- There will be 5,000 net new food sector jobs by 2030.
- There will be 350 net new farm and food establishments in Vermont by 2030.
- The number of farm and food businesses with either employee ownership and/or cooperative ownership will increase.

EXAMPLE INDICATOR:

Vermont Food System Employment



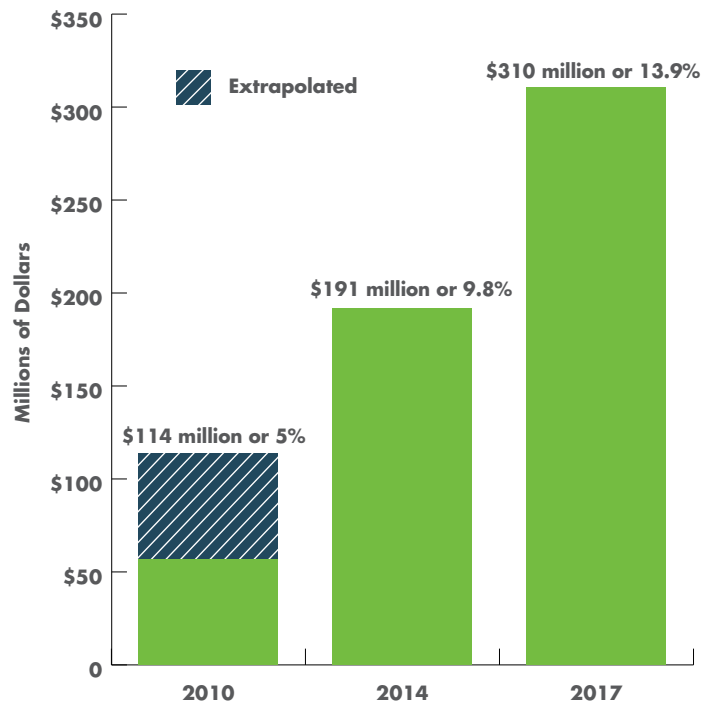
GOAL 2: Demand for Vermont food will increase.

OBJECTIVES:

- By 2030, Vermont food products will be 25% of all in-state food purchases, by dollar value.
- By 2030, the aggregate total of Vermont products sold in the Northeast will increase, by dollar value.
- In-state sales will increase for each product category (e.g., dairy, meat, produce, grain).
- Vermont product sales will increase for each market channel within Vermont.
- Vermont value-added food producers, in aggregate, will increase their total purchases of Vermont ingredients.

EXAMPLE INDICATOR:

Total Local Food Sales in Vermont



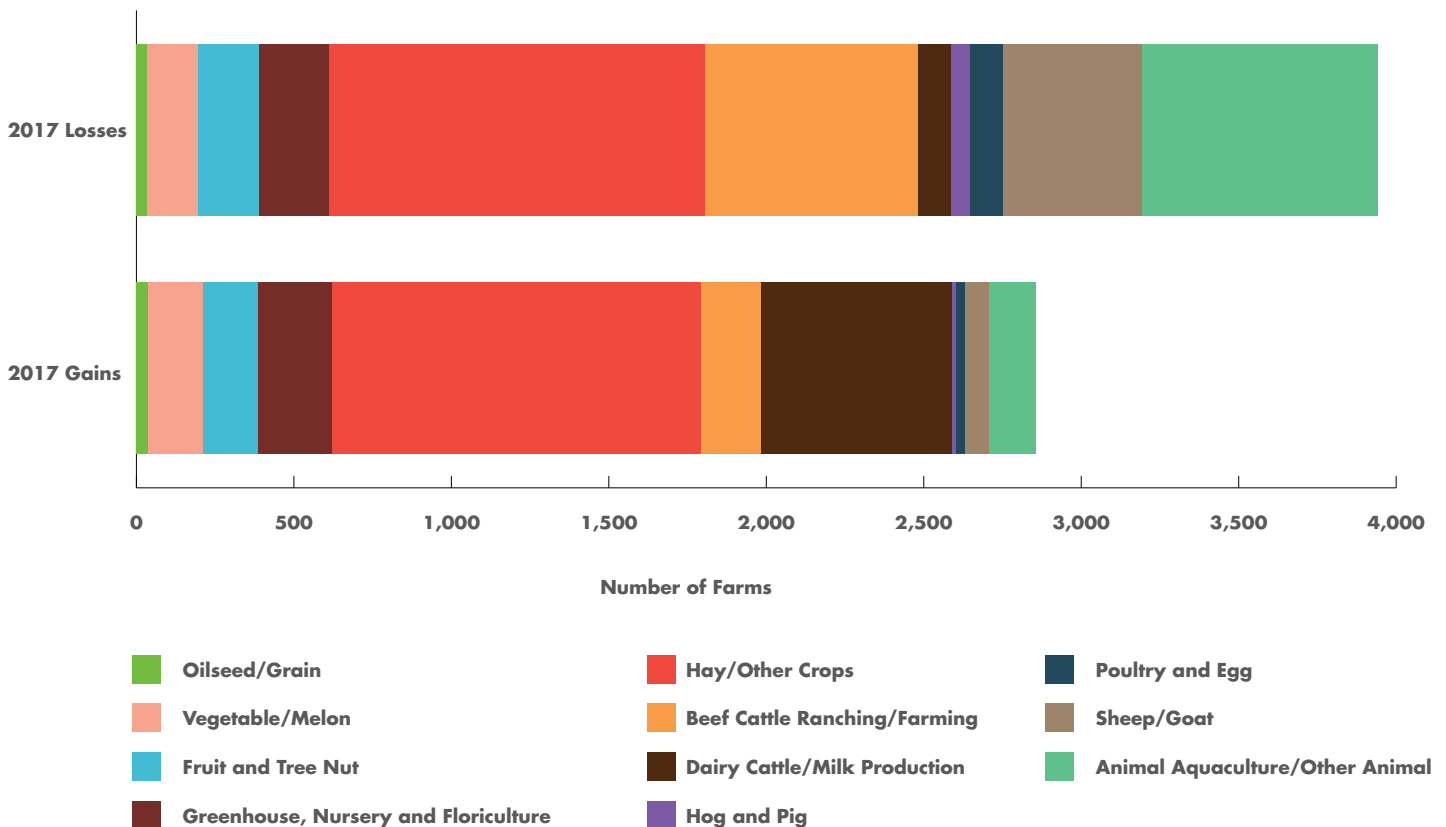
GOAL 3: Vermont’s production portfolio is more diverse, farm and food businesses of all types will increase their economic viability, and businesses have equitable access to capital and to production, processing, aggregation, and distribution infrastructure appropriate to their needs.

OBJECTIVES:

- Aggregate sales of all Vermont products will increase by \$100 million.
- Sales of certified organic Vermont products will increase by 20%.
- The market value of cow dairy farms reporting sales between \$100,000–\$999,999 will increase.
- At least 51% of all Vermont farms will report positive net farm income.
- The total economic output of value-added dairy processing businesses will increase by 10%.
- The number of dairy processing facilities will increase by 10%.
- The total combined throughput capacity of Vermont state- and USDA-inspected slaughter and meat processing facilities will increase 25% by 2030.
- The percentage of farm and food businesses reporting sufficient access to shared-use and/or co-packing facilities will increase.
- The percentage of farm and food businesses who report sufficient access to freight, food hubs, and wholesale distribution services will increase.
- The number of business and technical assistance providers available to support farm and food businesses will increase by 33.
- The amount of financial capital made available annually to farm and food businesses will increase.
- Data points and ways to measure racial equity in relation to access to capital, state and federal funding, and philanthropic funding will be identified and created, under BIPOC leadership.
- The number of farms and food businesses reporting that state regulations are scale-appropriate will increase.

EXAMPLE INDICATOR:

Vermont Farms with Net Gains/Net Losses, 2017



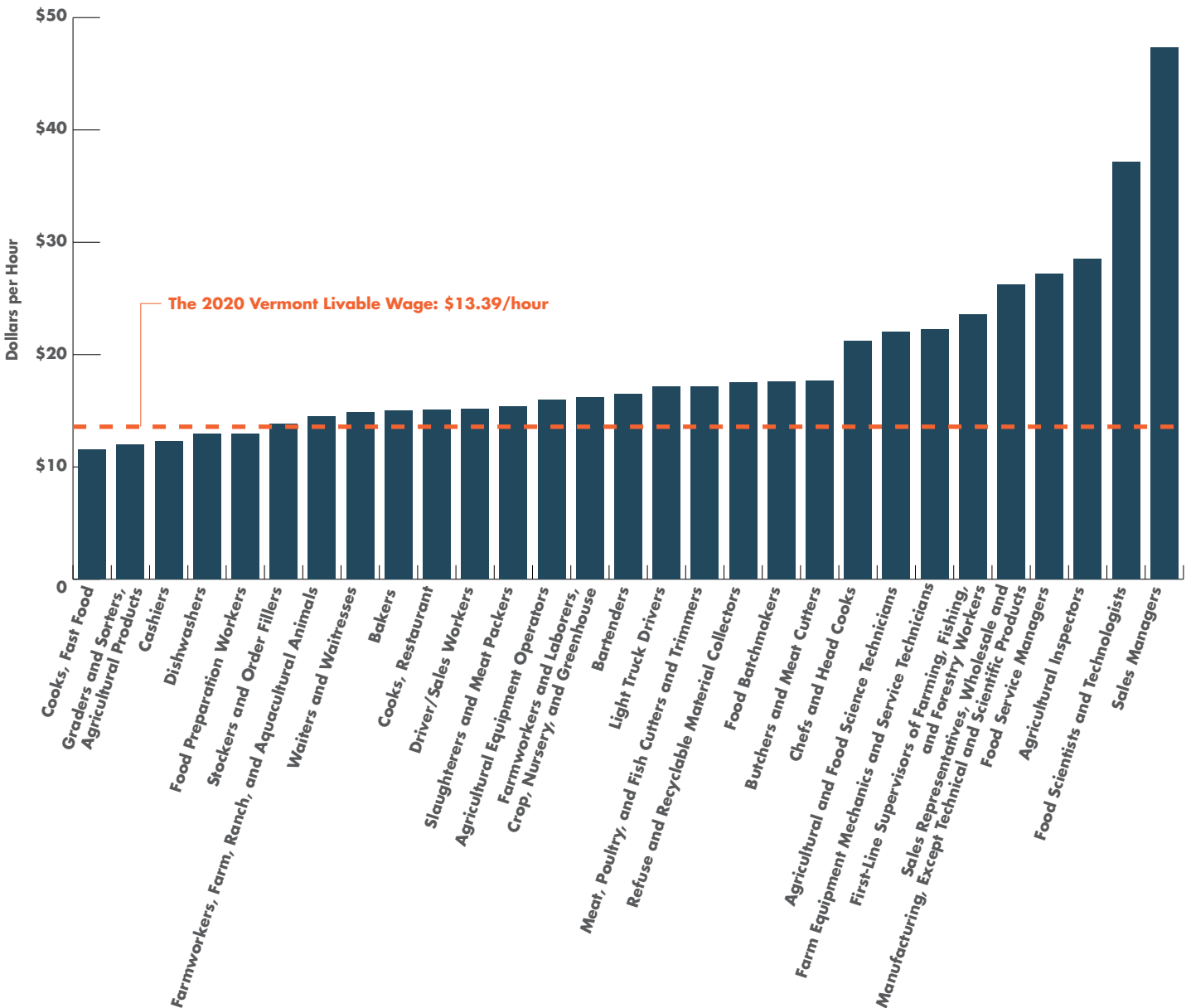
GOAL 4: Vermont food system jobs provide livable wages, safe, healthy, and supportive workplace conditions, and access to health care and other benefits.

OBJECTIVES:

- Median wages for all job categories in the food system will, at minimum, match the Vermont Livable Wage.
- The number of farmers reporting farming as their primary occupation will increase.
- An assessment tool for farm and food workplace benefit availability will be created.
- The number of farm and food enterprises with Vermont Occupational Safety and Health Agency (VOSHA) violations will decrease.
- Data points and ways to measure racial equity in relation to wages and safe, healthy, and supportive workplaces will be identified and created, under BIPOC leadership.
- An assessment tool for fair treatment of food system employees, including those without resident status, will be created.

EXAMPLE INDICATOR:

Median Hourly Wage for Select Food System Careers, Vermont, 2019



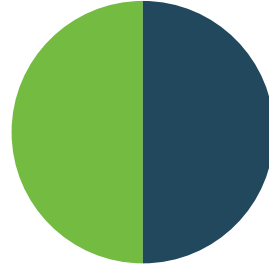
GOAL 5: Vermont farms and food system businesses have sufficient, diverse, and reliable employees, and there are accessible and equitable opportunities in Vermont to gain the knowledge and skills for food system careers.

OBJECTIVES:

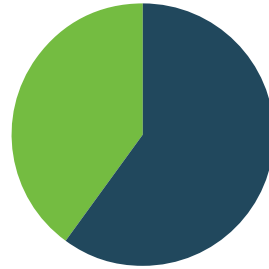
- The number of food system employers who report labor shortages will decrease.
- The number of K-12 schools offering food system-related curriculum and/or career information will increase.
- The percentage of graduates from Career & Technical Education agricultural, natural resource, and culinary programs who are employed or enrolled in further study in their field will increase.
- The percentage of graduates from Vermont’s postsecondary food and agricultural education programs employed in Vermont’s food system will increase.
- The number of students enrolled in food system-related licensed apprenticeship, certificate, and stackable credential programs will increase.

EXAMPLE INDICATOR:

Labor Shortages in Vermont Food System



50%
of large food system employers say hiring challenges hold back their businesses.



40%
of small food system employers say hiring challenges hold back their businesses.

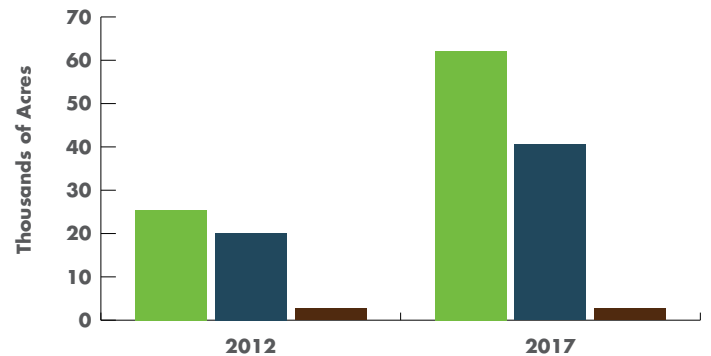
GOAL 6: Vermont farm and food businesses will increase carbon sequestration and reduce food system-related greenhouse gas emissions, and are able to adapt to climatic changes due to global warming, including floods, droughts, extreme storms, and pest and disease pressures.

OBJECTIVES:

- Investment in climate-related research, and adaptive practices, programs, and infrastructure will increase.
- The total acreage in adaptive conservation practices will increase by 35%.
- Aggregate greenhouse gas emissions from agriculture will decrease by 15%.
- Aggregate greenhouse gas emissions from non-farm food enterprises will decrease.

EXAMPLE INDICATOR:

Vermont Farm Acreage Under Select Conservation Practices



- No-Till or Reduced Tillage
- Cover Cropping (Excluding CRP)
- Enrolled in Conservation Reserve (CRP), Wetlands Reserve, Farmable Wetlands, or Conservation Reserve Enhancement Programs

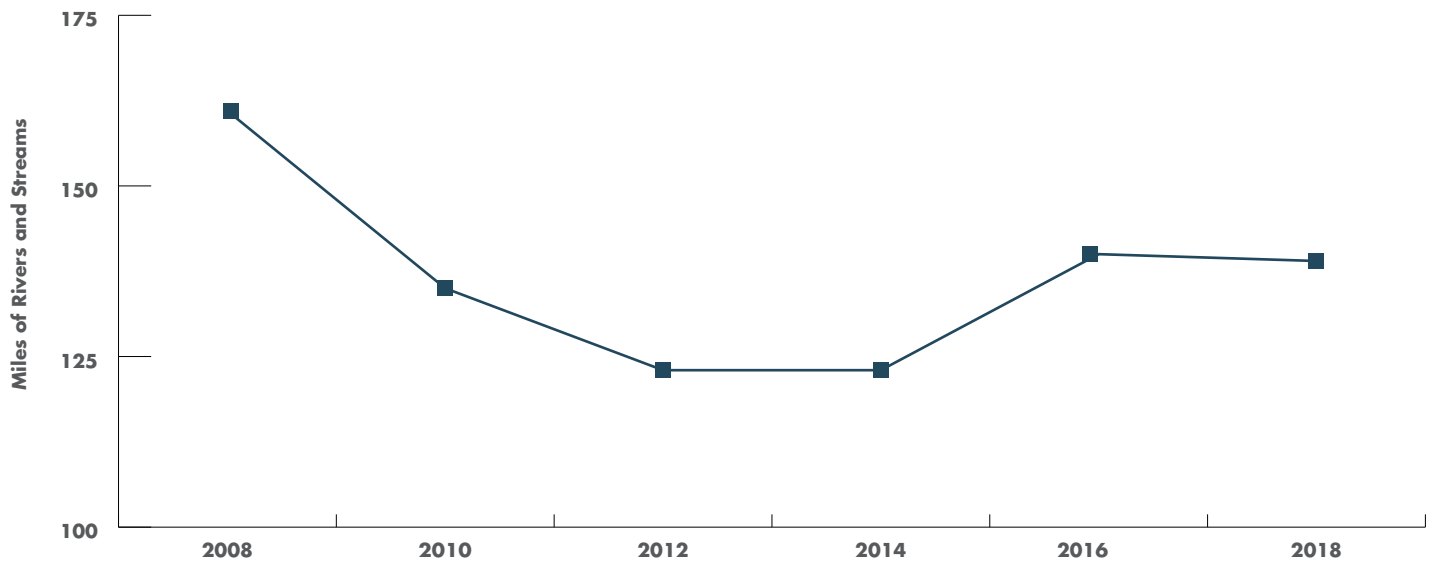
GOAL 7: Vermont farm stewardship is increasing ecological diversity and improving soil and water quality, and farm stewards are supported, compensated, and recognized for their positive contributions to the environment and public good.

OBJECTIVES:

- The Lake Champlain Total Maximum Daily Load (TMDL) goals for agricultural pollutants will be met.
- River and stream miles impaired or altered by agriculture will decrease by 20%.
- A statewide soil health database and monitoring program will be established.
- At least 95% of Vermont’s federal appropriation for Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program (CSP) will be obligated each year.
- The pounds of pesticides used per year will decrease by 20%.
- The total acreage and number of farms enrolled in the Vermont Environmental Stewardship Program will increase.
- Vermont will establish a Payment for Ecosystem Services (PES) program or join a regional PES program.
- The percentage of Vermont residents reporting that agriculture has a positive impact on environmental quality will increase.
- Vermont will establish a baseline measurement of carbon sequestered on farmland.
- The number of farms utilizing state water quality programs intended to expand nutrient and manure management practice implementation will increase.

EXAMPLE INDICATOR:

Miles of Vermont Rivers and Streams Impaired or Altered by Agriculture



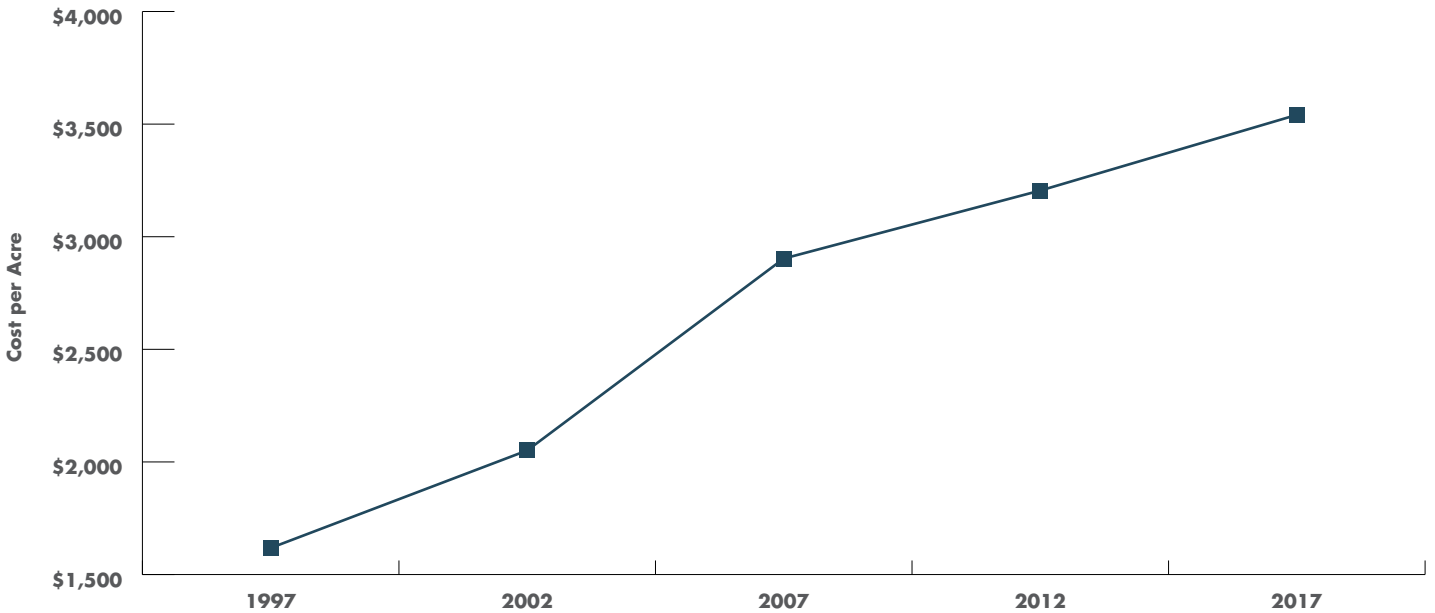
GOAL 8: Vermont’s agricultural land remains in productive agricultural use, access to that land is more affordable and equitable, and land-use planning decisions maintain and promote a strong and viable food system.

OBJECTIVES:

- Total acres of conserved farmland will increase by 30,000 acres.
- The total acreage of actively farmed prime agricultural soils and soils of statewide significance will be maintained or increase.
- The per acre cost of agricultural land will stabilize or increase no more than 10% by 2030.
- The percentage of beginning farmers in Vermont reporting farmland is affordable will increase.
- The number of farmers utilizing the Vermont Land Trust’s Farmland Access Program and other land access-oriented programs will increase.
- Data points and ways to measure racial equity in relation to farmland access and land-use planning decisions will be identified and created, under BIPOC leadership.
- By 2030 the total area of farmland converted to urban and highly developed (UHD) land use and/or low-density residential (LDR) will not exceed 5,000 acres.

EXAMPLE INDICATOR:

Average Market Value per Acre of Vermont Farms’ Land and Buildings



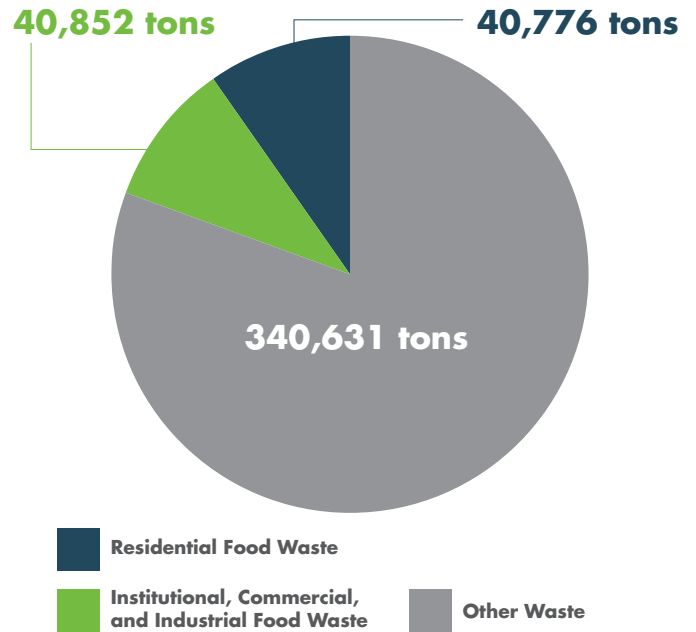
GOAL 9: Edible food, food scraps, and other food residuals are used for their highest purpose, and not considered waste.

OBJECTIVES:

- At least 90% of produce grown in Vermont is sold or donated.
- Food rescued from Vermont farms, processors, distributors, and retailers will increase.
- The pounds per capita of food waste disposed of by Vermont households and commercial businesses will decrease by 55%.
- At least 90% of household food waste will be diverted from the solid waste stream.
- At least 75% of Vermont residents will report that composting or managing food scraps is easy.
- Vermont’s capacity for food recovery, composting, and anaerobic digestion will increase by 46,000 tons.

EXAMPLE INDICATOR:

Volume of Food Waste Disposed of in Vermont Landfills in 2018



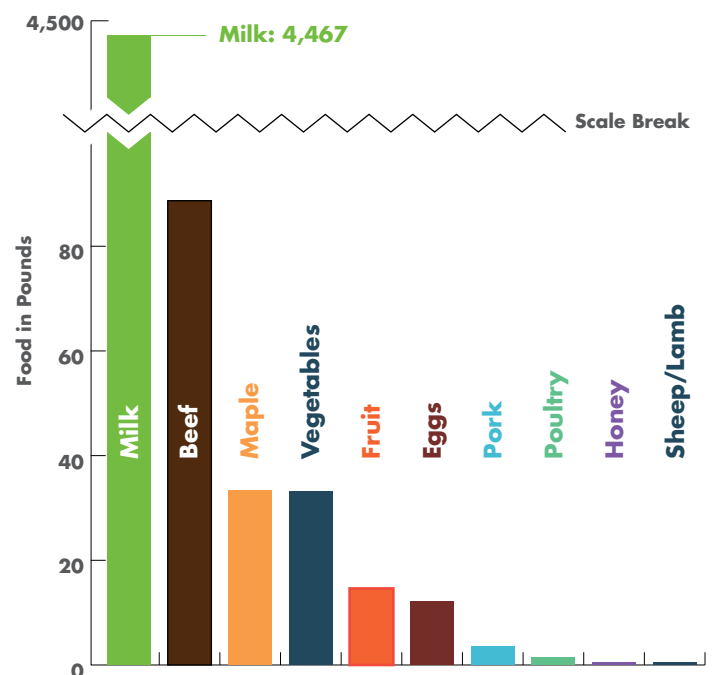
GOAL 10: The amount of Vermont-grown food that fulfills the dietary and cultural needs of people in Vermont will increase.

OBJECTIVES:

- Vermont will produce an increasing amount of food that fulfills the nutritional needs of people in Vermont.
- Diverse cultural groups in Vermont will increasingly report that their food needs are met by Vermont producers.

EXAMPLE INDICATOR:

Pounds of Food Per Capita Produced in Vermont, 2018



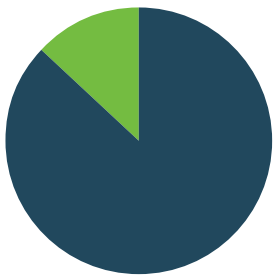
GOAL 11: All people in Vermont increasingly have the financial resources to access local food, including through programs that provide support for purchasing local food.

OBJECTIVES:

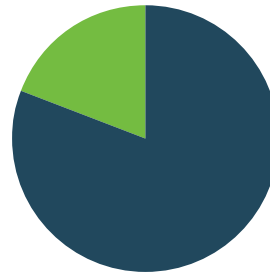
- The number of Vermonters earning a livable wage will increase.
- At least 98% of Vermonters will report buying food directly from farmers or buying local food at a retail store or restaurant within the past year.
- Funding for supplemental support programs that provide access to local food (including 3SquaresVT and Health Care Shares, etc.) will increase.
- At least 85% of the benefits made available through Farm to Family and Crop Cash will be utilized, by dollar amount.
- An increasing percentage of those eligible for supplemental support programs in the state will be enrolled.
- Data points and ways to measure racial equity in relation to food access programs and their utilization and efficacy will be identified and created, under BIPOC leadership.

EXAMPLE INDICATOR:

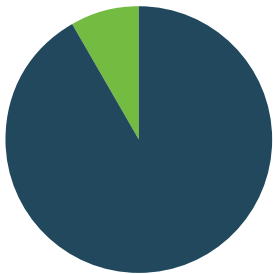
Percent of Vermonters that Have Purchased Local Food in the Past Year



87%
bought local food directly from a farm, farm stand, CSA or farmers market.



81%
bought local food at a restaurant.



92%
bought local food at a grocery store or supermarket.

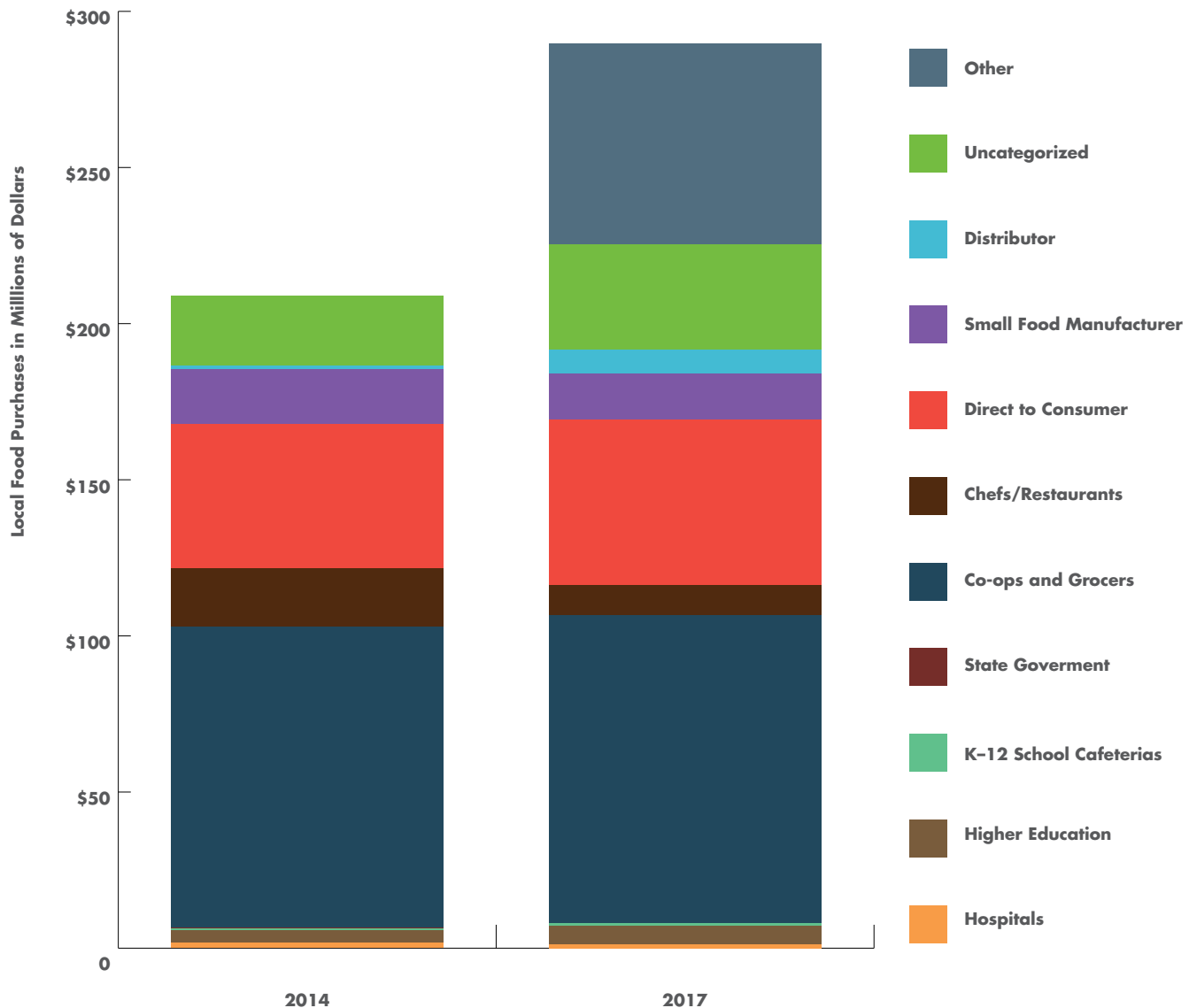
GOAL 12: All people in Vermont are able to access locations in which local food is sold, served, or provided.

OBJECTIVES:

- The number of retail grocers selling local food will increase.
- An increasing percentage of retail locations which accept 3SquaresVT will stock adequate healthy food to serve as a primary food source.
- The percentage of farmers markets and other direct sales venues that accept 3SquaresVT will increase.
- An increasing percentage of Vermont households without access to a car will live within half a mile of a retail market and/or within half a mile of public transportation.
- An increasing percentage of Vermont residents will live within ten miles of a retail market.
- Local food will be available at all food shelves and other charitable food outlets.
- At least 50% of K-12 schools will spend 20% of their food budget on local food.
- The percentage of state colleges which spend at least 20% of their food budget on local food will increase.

EXAMPLE INDICATOR:

Breakdown of Where Local Food is Purchased in Vermont



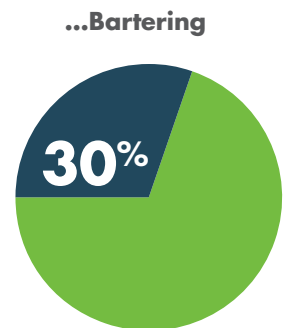
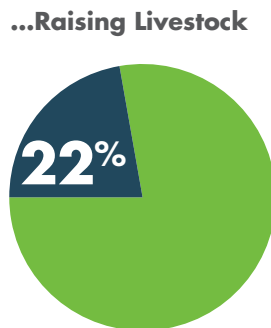
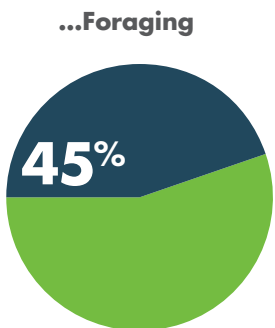
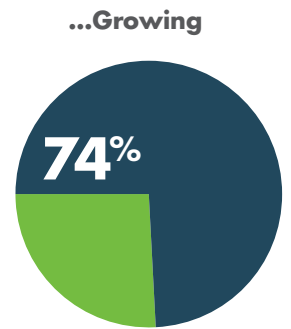
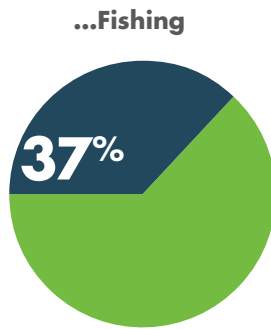
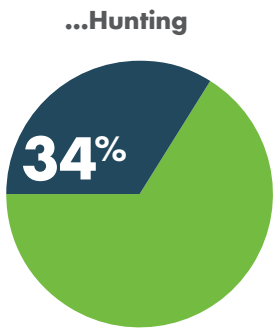
GOAL 13: All people in Vermont can access the knowledge, skills, and resources to select, grow, hunt, fish, forage, process, store, and prepare local food.

OBJECTIVES:

- At least 90% of Vermonters will hunt, fish, forage, grow, or barter local food each year.
- At least 75% of K-12 schools will integrate Farm to School education into their curriculum.
- An assessment tool and metrics to track agricultural literacy will be established.
- More Vermont residents who desire to produce their own food will have the ability to do so.

EXAMPLE INDICATOR:

Percent of Vermonters that Acquired Local Food in 2019 through...



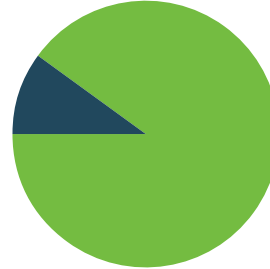
GOAL 14: Vermont’s food system is resilient and able to provide adequate and accessible healthy local food in the face of emergencies—including climate-related natural disasters.

OBJECTIVES:

- Vermont will establish a statewide food security plan.
- The Vermont Agency of Agriculture, Food & Markets’ Annex in the State of Vermont’s Emergency Management Plan will include protocols for addressing food access and security during an emergency, based on lessons learned during the COVID-19 pandemic.
- An assessment tool and metrics for food system emergency preparedness will be established.

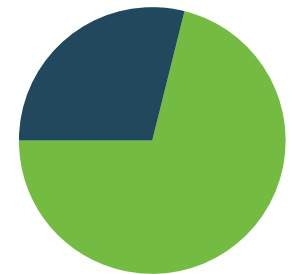
EXAMPLE INDICATOR:

Food Insecurity: Impacts of the COVID-19 Pandemic



10%
Food Insecurity 2020
Pre-COVID

30%
Food Insecurity
March–September 2020



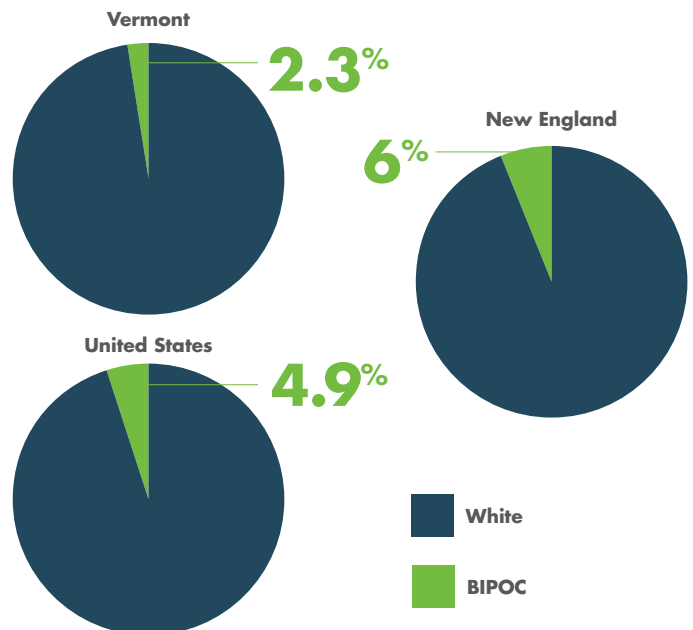
Goal 15: Food system organizations and stakeholders prioritize racial equity and actions to eradicate structural racism in their work, are accountable to BIPOC leadership, and support BIPOC participation and representation.

OBJECTIVES:

- Data points, and ways to measure racial equity in relation to access to capital, state and federal funding, and philanthropic funding will be identified and created, under BIPOC leadership.
- Data points and ways to measure racial equity in relation to wages and safe, healthy, and supportive workplaces will be identified and created, under BIPOC leadership.
- Data points and ways to measure racial equity in relation to farmland access and land-use planning decisions will be identified and created, under BIPOC leadership.
- Data points and ways to measure racial equity in relation to food access programs and their utilization and efficacy will be identified and created, under BIPOC leadership.

EXAMPLE INDICATOR:

Percent of Producers Identifying as BIPOC



Citations for Example Indicators

Goal 1:

Vermont Food System Employment

Bureau of Labor Statistics (2019), U.S. Bureau Nonemployer Statistics (2019), and U.S. Census of Agriculture (2017)

Goal 2:

Total Local Food Sales in Vermont

2017 Vermont Farm to Plate Local Food Counts

Goal 3:

Vermont Farms with Net Gains/Losses, 2017

U.S. Census of Agriculture (2017), Table 75

Goal 4:

Median Hourly Wage for Select Food System Careers, Vermont, 2019

Bureau of Labor Statistics (2019), U.S. Bureau Nonemployer Statistics (2019), and the Vermont Basic Needs Budget and Livable Wage Report (2019)

Goal 5:

Labor Shortages in Vermont Food System

Holly Tippet and Wendy Meunier, Charting a Path: Food System Workforce Needs Assessment, 2013

Goal 6:

Vermont Farm Acreage under Select Conservation Practices

U.S. Census of Agriculture (2012 and 2017), Tables 8 and 47

Goal 7:

Miles of Vermont Rivers and Streams Impaired or Altered by Agriculture

State of Vermont Water Quality Integrated Assessment Report (multiple years)

Goal 8:

Average Market Value per Acre of Vermont Farms' Land and Buildings

U.S. Census of Agriculture (multiple years), Table 43

Goal 9:

Volume of Food Waste Disposed of in Vermont Landfills in 2018

DSM Environmental Services, Inc., 2018 Vermont Waste Characterization

Goal 10:

Pounds of Food Per Capita Produced in Vermont, 2018

USDA New England Agricultural Statistics (2018)

Goal 11:

Percent of Vermonters that Have Purchased Local Food in the Past Year

The Vermonter Poll, 2019

Goal 12: Breakdown of Where Local Food is Purchased in Vermont

2017 Vermont Farm to Plate Local Food Counts

Goal 13:

Percent of Vermonters that Acquired Local Food in 2019 through...

The Vermonter Poll, 2019

Goal 14:

Food Security: Impacts of the COVID-19 Pandemic

Meredith T. Niles, Emily H. Belarmino, and Farryl Bertmann (2020), COVID-19 Impacts on Food Security and Systems: A Third Survey of Vermonters

Goal 15: Percent of Producers who Identify as BIPOC

U.S. Census of Agriculture (2017), Tables 60 and 64





Priority Strategies

Priority strategies are the recommended programs, investments, and policies which will lead us to meet our objectives and reach our goals. In most cases, the priority strategies are a distillation of interrelated recommendations from the food system briefs and thus, if implemented, may solve challenges in multiple areas of the food system. The [Supplemental Materials](#) contain a table of the priority strategies and the recommendations from the product, market, and issue briefs from which they derive. Each priority strategy is followed by a color-coded numerical icon(s) which indicate the outcome area(s) and goal(s) it addresses. The priority strategies are not listed in order of importance.

In some cases, a strategy may be within the purview and capacity of a specific organization, state agency, or the Legislature. In other cases, implementation of a priority strategy or its constituent parts can only be accomplished through multi-stakeholder collaboration. These strategies will be addressed by the Farm to Plate Network, and will inform the restructuring of the Network in the first half of 2021.

GOAL CATEGORIES

- Sustainable Economic Development
- Environmental Sustainability
- Healthy Local Food for All Vermonters
- Racial Equity

Priority Strategies

1. Provide at least \$1.5 million in annual funding to the Working Lands Enterprise Fund. These grant funds are a unique and critical source of capital that accelerate innovation and sustainability in Vermont food system businesses. 1 3 6 8
2. Establish funding mechanisms (e.g., agricultural loan loss reserve, farm-transfer financing) to address specific food system investment gaps (e.g., for women and BIPOC-owned businesses). 1 3 15
3. Improve funding opportunities and create equitable access for BIPOC organizations and BIPOC-owned businesses by developing multi-year, unrestricted BIPOC-centered grants and loan programs, while removing barriers such as unnecessarily long grant application processes, and combating explicit and implicit bias against BIPOC communities. 1 3 6 8 15
4. Rebuild Vermont's restaurant industry with equitable grant programs and business assistance, and provide local purchasing incentives to support the expansion of farm-to-table relationships. 1 2 15
5. Support stabilization and revitalization of the dairy industry through: (1) a comprehensive dairy products marketing program focused on quality that would assist producers with limited marketing budgets; (2) by expanding opportunities to differentiate the milk supply by supporting farms and processors to increase production capacity for higher-attribute milk; (3) increased capital investment and funding for dairy processing, storage, and co-packing (particularly for cheese, yogurt, butter, etc). 1 2 3
6. To increase the availability of local meat, improve productivity and processing capacity at Vermont meat slaughter and processing facilities through investment in plant upgrades, new facilities, technical assistance, and workforce development. 1 3 10
7. Make significant investment in storage, processing, and distribution infrastructure in order to enhance product innovation and quality across all Vermont food products, expand regional market access for businesses, and increase the resilience of local supply chains. This includes investments in new facilities, upgrades and maintenance to existing facilities, and energy efficiency and renewable energy incentives for food system infrastructure. 1 3 6 8 12 14
8. Support product-specific value chain development. Strategies include bringing producers, distributors, and buyers together at matchmaking events, assisting producer-driven aggregation, distribution, and marketing enterprises, and funding the development of market opportunities in the Northeast. 1 2 3 10 12
9. Expand funding for existing programs dedicated to farmland access and conservation, and leverage this funding to increase land access through flexible and new ownership financing mechanisms, policies, and models. Examples include performance mortgages, shared equity models, ground leases, appropriation of \$3 million in low-cost capital to a Community Development Financial Institution or other lender, policy incentives to encourage multiple tenants or owners on larger tracts of land, and low-cost and long-term farm leasing on publicly held lands. There must be particular emphasis on the needs of beginning, socially disadvantaged, and BIPOC farmers. 1 3 8 13 15

Priority Strategies

10. Fully fund VHCB through the Property Transfer Tax Fund, and allocate \$3 million annually to their Farm & Forest Viability program, expanding their capacity to provide critical business and technical assistance services to farms and forest product businesses of all types across Vermont. 1 3 8 15
11. Fund at least eight FTE additional business assistance provider positions to assist farmers with transfer and succession planning, access to capital, farm management, planning for transition or diversification to other products, and sales and marketing. This estimate includes four FTEs needed to work with dairy farms and two FTEs needed to work with other types of farms, specifically on succession planning. 1 3 8
12. Fund at least 25 FTE additional technical assistance provider positions to assist farmers and other food producers with product-specific needs (e.g., goats, grains) and other forms of technical support (e.g., food safety plans, grazing methods, permitting, marketing, mediation, and crisis management). 1 3 10
13. Increase professional development opportunities for technical and business assistance providers, as well as support service provider organizations, to enable them to better assist clients in addressing issues such as marketing, climate change, racial equity, health care, labor, and accessing capital. 1 3 4 5 6 15
14. Increase usage of and funding for cohort-based training, mentorships, and other forms of farmer-to-farmer/business-to-business education which are proven to be successful, including dairy farmer learning cohorts. 1 3 5
15. Increase funding and technical support for Vermont producer associations to expand and improve their membership services, and determine how services could be shared across associations. Potential services include marketing technical assistance, collaborative marketing initiatives, product-specific training, and connections to associations in other states. 1 2 3
16. Fund coordinated marketing efforts, such as a statewide marketing campaign for local agricultural products, marketing support in emerging metropolitan markets, shared marketing broker positions, a shared communications and content creator position between the Vermont Department of Tourism and Marketing and the Vermont Agency of Agriculture, Food and Markets, and/or marketing materials for specific products or associations. 1 2 3
17. Help individual farms and food businesses reach new customers by developing tailored marketing assistance services and programs specific to various market channels. Funding could go to individual farm and food businesses to improve their branding via graphic design consultants, grants to attend national sales and marketing industry events, and creating a marketing technical assistance and mentorship program focused on the seven P's of marketing. 1 2 3
18. Redesign the state education funding model so that Career and Technical Education centers have independent funding streams and budgets, and create and fund legislation to support other educational programs that strengthen the workforce pipeline, including a range of accessible postsecondary educational models such as apprenticeships, concurrent enrollment, and stackable credentials. 4 5

Priority Strategies

19. Support and expand existing farm and food educational programming, and convene partners and conduct research to: identify the distinct audiences and goals for various initiatives; determine what types of programming, experiences, or information result in greater levels of behavioral change for those audiences and initiatives; and strategically coordinate efforts. **2 7 9 13**
20. Incentivize local purchasing by reimbursing K-12 schools on a per-meal basis for purchasing local products above a certain percentage threshold. For example, New York provides \$0.25 per lunch to schools incorporating at least 30% New York sourced or grown product in their meal program. **2 12**
21. Create a Local Food Access Funding Program with an appropriation of at least \$250,000 per year, available for programs that support low-income consumers in purchasing local food. Eligible program activities could include funding benefits which increase consumer purchasing power for local food, making wireless EBT machines available at no cost to producers and farmers markets, and outreach about any of these services. **2 11 12 13 15**
22. Increase funding for proven ways to alleviate food insecurity, and support these programs in incorporating more local food. Specific known solutions include providing universal breakfast and lunch programs for every Vermont student and increasing local procurement within each school cafeteria, increasing investment in and utilization of public food assistance programs—including efforts to connect these programs with local farmers—and supporting charitable food system efforts to purchase directly from local farms. **2 11 12**
23. Build cross-sector coalitions to address issues affecting the quality of life and prosperity of employees in all sectors, including livable wages, child care, health care, student loans, immigration law, worker rights, transportation, and housing. **4 5 11 12 15**
24. Develop a Vermont food security plan, centered around a thriving food system and inspired by community-based responses to food insecurity and disruptive events. Involve food insecure individuals as well as farmers in the planning, and investigate questions including, but not limited to, affordable housing, health care, transportation, siting of retail grocery stores, food distribution, and ensuring the continued production of food in Vermont. Work to adopt state and regional level policies, procedures, and plans to ensure that the Vermont food supply is sufficient to withstand global or national food supply chain disruptions caused by climate change and other disasters. **6 8 10 11 12 13 14 15**
25. Map Vermont’s agricultural land base and production capacity, including geographic data about predicted climate change impacts, aggregation and distribution infrastructure, and regional dietary needs. This information will help inform community land use decisions and the use of state funding and incentives. **6 8 10 12 14**
26. To better prepare for and respond to climate change-related events, investigate innovative funding mechanisms for climate change adaptation practices (e.g., cover crops, building organic matter in soil), crop insurance for diversified Vermont-scale farms, and emergency recovery following extreme weather events. **3 6 7**

27. Continue to support the Payment for Ecosystem Services (PES) Working Group, which is poised to be a central point of coordination and connection among the many needed PES research and design efforts. These efforts should focus on PES approaches that regrow or sustain Vermont’s natural resource base so that it provides at least three ecosystem services: water quality, flood resilience, and climate stability. **3 6 7**
28. Fund scientific research into how various agricultural practices affect soil and water quality, and how the impacts of these practices can be measured and valued in a Payment for Ecosystem Services program. **6 7 9**
29. Assist food and farm businesses with navigation of municipal and state permit requirements and regulations. This will create a more supportive environment for business growth and diversification, especially as it relates to on-farm accessory businesses, farm employee housing, and development of off-farm processing, distribution, and storage infrastructure. **3 7 8 9**
30. Build a comprehensive and fully aligned state-level agricultural policy roadmap, with public participation throughout the process. Implementation of the roadmap could include an annual review of existing and proposed policy objectives before each state legislative session to ensure policy requests complement each other, align with strategic priorities, and balance reactive and proactive policy needs. **1 3 4 5 8 12**
31. Provide livable wages and improve workplace conditions for all food system employees, especially BIPOC, by developing policies, shared workforce programs, market incentive programs (e.g., Milk With Dignity), and relevant technical assistance for farm and food businesses. **4 11 15**
32. Work with Vermont’s congressional delegation on reforming U.S. immigration and labor laws and rules. **4 5 15**
33. Plan, commit to, and prioritize actions—within the Farm to Plate Network and at all food system organizations—to begin eradicating structural racism in the food system, including uplifting and financially compensating the leadership, participation, and representation of BIPOC. It is imperative that initiatives focused on BIPOC be developed with paid partnership and input from the BIPOC community. **15**
34. Allocate significant resources to support more in-depth research, data collection, and investigation of racial equity in the Vermont food system, leading to a comprehensive plan of action. It is crucial that this work and resulting initiatives include BIPOC leaders who are compensated for their contributions. **15**





Vermont Farm to Plate Network: A Collective Impact Approach to Implementing the Plan

The Vermont Farm to Plate Network was established in 2011 to take action on the first Strategic Plan (2011–2020). Today, with over 300 members representing farms, food businesses, educators, nonprofit organizations, capital providers, and government, the Network is well-positioned to collaboratively implement the 2021–2030 Strategic Plan.

Through the Network, members are able to collaborate on high-impact projects that no one organization can do alone, and reach Vermont’s agriculture and food system goals utilizing a collective impact approach to system-level change. Collective impact results from creating and maintaining the following conditions:

A Common Agenda: The Agriculture and Food System Strategic Plan 2021–2030 articulates a shared vision and identifies ways to strengthen Vermont’s food system over the coming decade.

Mutually Reinforcing Activities: Farm to Plate Network activities advance the recommendations in the Plan—and tackle new, emergent ideas—in a coordinated fashion.

Continuous Communication: The Farm to Plate Network and the Farm to Plate website (vtfarmtoplate.com) provide ongoing opportunities for communication and collaboration.

Shared Measurement: Shared, quantifiable objectives and the Results-Based Accountability (RBA) framework are used consistently across Network activities to track progress on the 15 goals of the Agriculture and Food System Strategic Plan 2021–2030.

Backbone Support: Farm to Plate Network activities are facilitated by the backbone support of the Vermont Sustainable Jobs Fund (VSJF). VSJF administers the Farm to Plate Network, maintains the Farm to Plate website, receives and manages funding for the Network, provides continuous communication to Network members, manages some Network initiatives, and publishes regular updates of indicators of progress toward the goals and objectives.

Funding: Multi-year funding for the Farm to Plate Network, administered by VSJF, ensures the Plan’s goals can be achieved.

Implementing the 2021–2030 Strategic Plan will require the Network to restructure around the priority strategies and individual recommendations from the briefs. While group names will change, the relationships and established culture of trust, transparency, and collaboration will guide the Network through this transition and into the next decade. Together we can sustain and expand a diverse, equitable, and profitable agricultural economy that provides fresh, accessible food to all people in local and regional markets, and is built on environmentally and ecologically resilient land stewardship. Vermont will need to support its agriculture and food enterprises with new policies, greater collaboration among the education, public, private, and nonprofit sectors, patient and equitable sources of financing and capital, and new, innovative approaches to product development, storage and processing, marketing, and distribution.

The actions and investments detailed in the Vermont Agriculture and Food System Strategic Plan 2021–2030 will put farmers, food entrepreneurs, and food workers in a position to viably manage the challenges of 21st century agriculture and food production. We are grateful and excited to once again have the opportunity for collaborative and aligned strategic action that will make our food system more viable, environmentally sustainable, and socially equitable and just.

Supplemental Materials

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Food System Product, Market, and Issue Briefs.....38

54 food system product, market, and issue briefs that informed the development of the Plan’s vision, goals, objectives, and priority strategies, and the methodology used to create the briefs.

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The 34 Priority Strategies and the food system recommendations from which they derive.

Definition of Local, Local to Vermont, and Locally Grown or Made in Vermont201

In July 2020, the local food definition was updated in Vermont statute. To better define what constitutes Vermont grown or made food, the legislation changed the definition of “local” and equivalent terms like “locally grown,” “local to Vermont,” and “made in Vermont.” The clarity provided by the changes will help protect the value and craftsmanship of Vermont’s food and agricultural producers and processors, and offer opportunities to celebrate Vermont’s brand.

Food System Product, Market, and Issue Briefs

Methodology

The Writing of 54 Product, Market, and Issue Briefs

An Agriculture and Food System Strategic Plan Project Team consisting of four VSJF staff and two VAAFAM staff convened in July 2019 and, using input from Vermont Farm to Plate Network leadership, developed a list of critical agricultural and food products, markets, and issues to be explored in food system briefs. Due to the short timeline given by the Legislature in Act 83, the briefs were written in two phases. The first 23 briefs cover products, markets, and issues anticipated to be of greatest interest to Vermont Legislators and were published in January 2020. The remaining 31 briefs cover additional products, markets, and issues important to the Vermont food system.

VSJF invited 52 subject matter experts (SMEs) to serve as lead authors for these briefs. Each subject matter expert then solicited input from up to eight expert contributors to ensure that each brief reflects a broad understanding of the topic. In total, 149 Vermont private and public sector experts contributed their time and knowledge to the 54 briefs. Each brief went through a first and second round of editing with the authors and project team, as well as VAAFAM staff with expertise on a particular brief, followed by the development of data visualizations, before finally being laid out in the brief format.

Structure of the Briefs

Each brief follows the same format.

In the **What's At Stake** section, the authors state why this product, market, or issue matters to Vermont's agriculture and food system, what is at stake if we do not address emerging challenges, and why action is needed.

Current Conditions provide a summary of the current state and future trajectory of the product, market, or issue. Data points give the reader visual context.

Bottlenecks and Gaps provide additional information about identified challenges, while the **Opportunities** section suggests positive circumstances that can be expanded.

Finally, each brief concludes with a set of **Recommendations** developed by the lead author and their contributors. Recommendations are specific whenever possible, indicating a specific policy, area for investment (e.g., full-time personnel), and/or program that should be further explored and acted upon. In some cases, consensus exists on the best approach, but the conversation among key stakeholders has not yet progressed far enough to identify specific legislative solutions or quantifiable investments.

What You Won't Find In These Briefs

These briefs do not aim to be all-encompassing in their depth or breadth, they are intentionally brief. The authors and contributors, as well as many other industry stakeholders, are available to provide more detail on a topic, as requested.

Across the state, Vermont Farm to Plate Network members and others are engaged in myriad positive efforts to strengthen Vermont's food system. We have intentionally chosen not to provide an exhaustive list of organizations doing the work associated with a given product, market, or issue. Detailed information can be provided upon request.

Product Briefs

We developed briefs covering 24 products ranging from our largest commodity sector (dairy) to nascent specialty crops (grains, hemp) to emerging livestock opportunities (grass-fed beef, goats). A consistent theme evident in each brief is the need for additional business and technical assistance for producers, farmer-to-farmer peer educational opportunities, improved product marketing (especially to out-of-state markets), and further development of production standards.

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Agroforestry	41
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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT: Agroforestry

What's At Stake?

Vermont's 4.465 million acres of forest cover around 73% of its territory.¹ If we are to address the critical moment facing Vermont agriculture, sustainable agroforestry should be among the solutions considered and implemented. Done well, it can enhance Vermont's working landscape, supporting farmers' livelihoods, local economies, and our natural ecosystems. This short, medium, and long-term strategy can provide additional food, fiber, timber, carbon sequestration, water quality, habitat restoration, and increased livestock comfort and yields, but will need institutional support to provide farmers with sufficient capacity, expertise, and financing. Further, agroforestry can be part of an effective payment for ecosystem services system for Vermont's agricultural working lands and economy.

Current Conditions

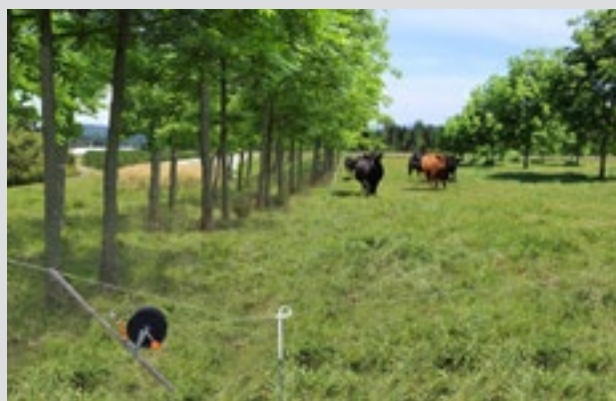
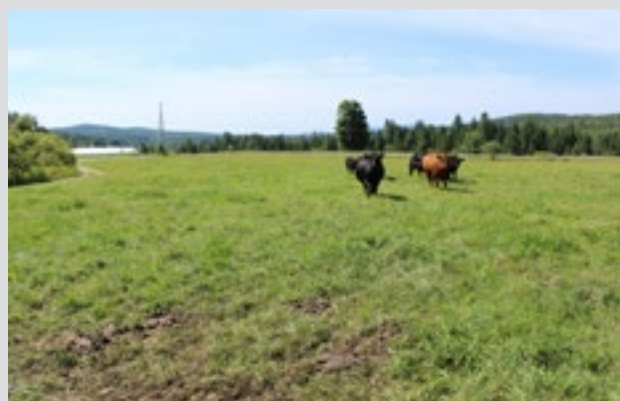
Agroforestry (agriculture and forestry) is the deliberate, integrated management of trees, crops, and sometimes livestock within the same area. It can enhance agricultural lands and complement natural forests, and produce food, feed, fiber, fuel, and timber products. Five agroforestry practices are recognized by the USDA including riparian forest buffers, alley cropping, windbreaks, forest farming, and silvopasture.² Agroforestry provides multiple environmental benefits and is an effective climate change mitigation strategy³. Agroforestry can sequester thousands of tons of carbon annually, at a conservative rate of one ton per acre per year.

Existing cropland and pastureland production can be ecologically and economically enhanced with appropriate agroforestry implementation. Agroforestry can increase farm business revenue when farmers complement feed, food, or fiber production by adding timber and/or other forest products as another crop from the farm. Agroforestry

helps farmers adapt to climate change by integrating more trees and more diverse tree crops that can tolerate new climate conditions, for example grazing animals in well-managed marginal forest lands converted to silvopasture. Agroforestry products can include mushrooms and maple syrup, nuts, fruits, and wood products. Using management-intensive grazing, silvopasture may increase viable grazing capabilities. Silvopasture⁴ is one of the agroforestry practices done in Vermont, with 4.6% of Vermont's woodland acres grazed.⁵

Vermont officially encourages two practices, riparian buffers and windbreaks, through Natural Resources Conservation Service (NRCS) payments. Windbreaks can increase crop yields 5% to 45%,⁶ and reduce climate stress in livestock, increasing their performance. Energy savings in buildings sheltered by windbreaks range from 10% to 40% annually.⁷ Adding additional practices to NRCS programs would benefit the sector.

Open fields (left) versus silvopasture (right). For additional visuals and image credits, see end notes.



Bottlenecks & Gaps

- There is an overall lack of awareness and knowledge about agroforestry practices, benefits, and recommendations, including among licensed foresters and NRCS technical service providers.
- There is a lack of research, outreach and UVM Extension services to inform others about the agroforestry practices being adopted by some Vermont farmers with various degrees of success. Most farmers and service providers have never seen a functional agroforestry system and aren't aware of potential outcomes, opportunities, or barriers.
- There is a lack of guidance in the Use Value Appraisal system (i.e., Current Use Program), which is one of the barriers to adoption of integrated agroforestry practices.
- There is an absence of nursery stocks, and processing and storage facilities, to boost production and marketing of less-common value-added products derived from agroforestry (e.g., nuts).
- While viability analyses for various agroforestry practices exist and show good returns on investment, infrastructure and markets are immature, small, or lacking.

Opportunities

- As Vermont agriculture continues to shift, especially given farm succession issues and climate change, we should consider advancing comprehensive changes that look at ecological and economic solutions such as agroforestry.
- Single or multiple tree species can be used in agroforestry systems, enabling farmers to minimize market and environmental risks, and increasing business and environmental sustainability.
- Developing an agroforestry culture and industry could create new jobs (e.g., processing, education, equipment and tool manufacturing, distribution, maintenance, technical service provision, etc.).
- Due to agroforestry's ability to deliver multiple environmental benefits, it provides farms a pathway to receive payments for ecosystem services.

Recommendations

- Create a "Center of Excellence in Agroforestry" with a multi-disciplinary stakeholder team, to develop the vision, goals, and strategy to support farms to adopt agroforestry. This Center would be hosted at a higher education and research institution and include demonstration sites (e.g., commercially viable farms), training, and research.
- Vermont NRCS should adopt Vermont-specific practice standards for the three remaining USDA agroforestry practices of silvopasture, alley cropping, and forest farming. This enables technical assistance and NRCS funding to be unlocked for farmers.
- Create a guidance document developed jointly by the Agency of Agriculture, Food and Markets and Agency of Natural Resources that clarifies the conditions under which the USDA's five agroforestry practices, especially silvopasture, qualify for the Current Use Program.
- Provide a combination of low-interest loans and grants for on-farm diversification, including managing existing trees and encouraging establishment and management of new agroforestry enterprises. Pair public and private institutions and investors with farmers in search of capital to implement agroforestry practices and access to markets.
- A Vermont payment for ecosystem services program should include agroforestry as a qualifying practice, and other financial incentives should also be considered.
- Support access to new markets through developing processing and storage facilities (e.g., licensed commercial kitchens or facilities), where agroforestry farmers can bring their products for processing, dehulling and milling, refrigeration and packaging, etc., to create value-added products.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Apples

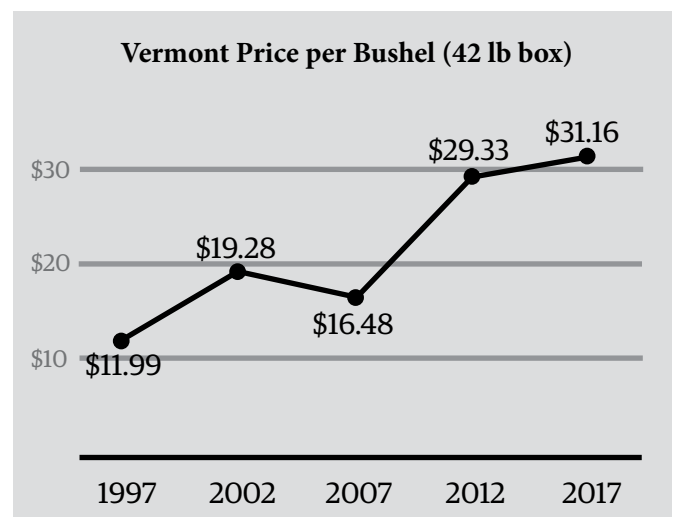
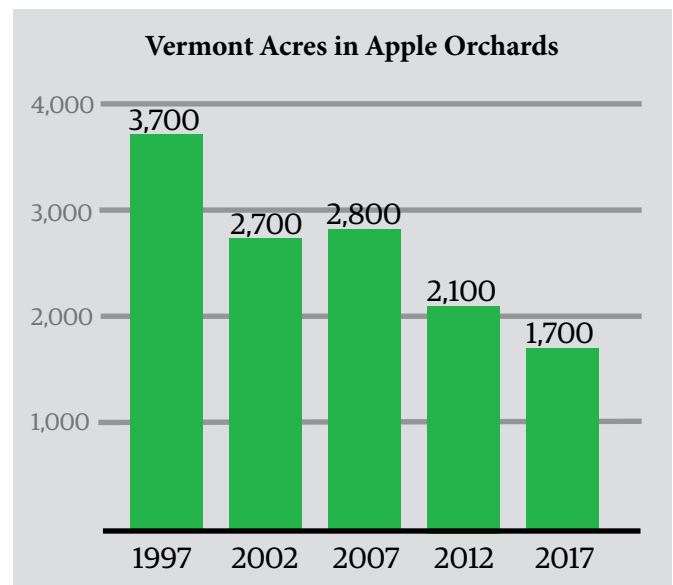
What's At Stake?

Apples in Vermont are behind only dairy and maple in total annual crop value. Since the 1990s, Vermont's share of all apples sold to eastern U.S. wholesale markets has decreased. Apple acreage fell from approximately 3,500 acres in 2001 to 1,700 acres in 2017. Local sales at pick-your-own and farm stand sales have increased, and cider markets have grown, but have not replaced lost volume nor revenue from wholesale sales. Some Vermont orcharding communities are seeing a loss of economic activity from crop sales and farm employment and the disenfranchisement of growers. Without supportive policies and more investment in marketing, technical assistance, and supply chain coordination, Vermont growers will continue to lose out to growers in regions where larger concentrations of orchards have the advantage in efficiency, modernization, and infrastructure.

Current Conditions

Wholesale apple producers are presently experiencing very difficult economic circumstances. Apples have historically been one of Vermont's primary regional wholesale crops, and thus provide significant revenue from out of state. Vermont orchards are planted primarily to McIntosh and similar varieties, but consumer tastes are shifting to newer varieties that require replanting of orchards. Recent shifts in marketing to in-state buyers has increased per-bushel prices paid to growers who are selling fewer fruit into commodity markets, but the increased value has not offset reduced sales volume that previously supported about twice the orchard acreage that Vermont now has. This shift has led to contraction in the wholesale market, facilitated by loss of in-state packing and distribution facilities. Some growers have adopted direct store delivery models by assuming their own packing and distribution systems, but limited outlets and local population limits potential growth.

Licensed hard cider manufacturers have increased to 24 in 2019 from less than ten in 2010, but the prices paid for cider apples are typically one half to one sixth the price for packed fresh fruit. Higher-value cider apples require growing unique varieties with no secondary market and sometimes unknown production needs. Orchards take three to ten years to reach full production, and installation costs up to \$30,000 per acre. This causes barriers to entry as time between investment and return requires saved or borrowed capital. Apples also have substantial, unique, and annual pest management needs relative to most annual crops. Despite recent losses in technical support at UVM Extension, private-sector technical assistance has been provided by a consultant with the primary agrichemical product dealer who works closely with UVM personnel to expand technical assistance services to growers.



Bottlenecks & Gaps

- Limited in-state growth in population and fruit consumption limits the potential for increased local apple sales.
- Lack of independent storage, packing, and distribution facilities limits individual growers' entry into many markets.
- Technical assistance for growers through UVM Extension is limited to grant-funded personnel with multiple other duties.
- Coordinated marketing support through the Vermont Apple Marketing Order was withdrawn by the Vermont Secretary of Agriculture in 2009 and cancelled by the Vermont Legislature in 2014.
- Orchards are highly reliant on seasonal labor, including migrant labor through the federal H-2A program, which makes them vulnerable to labor shortages at critical times and to onerous regulations and inspections.

Opportunities

- Older orchard systems include deep-rooted, healthy trees that are resilient to climate and pest pressures. Well-managed orchards are a long-term asset, although prices for fruit from older varieties are low and many older trees may be past their commercial prime.
- Increased production of high-value specialty ciders creates markets for unique specialty cider varieties and for growers to establish on-farm cideries that add value to their crop.
- Institutional purchasers such as schools, colleges and hospitals may be an important area for increased local sales.
- Retail or pick-your-own apple markets are not saturated in many areas of the state and provide customers with a valuable agritourism experience.

Recommendations

- Collaborate across the distribution chain to increase in-state and regional institutional purchases of Vermont apples. Local food coordinators and other market specialists should assist with USDA purchases for school lunches, contracts at key institutions including higher education food service and hospitals, and aggregation through food hubs that prioritize fruit from local orchards.
- Support increased purchases of apples and production of high-value ciders through farm cidery legislation that would allow growers to more easily enter the cider market themselves and increase farm gate value for the fruit they produce.
- The Vermont Agency of Agriculture, Food and Markets (VAAFAM) should conduct and expand marketing programs for all Vermont horticultural crops, including apples. Marketing programs should be two-tiered to support both in-state and out-of-state promotions. Quality standards should be established for Vermont products that are exclusive and meaningful and thus may indicate provenance and quality of Vermont products sold outside the state.
- Increase and permanently fund technical assistance services through UVM Extension, VAAFAM, or other stakeholder organizations. Include pest management, horticultural, food safety, and economics expertise in technical assistance programming.
- VAAFAM should work with Vermont's federal delegation to urge sensible reform to immigration and labor rules that affect fruit and vegetable growers (e.g. H-2A, Title 29, Part 780 of CFR Agricultural Labor Exemption Rules).

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Beer

What's At Stake?

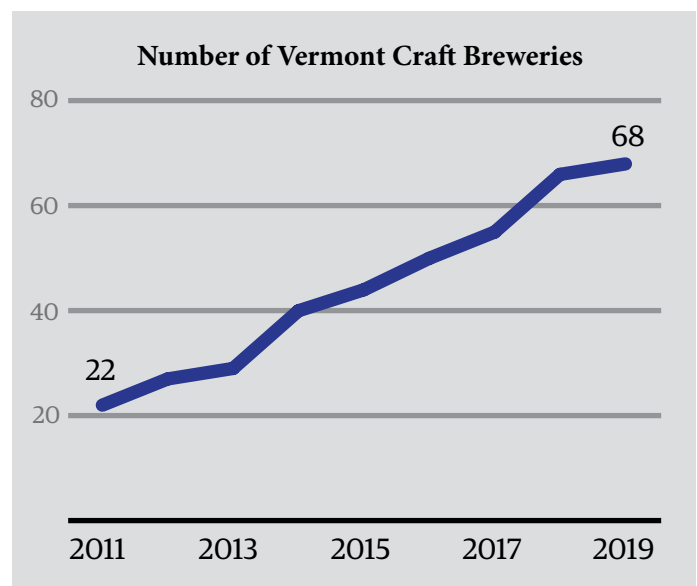
In 2019, Vermont's 68 breweries had \$366 million in economic impact.¹ Vermont brewers capture international accolades and are a powerful force for Vermont's food reputation, attracting consumers to Vermont-made beers and to the state itself for brewery tourism. In 2015, an estimated 1.2 million out-of-state brewery visits generated \$50 million in non-bar/restaurant expenditures.² Vermont brewers often highlight selected local ingredients in specialty brews and/or regularly source local ingredients, although there is room for growing these collaborations to the benefit of both breweries and farmers. Prior to the COVID-19 pandemic, the U.S. craft beer industry was experiencing saturation and declining demand. Vermont breweries were not exempt from that trend, and necessary pandemic restrictions are now threatening the survival of Vermont breweries of all sizes. Many breweries are creatively revisiting their business models, packaging, distribution, and marketing and sales strategy.

Current Conditions

Breweries play a vital role in the Vermont food system, impacting agriculture, tourism, the service economy, transportation and storage, manufacturers, wholesalers, and retailers. In 2019, there were 68 breweries in Vermont, employing 2,969 people and producing beer for national distribution, local brew pubs, and the hospitality industry.³ Breweries are supporting the economic development of cities and towns by drawing considerable numbers of people to Vermont who spend in the surrounding community. In some cases lack of adequate municipal infrastructure is restricting potential brewery development.

Vermont brewers have increasingly integrated local agricultural products as they have become available and as consumer demand for local products has risen. Some brewers are using Vermont barley and wheat malted in-state, as well as Vermont hops, maple syrup, berries, apples, grapes and more (see *Hops* brief, *Food-Grade Grains* brief). Barriers to integrating more farm products into a brewery supply chain can include lack of infrastructure and potential variability in quality and consistency of these agricultural products, as well as a brewery's business model.

At the onset of the COVID-19 pandemic, the Division of Liquor Control (DLC) permitted curbside pickup and delivery under the State of Emergency, which enabled breweries without extensive bottling and distribution infrastructure to remain in business. While the brewing industry has historically relied heavily on tourism dollars, local support during the pandemic illustrates that tourists are not the only ones supporting Vermont beer. That said, without the return of pre-pandemic levels of tourism, or some other form of economic relief, the brewing industry will see closures and a contraction in growth.



Bottlenecks & Gaps

- Managing the high biological oxygen demand (BOD) wastewater from breweries within the constraints of current town infrastructure and funding is a challenge for towns and breweries, affecting the growth of those breweries.
- The current permit and tax reporting requirements for Vermont breweries are a burden and include property taxes, 18 different monthly, quarterly, and yearly business taxes, and six different permits/licenses.
- The establishment and success of Vermont farm businesses which could provide beer inputs is constrained by a lack of infrastructure. This includes insufficient grain storage, malt and hops processing equipment and facilities, along with research and distribution infrastructure.
- Alcohol abuse is the third leading preventable cause of death in the US,⁴ causing approximately 360 deaths in Vermont annually.⁵ Alcohol abuse impacts the state as a whole as well as the brewery workforce, with state government contributing millions of dollars each year to prevention, education, and treatment.⁶

Opportunities

- There is tremendous beer knowledge and innovation in Vermont, including UVM Extension staff and other technical advisors, out-of-state specialists, research academics, and master brewers.
- Assisting towns with ongoing needed investments in their wastewater systems would remove barriers to growth for industrial users including breweries, and assist with economic development as well as state water quality goals.
- The DLC's rapid shift to allow curbside pickup and delivery of beer during the COVID-19 pandemic demonstrated that innovative changes in the liquor laws were not harmful to the public and greatly benefit the industry as a whole.
- Breweries are working together to reduce their environmental impacts related to carbon footprint, energy consumption, recycling, and water usage and treatment.
- With focused investment and technical assistance, there is potential for Vermont farms to reap the benefits of Vermont brewery success and to build a barley farming and malting industry in Vermont.

Recommendations

- DLC should continue flexibility in the rules governing the sale and consumption of alcohol and consider other improvements and simplifications of distribution rules. Flexible rules, including those related to direct-to-consumer sales and outside consumption for on-premise establishments, will be critical to many breweries' survival.
- State and federal funds are needed to assist towns with improvements in their wastewater systems, to aid in economic development, assist in water quality efforts, and remove barriers to growth for commercial and industrial users including breweries. The state also could pass legislation that encourages towns and cities to require equitable governance structures during the consideration of water and wastewater rate changes, engaging stakeholders in the decision-making process.
- Revise state excise taxes for simplicity, efficiency, and reduced burden on small businesses. Provide an exemption for small breweries to account for and pay to the State of Vermont the unclaimed \$0.05 deposits on containers collected at the point of sale. Managing redeemable containers is a real cost to Vermont's breweries that sell direct to customers.
- Reinvest alcohol tax dollars into the Vermont beer sector and related industries, as well as substance abuse programs. Some funds could go back directly to farmers producing hops and grains, which would help level the playing field so they could produce at competitive prices. Other funds could support research, infrastructure development, the Vermont Brewers Association, and community-based and statewide substance abuse programs.
- Invest in infrastructure. For edible grain production to expand to meet the potential demand from Vermont breweries, there needs to be additional equipment and infrastructure in Vermont for growing and processing, strong regional markets, access to capital, and research-based technical assistance (*see [Food-Grade Grains](#) brief*).

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT: *Bees and Honey*

What's At Stake?

The pollination services of wild and managed bees are critical for the production of our food crops. However, managed and wild bees are in decline, due to a multitude of interacting stressors including pests and pathogens, habitat loss through land use change, and exposure to pesticides. Bee losses threaten biodiversity, food security, and the agricultural economy. Vermont has an active community of beekeepers that manage numerous county beekeeping clubs and provide honey and other value-added products to stores throughout the state. Vermont is also home to several world-famous beekeepers and queen breeders. However, for the past decade, Vermont beekeepers have lost one-third of their colonies each winter. To ensure adequate pollination of our food crops and the protection of Vermont's honey and beekeeping industry, Vermont needs an integrated support system that mitigates current threats to wild and managed bees and provides education to consumers.

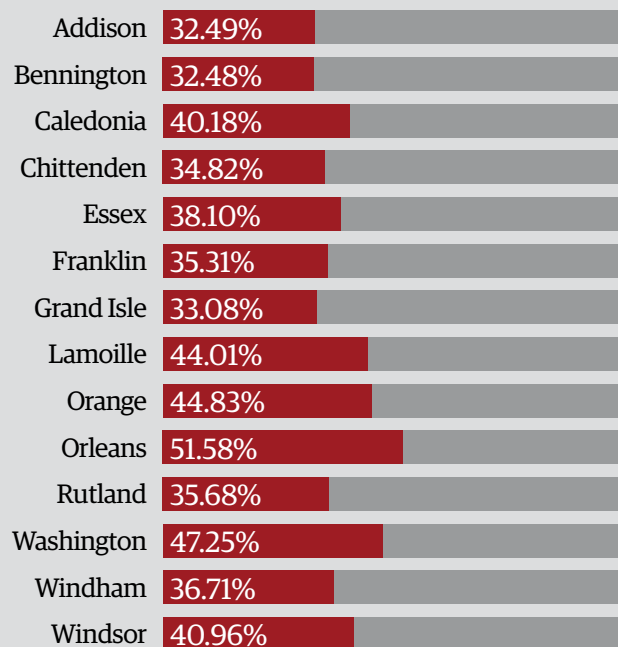
Current Conditions

Pollinators, including bees, contribute more than \$24 billion to the U.S. economy through their vital role in the production of fruits, nuts, and vegetables.¹ Vermont has 14,553 hives producing an estimated 727,650 pounds of honey annually.² These bees and beekeepers face significant challenges. Since 2006, Vermont beekeepers have lost an average of 33% of their honey bee colonies each winter and in 2018-2019, Vermont's average annual colony losses ranked third-highest nationally.³ Key threats facing bees are pests and pathogens, land use change (e.g., development), and pesticide application. To combat high colony losses, beekeepers need bees that are healthy, pathogen-resistant/tolerant, and adapted to Vermont's climate and long winters. However, thousands of colonies are imported to Vermont each year after participating in large pollination events where the risk of disease transmission is heightened.

The high value of honey makes it a target for economically motivated adulteration (EMA)—the intentional adulteration of food crops for economic advantage. Honey fraud worldwide has resulted in a downward pressure on pure honey prices due to an oversupply of product, with most notable price drops in the US market.⁴ Some states have created standards of identity for honey. Here in Vermont, no such standards currently exist, leaving Vermont beekeepers and consumers unprotected from adulterated "honey" products. Honey adulteration and its impact on the honey market is a critical issue for Vermont beekeepers and of importance to the regulating Vermont Agency of Agriculture, Food and Markets (VAAFAM).

Colony Losses by County, 2017

Statewide, annual colony loss for 2016-2017 was 38.6%. Colony losses were spatially clustered with loss greatest in the northeastern region and lowest in the western region of the state ($p < 0.001$).



The most common causes of colony loss reported by beekeepers included Varroa, starvation, and swarming, however most beekeepers report 'other' reasons. Only one third of Vermont beekeepers reported monitoring their Varroa mites while two thirds reported treating for Varroa mites. 23% of Vermont beekeepers reported using no treatments in their hives. Vermont beekeepers who used miticides reported significantly fewer losses ($p = 0.003$).

Bottlenecks & Gaps

- Most beekeepers are small-scale and lack the resources for marketing local honey.
- Honey fraud has resulted in a downward pressure on honey prices due to an oversupply of product in the marketplace.
- Laws regarding the importation of honeybees into Vermont could be strengthened.
- The one Vermont apiculturist, who is responsible for helping mitigate the spread of pests and pathogens in Vermont's bees, supports all Vermont beekeepers through education, field inspections, and enforcement.
- There is a lack of long-term data on bee losses in Vermont. It is important to understand these losses and the relationship to habitat loss, pesticide use, pests and pathogens, and honey bee management practices.

Opportunities

- Consumers recognize the critical role honeybees play in pollination and our food supply. A consumer education program can capitalize on that interest to boost local honey sales.
- Expanded in-state laboratory services, along with use of USDA laboratories, could offer pest and pathogen diagnostic services for Vermont beekeepers.
- Vermont employs a Pollinator Health Specialist who serves as a full-time apiculturist during the bee season and is collaborating with the Vermont Beekeepers Association. Increased collaboration with UVM researchers and Extension staff would help to achieve research and education goals.
- VAAFM has begun collecting data on colony losses and pest/pathogen management, helping stakeholders to understand patterns of bee health over time and the relationship to beekeeping management practices.

Recommendations

- Vermont laboratory services could be improved, with additional state-level funding to the University of Vermont Bee Lab and Extension, to ensure the future of pollinator research, education, and outreach collaborations between UVM and VAAFM. Cost: \$85,000 per year.
- Vermont should conduct a study to investigate the prevalence of adulterated and mishandled honey on the shelves of Vermont retail stores. Results should be published in aggregate and used to launch a consumer education program. Cost: \$18,000.
- The Vermont Beekeeping Association and VAAFM should develop a honey certification program that defines quality standards for authentic local honey and entitles participating beekeepers to branding that signals an authentic quality product to consumers, thereby promoting the sale of certified honey products. Collaborate with the maple industry and their expertise in natural sweetener promotion to develop Vermont honey quality standards and public education initiatives. Cost to develop program: \$19,000. Annual maintenance: \$3,000.
- Enhance bee forage across the Vermont landscape through state-level incentives for land uses that support pollinator habitat. In 2019, the Vermont Center for Ecostudies began the Vermont Bee Survey which can be used to inform habitat incentive programs. For example, Vermont's Use Value Appraisal Program could be adjusted to provide tax incentives for landowners who conserve and develop pollinator habitat.
- Protect the efforts of Vermont's beekeepers to maintain healthy bee stock adapted to Vermont's climates, through increased state resources to support a robust apiary inspection program and laws governing the importation of honey bee colonies.

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What's At Stake?

Vermont is well-known for its bakeries, from artisanal bakeries to nationally distributed brands. Finding locally grown grains that are suitable for making good bread has been a long-term challenge for Vermont's bakers.

Current Conditions

Vermont's small bread bakers sell products through food co-ops, independent retailers, and farmers markets, and to cafés and restaurants. Larger bread companies' primary markets are regional major metropolitan areas. Consolidation in the distribution and grocery sectors has made it difficult to operate successfully as a mid-sized bakery, as access to national grocery chains necessitates a certain scale, leading Vermont's bakers to either scale up to national sales or remain at a smaller scale and mostly distribute in-state.

While Vermont bakers wish to purchase local ingredients, local wheat faces barriers to bakery sales. It can be difficult for small-scale farmers to get access to the same resources that are available to large grain producers (see *Food-Grade Grains* brief). These challenges extend from the field right through to storage, cleaning, and milling, as well as competing against commodity prices. Bakers are thus more likely to purchase honey, maple syrup, barley malt, or non-

wheat grains from local producers.

While Vermont's bakers purchase far more wheat than any other grain, many small bakers are interested in purchasing local, non-wheat grains, are willing to pay a premium for them, and would need relatively small amounts, ranging from one to eight tons annually. Bakers are also interested in processed products such as malted barley.

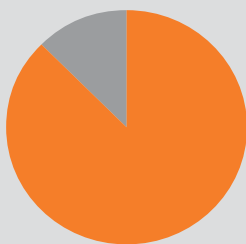
With specialty grains that are added in small quantities primarily for flavor purposes, the farmer is not subjected to the challenges and costly testing involved in growing a quality wheat crop.

By growing specialty grain crops, or selling non-grain inputs to bakeries, our local farmers can focus on what makes other local foods superior: flavor. They also enter a market that demands neither large quantities nor globally competitive prices.

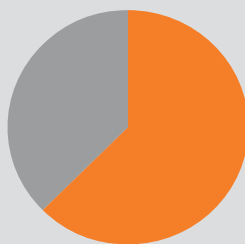
In a survey of eight Vermont bread bakers...



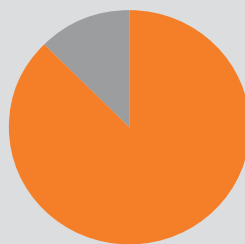
All eight indicated they would use more locally or regionally grown grain if they were able.



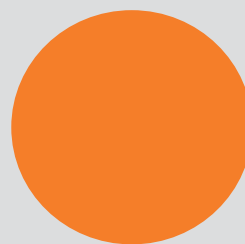
Seven indicated that they would pay between 20% to 40% more for local grains than for equivalent grains from a non-regional source.



Five have their own processing equipment on site.



Seven would like to find local grains other than wheat and rye, including emmer, einkorn, spelt, Kamut, corn, oats, and barley.



All eight are only interested in using organically grown grains.

Bottlenecks & Gaps

- The state's few grain farmers are focused primarily on wheat, with a few growing rye and corn, but it is not easy for a small grain grower to produce wheat of the quality and low price that bakers have come to expect from the commodity market.
- Non-wheat grains of interest to bakers are only sparsely available from Vermont sources, if they are available at all.
- Lack of grain aggregation, processing, and quality-testing infrastructure limits growers' access to bread makers, and creates inefficiencies and uncertainty for bread makers interested in purchasing local grain products.
- The quality of each crop of wheat can vary widely depending on the variety grown, annual weather patterns, and soil conditions. These quality differences are not apparent without sending the wheat off to be tested. What may appear to be a good crop of wheat could in fact be of limited or no use to commercial bakers.

Opportunities

- Vermont's bread bakers and farmers are innovative, unafraid to take risks and experiment.
- The potential market that non-wheat grains represent for the state's farmers is small, but the prices that most small bakers would be able to pay for non-wheat grains is significantly higher than they would pay for wheat.
- Value-added products such as malted barley would be attractive to bakers and provide a higher price point to growers.
- Processing does not need to be a prerequisite for selling grain to small bakers, as many of them have small grain mills.
- Demand for small quantities of specialty grains in the state and potential growth in demand for these grains in the future, whether wheat or otherwise, gives Vermont farmers new market opportunities and can create more diverse crop rotations beneficial to soil and water quality.

Recommendations

- Increase funding for research to identify marketable grains that grow well in Vermont, such as barley, spelt, and heirloom wheat varieties. With climate change and ever more unpredictable weather and seasonal patterns, creating new varieties and production strategies that can be resilient in Vermont will become of even greater importance than it is now. Cost: \$75,000 per year.
- Develop regional market connections and a marketing mechanism for Vermont grain products, particularly specialty grains. Provide funding for the Northern Grain Growers Association to develop a marketing program for Vermont grain farmers which highlights product quality. Convene interested stakeholders (UVM Extension, nonprofits, government agencies, producer groups, buyers) to facilitate purchasing relationships between producers and bakeries. Cost: \$25,000 per year.
- Create a Vermont grains processing center, which could control the quality of grain through consistent cleaning, drying, milling, processing, and storing. This center would encourage more working lands to transition to grains and have a multitude of benefits, including job creation, market security, and opportunities for value-added processing. It would also increase the reliability of grain quality for buyers, mitigating the risk to bakers of quality inconsistencies, and boosting the potential monetary value for farmers. (See *Food-Grade Grains* brief)
- Increase funding for technical assistance. Farmers and grain-related businesses have technical assistance requirements that are not always readily available in Vermont. Building connections through UVM Extension and the Northern Grain Growers Association to increase technical assistance availability would improve grain quantity and quality. Cost: 1 FTE at UVM Extension, \$100,000 per year.
- Explore and develop organic transition programs, modeled after similar programs developed by La Milanaise and Kashi, in collaboration with larger commercial processors selling baking flour, such as King Arthur Flour, Champlain Valley Milling, and Maine Grains.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Cheese

What's At Stake?

Vermont boasts more state-inspected cheese producers per capita than any other state in the nation — close to one cheese maker for 13,000 people — generating more than \$657 million in annual revenue. Vermont cheese makers create superior quality cheeses, winning national and international awards in numbers disproportionate to the size of our state. It takes ten pounds of milk to make one pound of cheese, making cheese a more consistently profitable option than fluid milk for dairy farmers. Vermont's small dairy farms, challenging terrain, and short growing seasons create a disadvantage for Vermont dairy farmers relative to other national dairy producers in the commodity market but can be used as an advantage for value-added producers. Environmental concerns and low milk prices continue to be a struggle for many dairy farmers; however, dairy farms and related processing are central to Vermont's landscape and identity (see *Dairy brief*, *Goats brief*). A viable future for Vermont dairy needs to be premised on a strategy that compensates for these challenges and leverages Vermont strengths.

Current Conditions

Vermont has been a cheese making state since the early days of the industry. Cabot Creamery Cooperative celebrated 100 years in 2019, and another large producer, Grafton Village Cheese, celebrated 127 years. Over the past three decades, the specialty cheese sector has developed rapidly, building on the success of Cabot and other well-known brands. In 1997, 19 people founded the Vermont Cheese Council as a response to market demand for specialty cheeses and built on Vermont farmers' eagerness to adapt when opportunity presents itself.

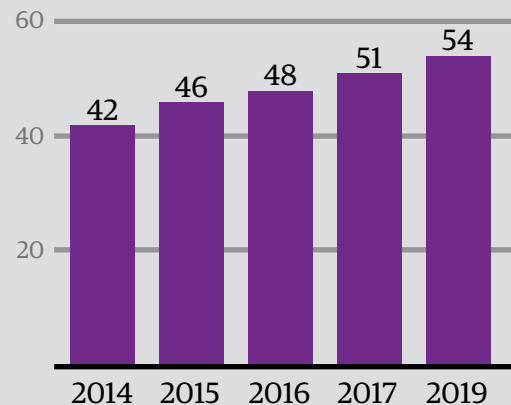
Today, Vermont has over 60 cheese makers, with large-scale and smaller on-farm artisanal producers together making more than 225 varieties of cheese. From value-added on-farm dairy operations to purely cheese-making facilities, cheese making operations have tripled while family farm milk operations have steadily consolidated or disappeared.

For the most part, the Vermont commodity milk industry and the far smaller artisanal cheese-making industry do not operate in concert with one another, though they could and do in some cases. Due to dairy co-op policies and economies of scale, it is difficult for small cheese makers to source cheese-quality milk from the co-op system. This makes it very difficult for small cheese makers to establish themselves unless they are also prepared to be dairy farmers, and difficult for established farmstead cheese makers to grow because they are limited by their herd size and often cannot source additional off-farm milk to produce a larger volume of cheese.

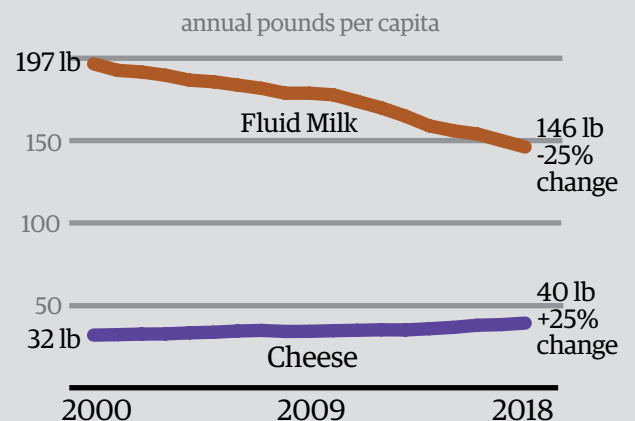
Artisanal cheese makers require milk of exceptional quality. Much of this cheese is made with raw milk, which requires particular care in production and handling. A marketplace effectively optimized to make the highest-quality milk available to cheese makers would support much higher growth in Vermont premium cheese production.

Membership of the Vermont Cheese Council

The Vermont Cheese Council has seen steady growth since its founding, including 12 new members in 2014-2019 alone.



While national consumption of dairy fluid milk has been declining, consumption of cheese has been increasing.



Bottlenecks & Gaps

- There are structural limitations in the dairy co-op system and farmer agreements that restrict cheese-quality milk from being sold directly or distributed directly to cheese makers.
- There is a lack of incentives for producing milk that is pathogenically and compositionally produced specifically for best-quality cheese making.
- There is confusion amongst consumers regarding dairy and value-added product labels such as “raw,” “grass-fed,” “organic,” “farmstead,” “artisanal,” and “natural.”
- Most small cheese producers have limited marketing budgets and are unable to participate in group marketing or group media buys.
- There are structural limitations in storage and distribution of cheese-quality milk and in post-production aging facilities. Cheese makers search for storage facilities to age their cheeses, pushing them to produce more fresh or pasteurized cheeses and fewer aged, high-value raw milk cheeses.
- Farmers, cheese makers, and new farmers/employees in the industry lack educational and safety resources.

Opportunities

- Cheese makers are open to developing and using shared infrastructure for aggregation, storage, and distribution.
- Focused investments in dairy agricultural and cheese-making education in Vermont’s vocational education programs and potentially, prison-based training programs, could provide a trained workforce.
- Strong quality standards and the reputation of Vermont cheeses make it a well-positioned industry for increased marketing support and initiatives.
- Cheese makers are open to group marketing and see marketing the Vermont cheese brand as a smart investment for their products.
- There is a new opportunity to build a strong raw milk research component into the Regional Dairy Innovation Center.
- Existing goat cheese processor demand could support at least ten new goat dairy farms of 400+ goats (the viable threshold for farm size) (see [Goats brief](#)).

Recommendations

- Align the dairy cooperative system with in-state cheese making in order to embrace more types of milk storage, including cheese-quality milk and raw milk for cheese production.
- Vermont’s congressional delegation and the Vermont Agency of Agriculture, Food and Markets should support overhauling the milk classification system to better embrace Vermont’s current needs and future growth trends.
- Clarify and codify cheese labeling nomenclature.
- New business models for support and logistics businesses should be developed, such as haulers, cooperatives, and lab staff specifically for cheese and soft dairy production. Utilize grant programs to assist these businesses with equipment purchases, business planning, and workforce development.
- Increasing annual investments in the Vermont Cheese Council’s marketing initiatives to \$150,000 would provide immediate returns for smaller cheese makers.
- Develop a comprehensive dairy products marketing program focused on quality that would assist producers with limited marketing budgets.

Farm to Plate is Vermont’s food system plan being implemented statewide to increase economic development and jobs in the farm and food sector and improve access to healthy local food for all Vermonters.

The Vermont Agency of Agriculture, Food & Markets (VAAFMM) facilitates, supports, and encourages the growth and viability of agriculture in Vermont while protecting the working landscape, human health, animal health, plant health, consumers, and the environment.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Compost

What's At Stake?

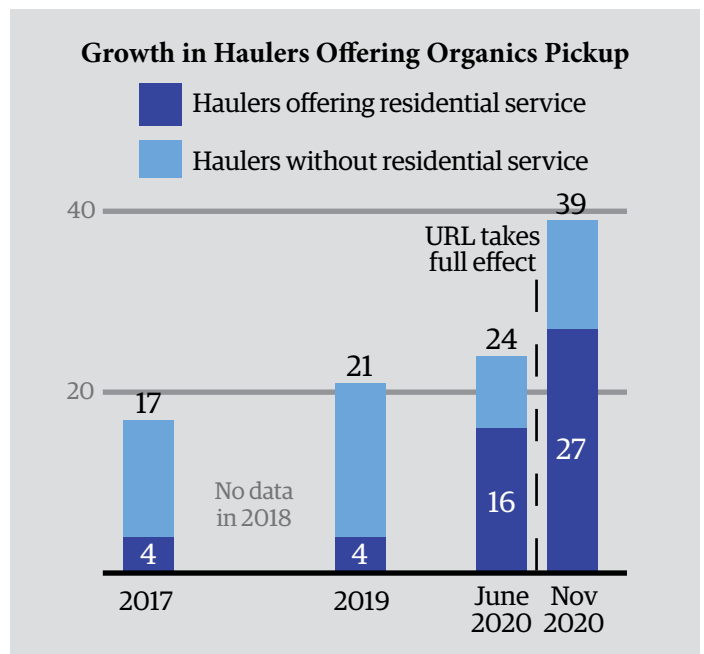
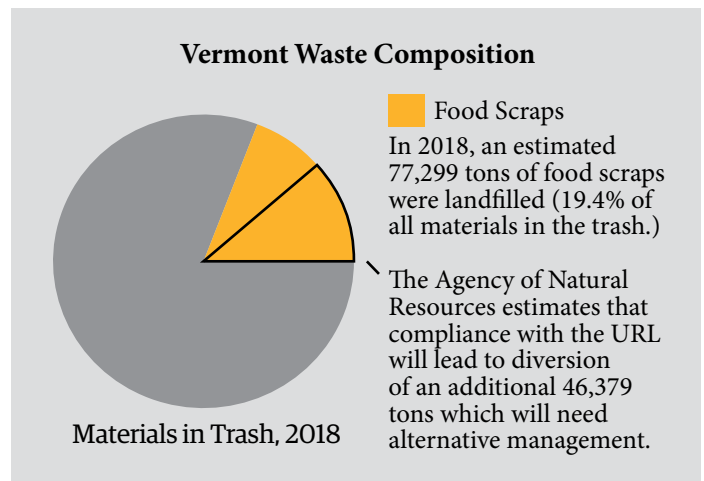
Critical goals are achieved when food scraps, manure, and other organic materials are removed from the waste stream and transformed into compost. Composting operations benefit the environment, create jobs, produce important agricultural inputs, and provide community services. When organic materials are diverted from landfills, where they would emit potent greenhouse gases, carbon emissions are avoided. In addition, converting this “waste product” into high-quality compost for use on Vermont land provides farmers with a valuable material that builds soil health and improves water quality (see [Water Quality](#) brief). Vermont’s Universal Recycling Law (URL) provides a framework for pursuing organics resource management goals, but more work remains to build an ecologically efficient and economically sustainable model for localized, decentralized composting.

Current Conditions

Compost production at farms, community sites, certified facilities, and homes is steadily increasing, largely due to mandated organics diversion in the URL. Food scrap hauling services now provide approximately 80% of Vermont towns with commercial service, including some residential curbside service, and over 100 transfer stations now accept residential food scraps. In 2017, Vermont residents brought over 13,000 tons of food scraps to composting facilities, and composted an estimated 27,000 tons at home. While progress is being made in diverting food scraps from the landfill, most Vermont composting operations have the potential to increase the volume they handle, but are competing against other diversion methods with less benefit to agricultural producers and/or the environment. Regardless of business model, compost operations face challenges both as service providers (i.e., collecting food scraps) and as producers of finished compost products.

Despite URL education efforts, many Vermont residents remain confused about source separation, resulting in significant contamination of food scraps with non-compostables (e.g., PLU stickers). Furthermore, many large stores combine both packaged and unpackaged food when collecting food scraps, which are then hauled out-of-state to depack facilities and run through a depackaging machine. The depackaging process leaves microplastic residuals in the resulting slurry, bringing into question the suitability for use as agricultural compost.

Markets for finished compost have not kept pace with the increasing production volume. Poor understanding of the value and uses of compost lead to resistance to its use in large-scale public and private projects. This is compounded by the absence of quality standards, accepted Best Management Practices (BMPs) for compost use, and standardized product specifications.



Bottlenecks & Gaps

- Preferred practices when composting for agricultural use and soil health may differ from BMPs for solid waste management. Disagreement about how to regulate on-farm composting activities, especially when integrated with animal husbandry, is creating uncertainty, undermining existing compost infrastructure and impeding growth in the sector.
- Contamination is a significant problem that reduces the value of the final compost. Separation guidelines are not always clear to the public, as they vary across Vermont.
- There is no clearly defined funding source to support private operator expansion or improvement.
- Lack of consumer understanding about different compost products (e.g., 100% compost vs landscaper blend) creates marketing challenges. The resulting absence of reliable markets affects the viability of compost operations.
- As the industry evolves with new technology and business models, there can be unintended economic consequences for existing in-state composting businesses.

Opportunities

- Increased compost use builds soil health, protects water quality, and increases soil's ability to sequester carbon and suppress plant diseases.
- Vermont has the capacity to achieve an organics management system that mitigates waste and creates and distributes resources from organic materials.
- Composting creates jobs and new businesses, diversifies the rural economic base, and provides a mechanism to pursue other goals within the farm and food sectors, in a decentralized market that widely extends participation and benefits.
- The projected increase in composting required to meet state diversion goals presents an opportunity to support an increase in organics hauling businesses, compost facilities, and product distribution.
- Development of compost testing programs, product standards, achievable specification designs, and state procurement requirements and project specifications would stimulate the compost market.

Recommendations

- The Agencies of Agriculture, Food and Markets, Commerce and Community Development (ACCD), Education, Human Services, and the Department of Housing & Community Affairs should join with the Agency of Natural Resources to recognize the URL as their own mandate and develop interdisciplinary plans to leverage the law, bringing their collective resources to bear on implementation. For example, ACCD should utilize existing small business development programs and funding to grow the composting industry. The Vermont Farm & Forest Viability Program model can be applied to developing the composting sector.
- The state should address unintended consequences of allowing co-mingled organics to be trucked and depacked out of state, by providing economic support and incentives to maintain existing in-state infrastructure and strategically encouraging on-farm composting systems.
- The state should identify simple, low- and no-cost mechanisms to increase organics diversion, and provide incentives and business and workforce development to private organics haulers and composters (including farms). Examples: encourage town-wide organics hauling; encourage innovation by broadening rules for food scrap collection sites (e.g., allowing unstaffed organics dumpsters at town highway garages); and support community composting at small businesses through small grants for materials and training.
- Funding is needed for research on ecosystem opportunities for compost to directly and additively increase soil's carbon-sequestering and disease suppression ability, and understanding the fate of microplastics during composting as well as strategies for reducing their presence.
- The state and key stakeholders should initiate an outreach campaign outlining the benefits of composting and compost use, and highlighting contamination issues (which could be addressed with clear and consistent guidelines for source separation). The state should require compost containers next to recycling and trash containers in publicly owned buildings and spaces.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Dairy

What's At Stake?

For generations, Vermont has been defined by dairy, an industry that has an economic impact of \$2.2 billion annually and adds nearly \$3 million in circulating cash daily. Wherever you are in the state, and whomever you meet, you are not far removed from the dairy sector, and the socio-economic impacts stretch well beyond the farm gate. Many farm families have been on the same piece of land for over 100 years and hold deep-seated knowledge and a connection to a specific place across time. As the current dairy crisis roils the industry, Vermont is rapidly losing the highest-value use of the working landscape, putting the agricultural land base at risk of permanent loss.

Current Conditions

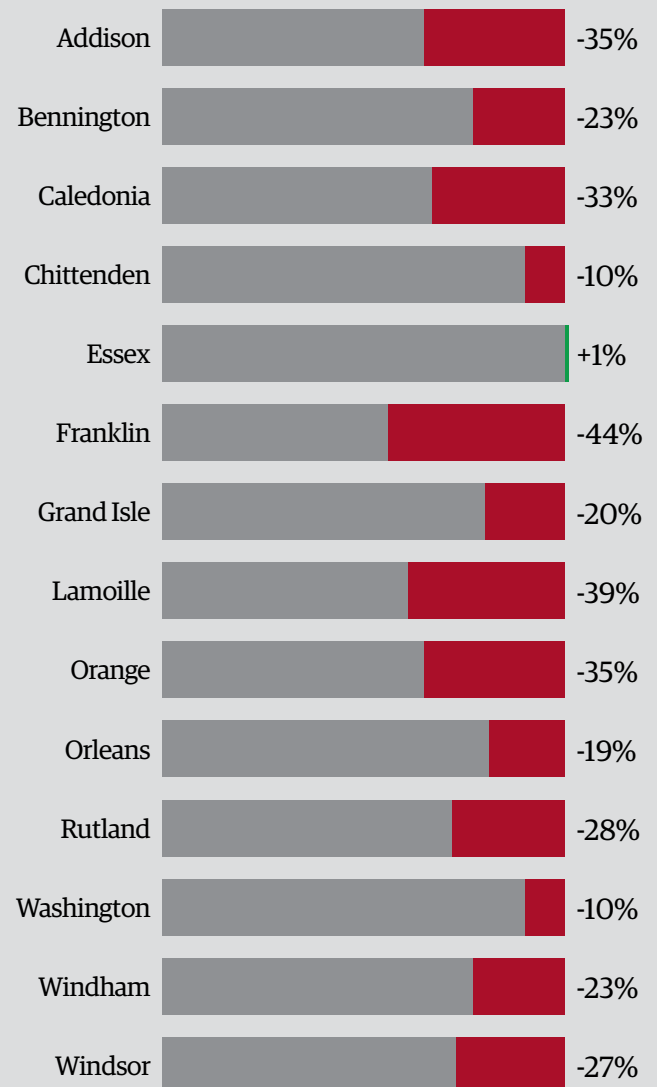
Vermont's 664 dairy farms¹ (470 conventional and 188 organic) produce about two thirds of all milk in New England, with the bulk of it being processed by one of the 151 plants into fluid milk, cheese, butter, ice cream, yogurt, and powder. In 2010, for contrast, there were 1,015 dairy farms and just 66 processors in Vermont, which is illustrative of the rapidly evolving nature of the state's dairy sector and the success of value-added processing as a viable option.

Vermont's dairy farms encompass a variety of scales, production practices, and geographic locations. From 1,200-cow freestall facilities to 30-cow tie stall farms to 60-cow grass-based operations, Vermont's farms run the gamut of possibilities. Unlike the rest of the nation, and making Vermont and New England unique and well-positioned to be the leader in dairy innovation, over 80% of all dairy farms milk fewer than 200 cows. The small, localized nature of the dairy sector gives it greater capacity to evolve in concert with the ever-changing dairy market.

Vermont's dairy sector, across all scales and production methods, has been impacted by the extended downturn in pricing over the past five years, which has been exacerbated by decreased exports and a changing global political landscape. While conventional milk prices have always fluctuated, typically in a three-year pattern from high to low, and organic milk had consistently higher prices over conventional, this long-term decline in both markets is having a significant impact on farms across the country as the cost of production remains at or above the price paid for milk. With the continued overabundance of milk production and record levels of processed products in storage, conventional milk price forecasts do not show a meaningful increase for potentially years to come. Organic milk is buffered to some degree from such drastic market swings, though organic producers have had production quotas and received lower prices over the past couple of years.

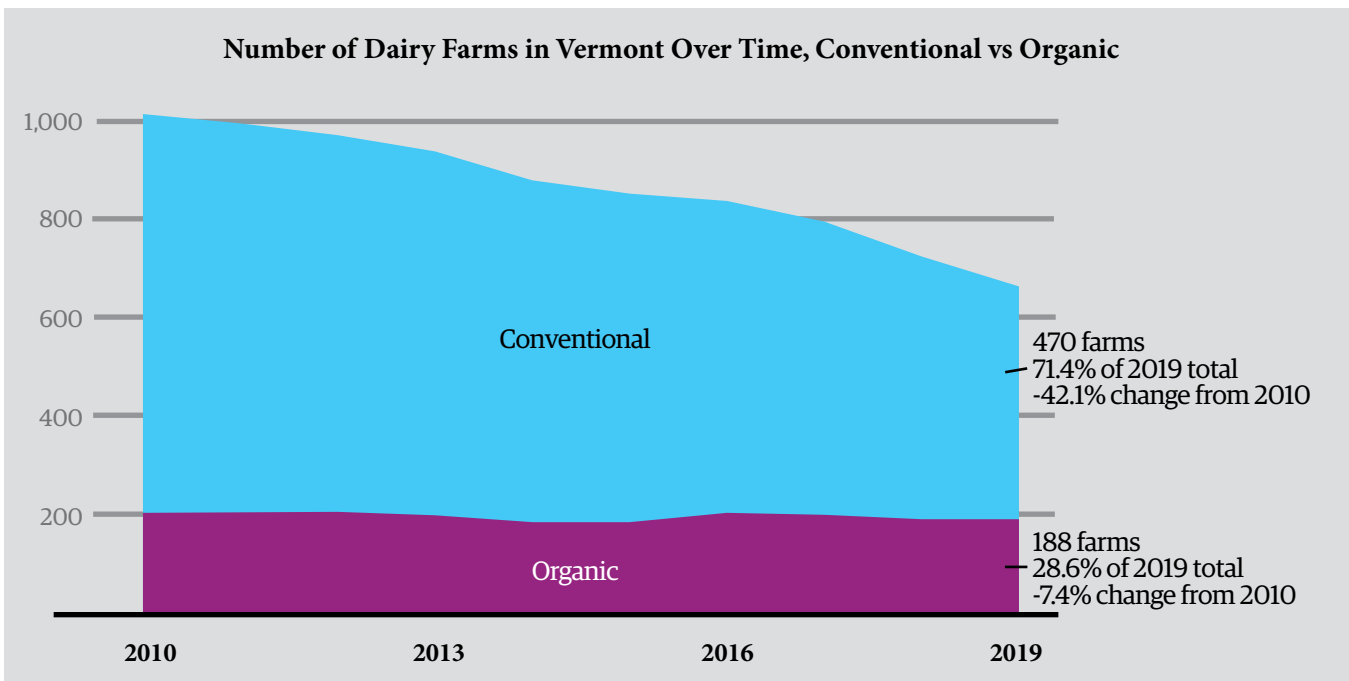
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Percent Change in Number of Dairy Farms, 2009-2019, by County



Dairy farmers are also faced with several other concurrent, high-stakes issues. At the forefront for Vermont are water quality and other environmental concerns, both of which are being addressed by regulations at the state and federal levels. The resulting changes to regulation have increased the financial and reporting burden for farmers. The extended downturn in pricing has led to a loss of equity for many farms and the inability to maintain equipment or infrastructure. For some farms, this has meant putting off critical water quality projects, which could exacerbate compliance issues. Finally, changing consumer preferences and a general negative public perception of dairy farming have created a perfect storm to make the current situation one of the most challenging the sector has ever experienced.

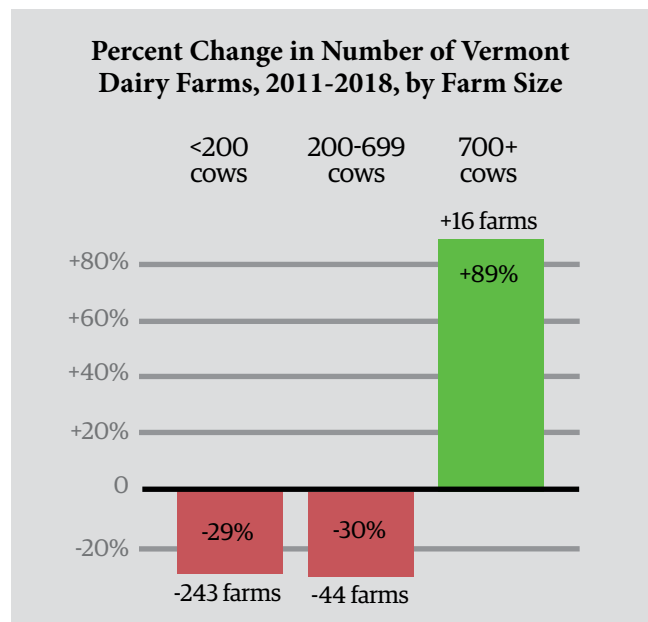
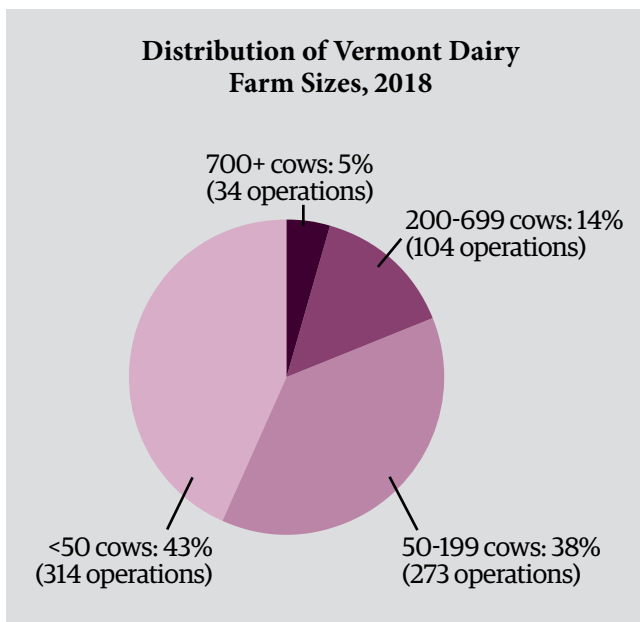
In response to the current dairy crisis, the amount of interest and work focused on the dairy industry has continued to increase and is originating from many different perspectives. Over the past two years, this work has included: Northern Tier Dairy Summit; Dairy and Water Quality Collaborative; Future of Agriculture working group; Working Lands Enterprise Initiative dairy focused funds; Vermont Milk Commission; legislative dairy farm tours; Secretary's Dairy Advisory Committee; USDA Dairy Innovation Initiative; Payment for Ecosystem Services working group; positive dairy messaging campaign; and a dairy market assessment.



Scale Bifurcation

Current Conditions

The dairy industry, much like other commodity production systems, is a least-cost production model, in which farms must get bigger and produce more for less per-unit cost in order to remain viable. As medium-sized farms increase in size, and smaller farms tend to stay small, there is a loss of farms considered “ag of the middle.” This “scale bifurcation” is leading to two opposite production systems in a commodity market which does not value differentiation of production scales. Industry information, from animal housing to nutrition to genetics, is focused on larger-scale farms and production systems, creating a gap in research and services for small farms. Essentially, large and small farms have very different needs and the national dairy industry is mostly focused on providing resources appropriate for larger farms. As Vermont’s dairy sector is primarily made up of small farms (314 farms, or 43%, had fewer than 50 cows in 2018), it is critically important that these smaller farms are positioned for success and have the opportunity to compete differently than their larger counterparts.



Bottlenecks & Gaps

- Small farms are more likely to be family run, rely on off-farm income, have multiple diversification strategies for additional income, and have fewer hired workers, which can mean that issues such as poor health and loss of income from other sources have a greater impact on these farms than on larger farms.
- Smaller farms are disproportionately impacted by the cost of regulatory projects as their milk checks and value of assets are generally lower than larger farms.
- Commodity systems do not have the capability of differentiating between milk from large and small farms, yet this milk is perceived very differently by value-added processors and consumers.

Opportunities

- Small farms are exiting the commodity system by adding value to their own milk or producing milk for a specialty processor, such as milk produced without fermented feeds.
- Both farm scales have value for Vermont and the associated processing that occurs here, and their value should be clearly understood and delineated to ensure that regulations are appropriate for all scales.
- As Vermont has a critical mass of small farms and high-quality technical and business assistance providers, there is a clear opportunity to position the state as the leader of small farm systems.

Consumer Trends

Current Conditions

The dairy marketplace is rapidly evolving as new consumer groups shape the kinds of products desired and how they are purchased. The Gen X, millennial, and Gen Z generations are pushing companies for increased transparency, relationships with producers, and values-oriented production methods, and are stepping outside of the traditional grocery store format for purchases. These generational groups are also more interested in purchasing from small to mid-scale businesses, a key area in which nearly all of Vermont dairy products squarely fit. There is a clear market opportunity for products that meet specific production criteria, including environmental standards, animal welfare conditions, and social benefits. While Vermont's farm scale is small compared to other areas in the country, and thus is better positioned to meet consumer demands, there is a significant concern about dairy farm practices which could impact the entire supply chain as consumers move away from products that do not meet their values. Further, milk alternatives in refrigerated, shelf-stable, and frozen forms have impacted product sales and market share, a trend that does not appear to be easing in the near future.

- Sales of non-dairy milk alternatives are projected to **increase 108%** from 2013 to 2023, compared to a **27% decrease** in dairy milk.
- Since 2000, pounds of fluid milk consumed annually per person in the U.S. has decreased from **197** to **146**, but pounds of other dairy products (yogurt, butter, cheese, ice cream, and other frozen products) has increased from **71** to **81**. When factoring in the pounds of fluid milk required to make each pound of other dairy product, the total annual per capita milk consumption through all products has increased from **595** to **646**.

Bottlenecks & Gaps

- Dairy production strategies, value chains, and processing equipment are well-entrenched and difficult to change quickly in response to consumer trends, and much of the industry is still focused on increasing fluid milk consumption instead of capitalizing on other value-added products that have increasing consumption rates.
- Vermont producers must market to a wide variety of consumers (in-state and across the larger population centers in New England, in addition to customers across the country), and consumer trends can vary widely from coast to coast, so there is no one-size-fits-all strategy.
- Conventional dairy processors have been slow to change marketing strategies, particularly on fluid milk, making it difficult for consumers to differentiate between brands and attributes.
- Access to reliable and timely market research and implementation of findings can be a limiting factor as consumer trends can change rapidly.

Opportunities

- Small-scale farms and processors can be more agile in responding to consumer trends, changing production strategies or product offerings, and are capable of obtaining premium prices for their products.
- Nearly all of Vermont's dairy processors fit into the size category that consumers are seeking out, therefore providing them with the knowledge and skills on how to attract new consumers while meeting production criteria is an opportunity that has strong potential for market gains.
- In order to make Vermont fluid milk stand out more distinctly in the grocery cooler and catch consumer interest, processors could develop new labeling strategies for the stereotypical plastic milk jug, where there is currently a noticeable under-utilization of space that could be used to tell consumers the story and value of the product.



Forage-based Production Systems

Current Conditions

Grass-fed dairy products, specifically those that are also organic, are the fastest growing portion of the dairy case, showing annual sales growth over 30%. Vermont is well-positioned to take advantage of this market due to the abundance of high-quality forages (plants eaten by livestock), expert technical assistance, and availability of processors who seek to enter or expand their reach into the grass-fed market. With the development of standards in labeling across industries using the grass-fed claim, consumers will be able to have confidence in their purchases. A grass and pasture-focused production strategy has additional environmental benefits, including decreased water quality concerns and improved soil health.

- Sales of grass-fed organic dairy products grew **56%** in 2018 alone.
- The total farmland grazed in Vermont decreased from **281,554 acres** in 1997 (**22%** of all farmland) to **158,304 acres** in 2017 (**13.2%** of all farmland).

Bottlenecks & Gaps

- Many Vermont farms, both small and large, do not have adequate land base close enough to their farm to switch to 100% grass production, which requires frequent rotations through nutrient-dense, diverse, and well-managed pastures.
- Switching to grass-fed production can lead to lower milk production, and for farms who rely on certain levels of milk production to meet debt requirements, this can be an inhibiting factor.
- The learning curve can be steep and cause frustration for farmers who are new to the kind of grazing management strategies required for grass production, including the best genetics for grass-based dairy, animal health concerns in switching to a forage-only diet, and training animals to be effective grazers.
- Processors may not be in a position to take, and keep segregated, new grass-based milk production due to limited storage capacity for the differentiated milk, and established milk hauling routes may not easily reach all farms in a single truck load.

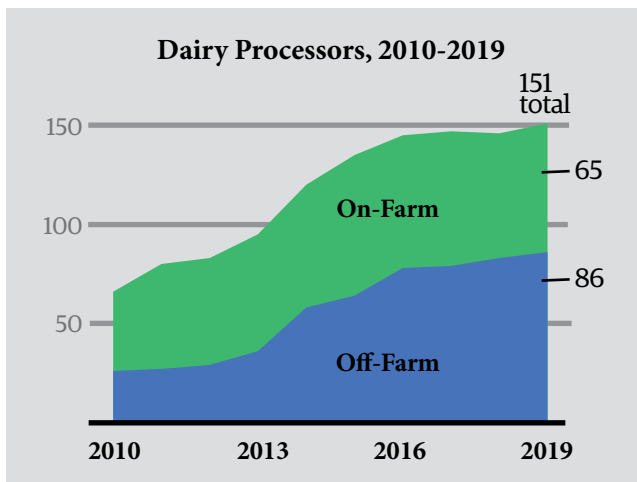
Opportunities

- Regionally, both Maple Hill Dairy and Organic Valley are processors experiencing growth and will need additional supply. There are several other brands nationally whose success and business model could be examples for Vermont.
- Converting more farms to grass-fed production may improve consumer perception of dairy, help alleviate water and environmental quality concerns, and maintain the working landscape in a way that supports both economic and tourism purposes.
- The land base affiliated with dairy farms that are going out of business, or no longer milking cows, can be utilized to graze animals from other farms or produce hay, keeping farmland in use to its highest potential and maintaining the dairy economy.

Value-Added Processing

Current Conditions

Since 2010, Vermont has seen a 130% increase in the number of dairy processing plants, which includes the addition of both large (e.g., Commonwealth Dairy) and small facilities (e.g., on-farm cheese makers), producing a wide variety of products that are consumed locally and exported around the world. Several of the larger facilities that are responsible for processing higher proportions of Vermont milk are owned by out-of-state companies and may also need costly upgrades to remain functional or add capacity to meet changing consumer preferences. Small processing facilities and the high-quality, award-winning products they create have pushed Vermont to the forefront of the artisanal, specialty dairy marketplace both nationally and internationally. The combination of scales of processing and the successful marketing of these products is one reason why Vermont's dairy sector will remain relevant into the future.



Bottlenecks & Gaps

- Maintaining adequate and licensed staff is a common challenge for larger scale processors and milk handlers, particularly in finding enough Commercial Drivers License (CDL) drivers to haul milk.
- Larger facilities often co-pack for other brands and may not have the storage capacity to maintain raw product separation, particularly as the co-packed brands gain additional market share (e.g., Booth Brothers bottling for Organic Valley).
- Small facilities are often a diversification strategy for farms, meaning that farm operators have to also become marketing and manufacturing experts in order to sell a competitive product.
- Small processors who rely on an external milk supply are struggling to source consistent, high-quality milk that meets their production needs as farms continue to close.

Opportunities

- New market research shows that cheese remains an economically viable option, particularly in the specialty marketplace into which most of Vermont's small scale processors fit.² (See *Cheese* brief)
- Goat milk and non-traditional dairy products such as kefir (a fermented milk drink) also show potential for market growth and these processing facilities are underdeveloped compared to traditional cow dairy products. Additional emphasis on building capacity for these products may help ensure continued market viability and relevance. (See *Goats* brief)
- Cooperatives and larger processors are in a strong position to create distinct product lines that could help add value to their brand and return more money to their farmers. This could also help their brand strategy, as public backlash against the continued loss of small farms may have a negative impact on processors.
- Develop alternative milk trucking and handling facilities to segregate high-quality, specialty milk for cheese makers outside of the commodity milk stream.

Alternative Milk-Pricing Strategies

Current Conditions

Milk pricing is a complex, federally run system that is impacted by a multitude of external forces such as commodities futures trading, product disappearance rates, and location differentials. Vermont exists in the Federal Milk Market Order (FMMO) system as part of Region 1, which also includes most of New England (excepting Maine), some of New York, Pennsylvania, New Jersey, Delaware, and some of Maryland. The FMMO system was put in place to help ensure that milk moves around the region and country in an orderly fashion, and that prices reflect distance to major milk consumption markets. Federal milk pricing sets the minimum farmers can be paid and impacts all farmers who sell into the conventional commodity stream. All processors have the ability to pay additional money for qualities they deem important (e.g., butterfat levels, milk quality) and this is the reason that organic prices are much higher, yet variable across organic processors. The [Caring Dairy](#) and [Milk with Dignity](#) programs are also examples of how processors can add money to milk checks based on farmers' production practices meeting specific criteria.

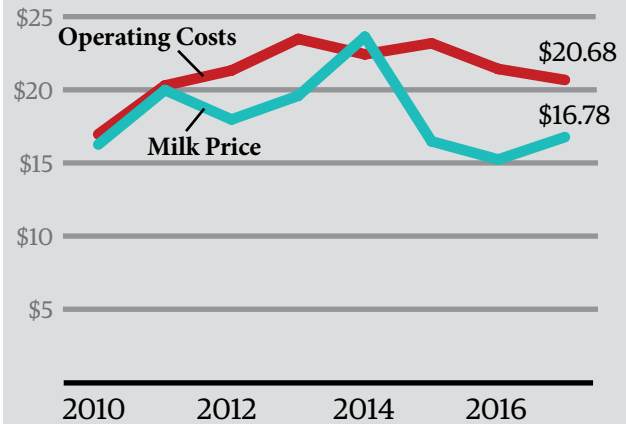
Bottlenecks & Gaps

- Because prices are impacted by national milk production deficits or surpluses, any type of supply management system will need mandatory national buy-in in order to be effective at raising and steadying milk prices.
- Federal milk pricing formulas are based on a limited number of products and do not reflect the actual market or consumption trends in the dairy sector.
- As one of the FMMO states, Vermont's ability to enact pricing changes is limited and must be an add-on to the base milk price.



Operating Costs and Milk Price per 100 lbs Milk Sold, 2010-2017

Milk price displayed is the Federal conventional price for Vermont farmers. Operating costs are Vermont-specific USDA estimates and exclude some expenses such as labor.



Opportunities

- The State of Vermont has the opportunity to add money to a farmer's milk check above the federally set price and there are several different models for how this could work — payments for ecosystem services, being a farmer in compliance with regulations, or additional funds for maintaining farm appearance, for example — which could have additional benefits of making Vermont dairy products more attractive to consumers.
- Components pricing is an opportunity that could move the pricing of milk away from primarily a fluid market and into a fat/protein market to follow consumption trends, with New Zealand being a model of success for this system. Components pricing pays the farm for the weight of solids (protein and fat) versus liquid volume.
- Seasonal production can be seen as an alternative payment model as farmers could get paid more by their processors for producing milk when they need it most and drying off their whole herd when the processing plants are over-supplied.
- Supporting additional programs or growing existing programs such as [Caring Dairy](#) and [Milk with Dignity](#) helps both the processors sell more products and return more money to dairy farmers who choose to meet the criteria.

Summary

Vermont's dairy farmers are actors in a system that does not account for geographic, social, environmental, or consumer considerations of farming, and thus must compete with least-cost producers in other states where mega-dairies and lax environmental regulations are the norm. Vermont has an opportunity to be the national leader for innovative and responsive solutions to the current dairy crisis and future downturns, and new policies should clearly place the state out front in addressing climate and environmental concerns while sustaining small farms. The above subtopics address some of the most pressing challenges and opportunities in the dairy sector and, while not all-inclusive of the issues facing the industry (e.g., workforce, U.S. immigration policy), lay out areas that have substantial interest and potential to change the Vermont dairy industry along a positive trajectory. The recommendations that follow build on the subtopics by providing overarching ideas for how to address the dairy sector's most pressing needs.

Recommendations

- Reinvigorate farmer cohort learning groups by funding a position that can coordinate meetings between farmers of different scales and in varying regions to share their specialized knowledge and allow farmers to connect with each other to broaden skill sets while providing social outlets. This could also be a coordination role between the many dairy support organizations who are already conducting on-farm events so as not to be duplicative and to make events welcoming to all. NOFA-VT hosted this cohort model several years ago with great success and it is an example of why New Zealand's dairy industry is so successful and adaptable. Cost: \$100,000 annually for a position and associated costs for successful meetings.
- Establish a formal mentorship program that will pay successful, retiring dairy farmers to work one-on-one with young farmers and help them navigate the challenges of being a new or beginning farmer, including animal health, farm management, and financial and personal challenges. This relationship keeps the inherent knowledge of land, cows, and dairy production going strong and does not de-value the worth of years in the industry. The Dairy Grazing Apprenticeship program could be a model for this system. Cost: \$12,000 per farmer/mentee relationship.
- Incentivize new farmers and farm transitions by starting a program similar to the Agency of Commerce and Community Development's Remote Worker Grant Program, that will help defray costs of starting a new dairy farm or taking over the operation of an existing farm through a family or business transition. For example, the program could seek out graduates of the Dairy Grazing Apprenticeship program to increase the amount of grass-based dairy farming, and target successful young farmers looking for an opportunity to start their own farm business. Cost: The program costs would be highly variable based on what would be covered. For example, defray closing costs on a farm purchase, provide a living stipend for a year, and provide a mentor to assist during the first two years of operation.
- Ensure that the current processing capacity is maintained or increased as this is critical to long-term farm sustainability. Incentivizing or funding plant maintenance and energy efficiency upgrades will keep this critical and expensive piece of the supply chain in operation and will attract additional types of milk production in the state as companies expand product lines.
- Expand opportunities to differentiate the milk supply by supporting farm and processor transitions to, or increasing production capacity for, higher-attribute milk (grass-fed, organic, GMO-free) that responds to consumer trends and positions Vermont as the leader of innovative dairy production.
- Provide incentives and ensure current funding opportunities benefit dairy farms to move towards energy efficiency, including equipment upgrades, renewable energy generation systems, and work in concert with the needs of milk hauling and processing companies.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Eggs

What's At Stake?

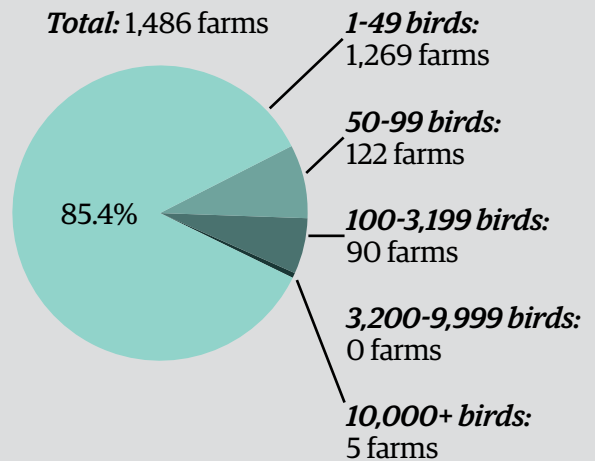
Farm-fresh eggs have long been an inexpensive source of high-quality protein and a popular choice for consumers looking to support local farms. Eggs have a relatively low cost of entry for diversified farmers looking to add a new small-scale enterprise. While demand is generally high, farmers have often found limited profitability due to lack of efficiency in production and high feed costs. As a result, many diversified farmers experiment with selling eggs for a period of time but not many have scaled up to a commercial level. Significant opportunity exists for Vermont farmers to expand their egg operations in a way that is complementary to their other products and markets.

Current Conditions

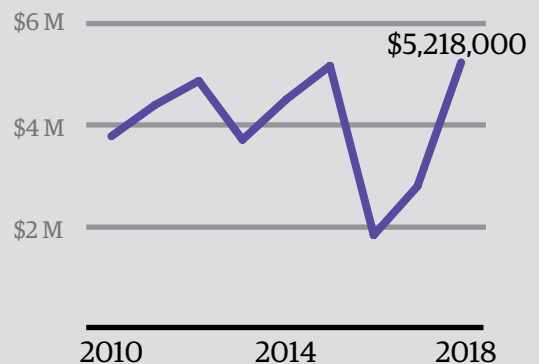
The commercial poultry industry has been largely concentrated in other parts of the country with low feed costs and proximity to processing facilities. (For meat poultry, see [Poultry brief](#).) Eggs are mostly sold in Vermont as Grade A (i.e., fresh eggs) and must be labeled according to state regulatory requirements.¹ Vermont egg producers are generally small-scale and sell directly to consumers through farm stands and farmers markets, and/or sell wholesale to small co-ops and retailers. A commercial-scale wholesale market for organic eggs is now available to large producers, selling to New Hampshire-based Pete and Gerry's Eggs. Wholesale organic egg production to a large buyer like Pete and Gerry's requires considerable investment in facilities and expertise and offers the potential for significant income, stable markets, and no time spent washing or marketing eggs.² Very few Vermont egg producers have had success selling directly to regional grocery chains due to lack of scale, processing efficiency, and low wholesale prices.

There are significant gains in efficiency when scaling up poultry production, which has meant that commodity egg markets are dominated by very large producers that sell eggs at very low prices. Vermont farms will generally need to find high-value markets that reward production and marketing attributes such as organic, free-range, pastured, and local. Reducing feed costs and increasing efficiency are essential to building a profitable egg business. Mid-size farms with 300-3,000 hens generally can find good markets and may be profitable if they can keep production up and expenses down. Flocks over 3,000 birds fall under additional USDA and FDA regulations with specific sanitation and record-keeping requirements and inspections.³

Vermont Farms with Laying Hens, 2017



Total Value of Vermont Egg Sales



Bottlenecks & Gaps

- Feed is generally the largest production cost for egg producers and if not handled efficiently can limit profitability.
- Many Vermont farms have inefficient systems for washing and packing eggs. It can be hard to find reasonably priced egg-washing and packing equipment appropriate for small to mid-sized producers.
- Many small farms have low production in their flocks due to breed choice, lack of expertise, and inability to provide controlled winter living conditions. This limits profitability and larger-scale market access.
- Because the poultry industry in Vermont is small, both farmers and service providers lack expertise in poultry health and disease issues, biosecurity practices, and state and federal regulatory requirements.
- As flocks get bigger, finding a market for old hens can be a challenge. Out-of-state markets exist but require additional processing and testing, while bringing a fairly low price due to the low meat yield of modern laying-hen breeds.

Opportunities

- Consumer demand for eggs is generally high at farmers markets and local food co-ops, and eggs are an affordable source of protein.
- Commercial contracts with Pete and Gerry's can allow access to regional markets without having to invest in processing and marketing.
- Eggs work well as a complementary enterprise for diversified direct-market farms. With limited investment, farms can add a small to medium-sized egg operation and sell to their existing customers.
- As both consumers and businesses are now required to divert food scraps from the waste stream, certain parts of this resource could be diverted to poultry farms. While this can dramatically reduce feed costs, there are regulatory and sanitary challenges that must be managed properly, e.g., doing so at scale can place farms under Agency of Natural Resources solid waste permitting and risk removing the farm from Act 250 exemptions.

Recommendations

- Assist farms considering expanding their egg production with technical assistance related to efficiency, equipment, planning, and regulations. Automated feed, water, and egg-collection systems can cut labor requirements dramatically, so producers must consider barn design and engineering as well as sourcing automated barn equipment. Managing temperature and humidity in large barns requires thoughtful design of ventilation systems and proper barn construction. Mobile pasture housing is another option that also requires thoughtful planning in order to be labor-efficient. Farms also need assistance with understanding how to protect their flocks from disease and how to implement biosecurity measures. An additional 1 FTE is needed to provide this kind of technical assistance as more producers enter this market. Cost: \$100,000
- Until dedicated poultry technical assistance personnel become available, UVM Extension and service providers could support farmers by developing more poultry expertise internally or by bringing in poultry experts from other states. Conferences, workshops, or a poultry producers' association could help farmers be more successful.
- Cost-of-production studies and planning models can provide benchmarks to help both producers and lenders make smart decisions regarding expansion. The Intervale Center has developed an enterprise budget tool that could be expanded to model various types and scales of operations. National resources also exist, including the USDA National Poultry Improvement Plan Program.⁴
- Assistance in evaluating and sourcing new and used processing equipment from commercial poultry regions is needed. While most new egg-processing equipment is designed for very large producers, there are now several manufacturers designing small-scale egg washers. Older small-scale egg-washing equipment can be difficult to repair.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT: Food-Grade Grains

What's At Stake?

Consumers are concerned about where their food comes from, yet may not realize that the majority of local grain-based products (e.g., flour, bread, baked goods, beer, and spirits) are not made with locally grown grains. Local grains market opportunities are beyond direct-to-consumer, as brewers, maltsters, bakers, restaurant owners, food distributors, and others have all demonstrated interest in greater local product availability. For Vermont dairy farmers looking to diversify, growing grains is a feasible option because grains can be grown at scale, would benefit the forage rotation, are suitable for our soils and climate, and offer a diversified income stream. For farms to continue to, or transition to, growing edible grain, there needs to be additional equipment and infrastructure in Vermont for growing and processing, strong regional markets, access to capital, and research-based technical assistance.

Current Conditions

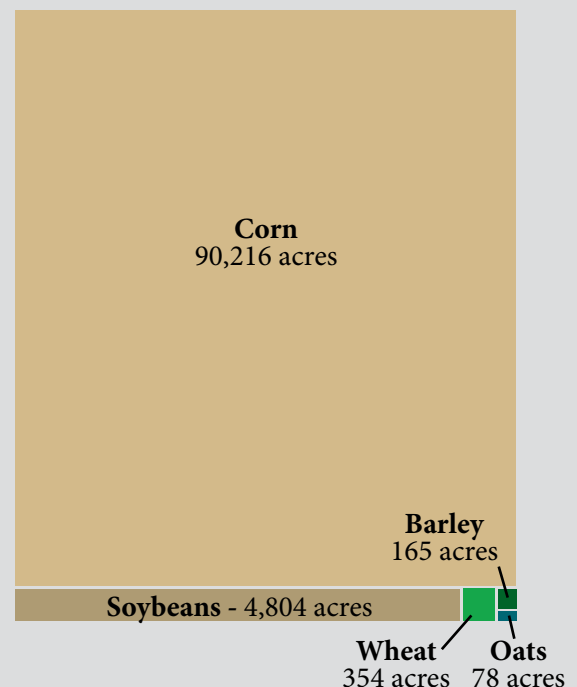
Vermont was a national hub for grain production in the 1800s, but today, much of the grain and foods containing grains are imported into our state. This represents a missed opportunity for Vermont farmers and the numerous related businesses that could benefit from a local grains economy. Consumers are demanding goods that are grown or produced locally. Beer, bread, and spirits are all rapidly expanding Vermont products and markets requiring grain for production. Vermont brewers and distillers use an estimated 31 million pounds of grains each year with less than 5% of that grain coming from local or regional growers. Peterson's Quality Malt in Charlotte is providing brewers with a new malt made from local and regionally sourced grains, and estimates the demand will increase to 8,000 acres by 2023.

Similarly, the number of bakeries in Vermont and surrounding states presents a significant opportunity for local flour production. However, Vermont lacks processing infrastructure to turn raw product into a flour, severely limiting opportunities for farmers and end users.

In order for the Vermont grain economy to grow, infrastructure is required for growers to harvest, dry, store, aggregate, mill, and process their harvested grains. At this time, such infrastructure does not exist in our state on a scale that is necessary to meet in-state demand, let alone sell into out-of-state markets.

In 2017, Vermont had an estimated 147 bakeries, 35 breweries, and 12 distilleries. These numbers only include establishments captured by either the Bureau of Labor Statistics or the US Census Bureau Nonemployer Statistics and may be an undercount.

Conservative estimates show additional wheat demand requiring approximately 8,000 acres, and additional barley demand requiring 2,855 additional acres. The amount of existing corn and soy acreage shows Vermont has the land capacity to grow enough grain to meet estimated current food-grade demand.



Bottlenecks & Gaps

- There is limited information on local and regional market demand and opportunities for grain.
- There are limited Vermont processing facilities and those that exist have infrastructure needs (e.g., threshers, seed cleaners, mills, industrial dryers, grain bins, storage, etc.).
- The system for distributing and marketing Vermont-grown grains, both in state and out-of-state, needs improvement.
- Farmers new to growing grain need individual technical assistance, both agronomic and financial.
- More research and testing services are needed to evaluate seed quality and assist growers with producing an exceptional product for value-added sales.

Opportunities

- Grain centers, established in other regions, are facilities which allow grain growers to properly and efficiently grow, harvest, clean, dry, test, sort, market, and handle grains going to the local markets. Grain centers can create and support new jobs such as farmers, millers, process facility labor, skilled labor, engineers, scientists, economists, market analysts, researchers, etc.
- Vermont-branded grains could leverage the state's brand and reputation for quality and farm-to-table foods and beverages.
- Investing in a local grain economy would help diversify farms and sustain or create new jobs in the agricultural sector (i.e., custom combine operations, grain equipment sales, grain processing jobs).

Recommendations

- Create a Vermont grains processing center with a multitude of benefits, including job creation and market security. This center would encourage more working lands to transition to grains, boosting the local markets. It would increase the reliability of grain quality for buyers, mitigating the risk of quality inconsistencies and boosting the potential monetary value for farmers. A grains center could control the quality of grain through consistent cleaning, drying, milling, processing, and storing.
- Provide funding for capital expenses to eliminate some of the small-scale infrastructure gaps. This funding could be available to farmers, or to organizations and/or businesses that work directly with farmers.
- Develop regional market connections and a marketing mechanism for Vermont grain products, particularly specialty grains. For example, fund the Northern Grain Growers Association to develop quality production standards for Vermont grain farmers to use if they so choose and fall under the qualifications of the program.
- Increase funding for research to identify marketable grains that grow well in Vermont, such as barley, spelt, and heirloom wheat varieties. With climate change and ever more unpredictable weather and seasonal patterns, creating new varieties and production strategies that can be resilient in Vermont will become of even greater importance than it is now. Cost: \$75,000 per year.
- Increase funding for technical assistance. Farmers and grain related businesses have technical assistance requirements that are not always readily available in Vermont. Building connections through UVM Extension and Northern Grain Growers Association to increase technical assistance availability would improve grain quantity and quality. Cost: one FTE at UVM Extension, \$125,000 per year.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT: Goats

What's At Stake?

Vermont has driven growth in the artisanal cheese industry over the last 40 years. Today there are a dozen Vermont goat cheese brands, including the number two national brand of retail goat cheese. Due to the success of Vermont goat cheese makers, an estimated 5,000 additional milking goats could be needed in the state. In parallel to the goat dairy industry, the goat meat industry is still in development but has strong potential with both general and immigrant consumer markets. The goat industry represents a diversification opportunity for cow dairy operations, potentially contributing to keeping farms in business as well as maintaining a vibrant agriculture landscape in Vermont.

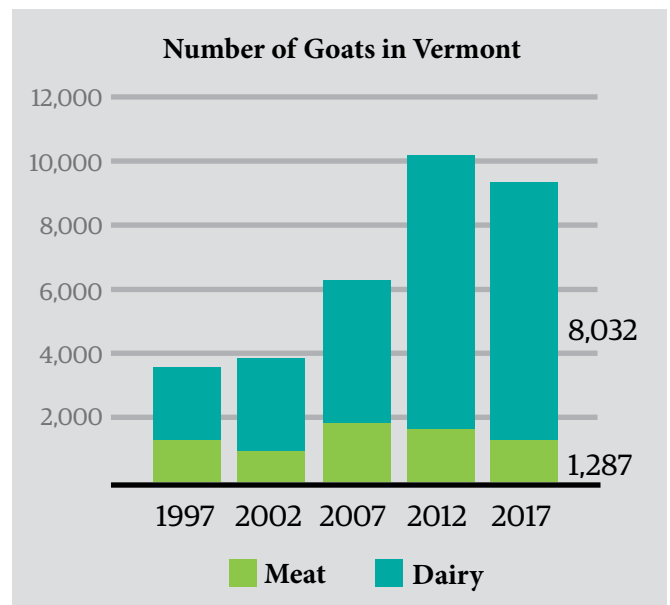
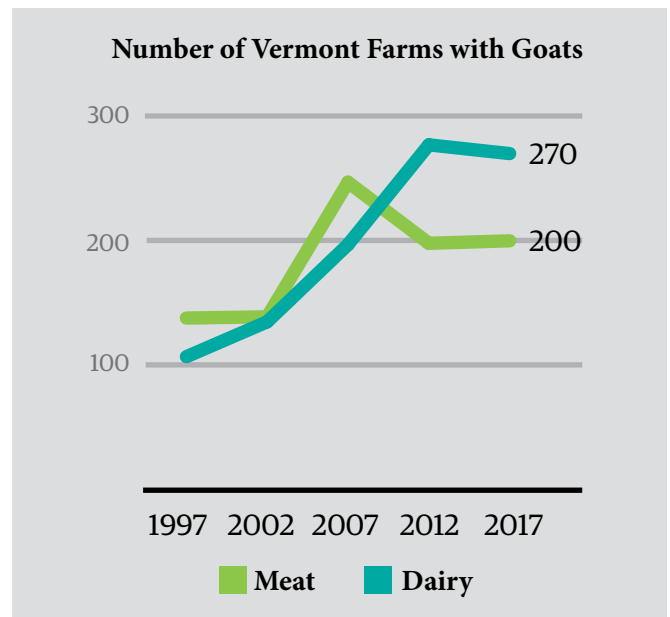
Current Conditions

Vermont's goat milk production has grown from 2 million pounds to almost 3 million pounds over the past five years. The demand for Vermont goat milk is larger than current state production, resulting in an out-of-state supply strategy from major Vermont cheesemakers. Vermont Creamery anticipates processing approximately 25 million pounds of goat milk per year by 2024, a meaningful opportunity for the state's dairy farming industry. Other prominent Vermont cheesemakers have taken interest in the goat cheese industry (e.g., the Cellars at Jasper Hill).

Goats generate income for a farm within 12-15 months, and give birth to females more often than cow reproduction, enabling a quick growth of the herd and improvement of genetics. Less cash is required to set up an efficient goat dairy than an efficient cow dairy. Labor costs are higher for goat dairies than cow dairies, however the work itself can be less arduous.

Goat meat also shows promise nationally, with about 2.5 million goats being raised for meat in the U.S. currently, and a need for up to 750,000 additional goats per year in order to meet national demand.¹

Vermont can become a leading state for goat farming by increasing the availability of technical assistance and production expertise, improving marketing support for the industry, communicating the opportunity to meet growing demand, and ensuring access to financing for new and existing goat farms.



Bottlenecks & Gaps

- There is a lack of dedicated resources and knowledge about goat dairies and a corresponding shortage of targeted outreach on opportunities that exist in the goat dairy market.
- There is a lack of capital for on-farm diversification for farmers interested in adding goats.
- There is an insufficient level of support services in the Vermont goat industry (e.g., vets, feed consultants), especially regarding nutrition, genetics, and best husbandry practices.
- As the goat dairy industry grows, there is a need to further develop a market for goat bucklings (male kid goats) which are a by-product of dairy operations.
- The goat meat market faces a lack of consumer and chef awareness, as well as inefficient slaughter and processing infrastructure.

Opportunities

- Existing cheese processor demand could support at least ten new goat dairy farms of 400+ goats (the viable threshold for farm size).
- Farmers can diversify cow dairies by retrofitting milking parlors for goats.
- Growing demand for goat meat represents an additional market for farms as they grow their goat dairy operation. Current national demand leads to 52% of goat meat being imported from Australia and New Zealand.
- Additional consumer sampling, recipes, and cooking education regarding low fat, lean goat meat could be done through restaurant and retail partnerships.
- Local retailers see an opportunity for increased value-added products for retail to be further developed, such as goat yogurts, gelato, caramel, butter, ice cream, buttermilk, skyr, and jerky.

Recommendations

- Create a “Center of Excellence” with an on-site farm in Vermont to support growth of the goat farming industry and build expertise. Vermont Technical College has expressed interest in exploring this opportunity. This leadership could be a model for other states interested in farm diversification and keeping agricultural land in production. The first step is to explore the cost of creating such a Center.
- Offer financial support (a combination of low-interest loans and grants) for on-farm diversification that includes goats, in order to support the costs related to infrastructure, cash flow, and herd transition. A process to pair investors with farmers in search of capital could be mutually beneficial. The overall cost is approximately \$400,000 to diversify a cow dairy to include goats. The cost of a new milking parlor is \$150,000, the cost of 400 goats is \$160,000. (Total cost to get to ten 400-goat farms is \$4 million.)
- UVM Extension should create a staff position focused on goat farming to coordinate farm development efforts within the state and create resources to share with farmers interested in diversifying to goat dairy production. Cost: \$100,000 per year.
- The Vermont Agency of Agriculture, Food and Markets could assist in developing marketing materials for goat meat as well as consumer and chef education through training and sampling, and the facilitation of restaurant and retail partnerships.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Grapes

What's At Stake?

Grapes and wine are a fledgling industry in Vermont with great economic potential and a growing reputation for quality. Grape varieties that tolerate Vermont's cold winters and produce high-quality wines have only been available since the late 1990s, and in 2016, the value of cold-climate grapes and wines in the United States was estimated at \$400 million. To support and sustain Vermont's share of this growth, the industry must define and maintain standards of quality and regional identity of the diverse wines made in the state. Producers also require organizational and technical support in grape cultivation, business development, and winemaking practices in order to maintain competitiveness.

Current Conditions

In the 1990s, Vermont's grape production was near zero, as wine grapes were not able to survive the cold climate or ripen to produce a high-quality wine. Cold-climate grape production began with the introduction of grape varieties developed in Minnesota and Wisconsin, and now breeding programs continue to develop and release new varieties every year. By 2018, approximately 200 acres of grapes were planted in Vermont,¹ with total wine value estimated at over \$4 million.² Wines are primarily sold on-site at wineries, with limited restaurant sales and out-of-state distribution. Vineyard growth has been stagnant for the past decade. However, recent growth in "natural wines" made from low-input vineyards with minimal winemaker processing has drawn attention to some Vermont wineries, including from national and international press.

The unique production requirements of grapes and wines require research, education, and business development services. Varietal selection, cold hardiness, training systems, disease management, limited skilled-labor availability, and crop load management are just a few of the challenges grape growers face annually. Likewise, winemaking techniques, access to equipment and financing, and legal considerations are critical to winery success. And capital, financing, branding, and sector development are critical needs to growth of both vineyards and wineries. There is presently limited in-state or regional support from universities or industry groups to support these needs.



Bottlenecks & Gaps

- There is a lack of technical assistance providers in Vermont to assist growers and winemakers, who must integrate research and knowledge of viticulture, winemaking, and marketing.
- Grape variety development is still occurring, and it is likely that the best varieties for Vermont climate and soils have not yet been released or evaluated. The long development cycle from breeding to selection to testing to planting to winemaking to profitability is a substantial industry disadvantage.
- Cooperation between wineries and vineyards is limited. Not enough grapes are produced, either of the optimal varieties or using the growing practices required for the growing natural wine sector, to encourage business growth.
- Because of high up-front costs, long period of return on investment, and market risks associated with a relatively new industry, it is difficult for wineries and vineyards to attain capital and financing.
- Department of Liquor Control regulations on tasting room sales, wine shipments, and other sales practices limit potential sales and threaten winery profitability.

Opportunities

- Vineyards may present new opportunities for farmers and farmland as changes continue in the dairy, orchard, and other industries. There is growing interest in grapes and wine among beginning farmers.
- Exploration of vineyard sites outside of the Champlain Valley may present new micro-climates and terroirs that produce unique wine styles.
- Expansion of the “natural wine” sector using alternative farming practices, native vineyard yeasts, and less intervention in the winery may increase the market visibility of these high-value wines.
- Food culture in Vermont is amenable to marketing collaborations that increase the profile of locally made, unique wines. Collaborations between wineries and cideries and restaurants, vineyards and livestock farmers, and between vintners, present opportunities for novel products, marketing, and shared resources.
- Growing the level of wine knowledge and appreciation among restaurant staff and consumers, related to cold-hardy grapes and Vermont terroir, could lead to increased sales.

Recommendations

- The Vermont Grape and Wine Council (VGWC) and the Department of Liquor Control (DLC) should review rules for wine sales to address critical issues that limit winery success. In particular, repeal a recent DLC rule that prohibits wine sales by the glass in winery tasting rooms. (See *Beer*, *Spirits* briefs.)
- Provide funding for one or two full-time research and technical support staff at UVM Extension or other organizations with viticulture, pest management, winemaking, and marketing expertise. Research and outreach programs should include support for production and winemaking practices used across the Vermont wine industry, including natural wine producers. Work with farm support providers to connect landholders and vineyard owners with interested wine producers. Cost: 1 or 2 FTEs; \$100,000-\$200,000 per year.
- Offer operational and organizational support to the Vermont Grape and Wine Council (VGWC), which was formed by legislative statute in 2007. Support may be provided by the Vermont Agency of Agriculture, Food and Markets, Vermont Sustainable Jobs Fund, UVM Extension, Vermont Fresh Network, or other entities with experience in organizational and market development.
- Develop collaborations across state and international borders (especially in Quebec), with universities, industry associations, and businesses to expand opportunities available to Vermont producers.
- Create a dedicated revenue source or “check-off program” to support technical assistance, marketing programs, and VGWC operations. This has been very successful in other developing wine regions like Nebraska, Pennsylvania, and Iowa.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT: Grass-Fed Beef

What's At Stake?

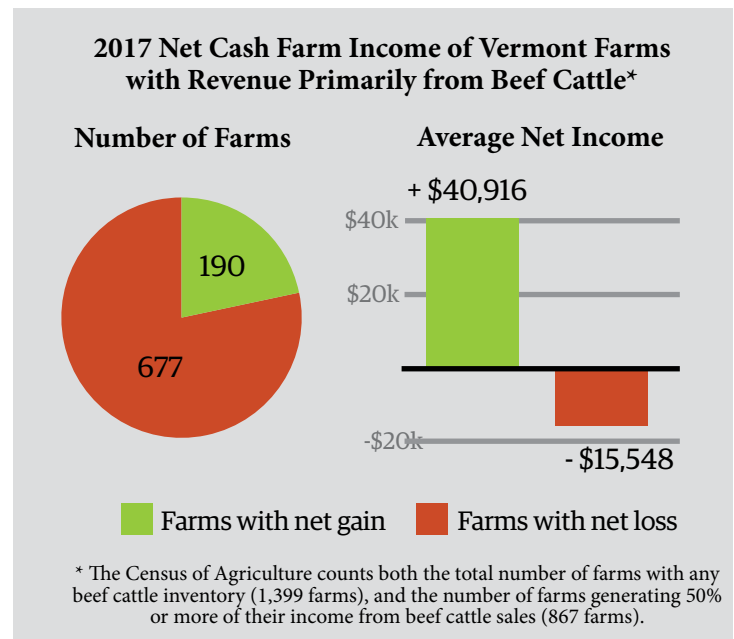
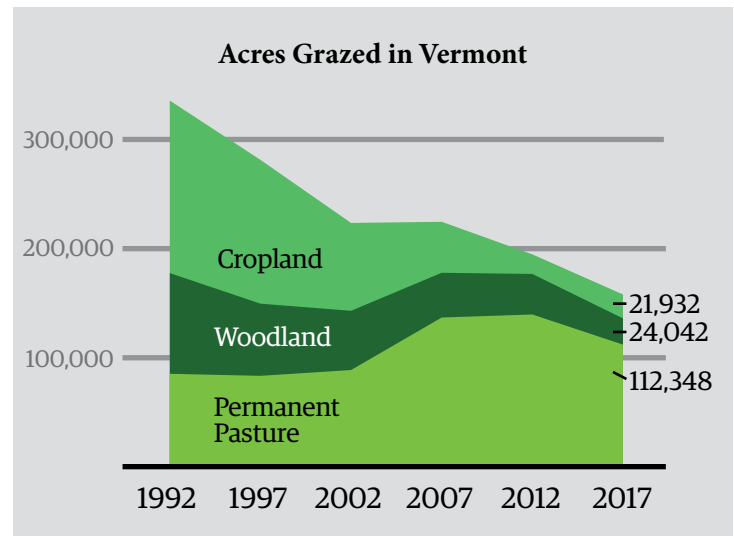
The market for beef labelled “grass-fed” has been growing quickly across the nation, from \$17 million in 2012 sales to \$272 million in 2016 sales.¹ Adding value through a production system and/or marketing label can bring higher prices paid to the farmer, and potentially higher farm profitability overall. That said, with increased demand comes increased national and international competition as well as a heightened need to improve Vermont beef genetics and grazing management in order to create year-round quality and consistency for local and regional wholesale markets. Beef represents an exciting opportunity for young and aging farmers, whether animals are grass- or grain-finished in Vermont or sold live into larger regional outlets, but will require focused coordination in order to grow within regional markets and maximize profitability and the benefits to Vermont’s farm economy.

Current Conditions

Grass-fed beef is experiencing a rising demand from consumers regionally, nationally, and internationally. Vermont is well positioned to serve grass-fed beef market demand in the Northeast, as we are able to grow grass at times of the year when other parts of the country experience drier conditions due to climate change-induced droughts, and because additional acreage could be converted from corn and hay that had been serving the dairy industry into grassland for beef production.

In 2017, Vermont had 1,399 beef cattle farms with more than 15,000 animals, a 37% increase over 2012. When managed well, grass-based beef and other livestock farms have been shown to increase soil fertility, improve water quality, sequester carbon, encourage biodiversity of soil microbes and wildlife, encourage farm profitability and farmer quality of life, produce high-quality meat with increased beneficial nutrients, and preserve a working landscape that enhances Vermont’s visual attraction to visitors and residents.

While offering the above benefits², the way that grass-based beef has historically been produced has been challenging financially for producers. Vermont beef farms often manage a complete birth-to-death cycle, raising animals through one or two winters, which requires expensive winter feed (i.e., hay) that deeply affects profitability. Slaughter and processing plants are financially strained by the seasonality of demand for their services. Additionally, the limited availability of less-expensive cattle feed (such as grass), genetic variability, speed of weight gain, and wide differences in grazing management skills can cause inconsistent quality in the meat eating experience.



Bottlenecks & Gaps

- Beef production requires large amounts of capital to get started, outside of the cost of acquiring land.³
- There are longstanding cultural expectations among farmers and consumers that farmers must manage every stage of the beef life cycle, regardless of farm size, production system, or skill set.
- There is a need to balance importing animals from other U.S. regions, in order to improve genetics for weight gain in forage-based systems, with the necessary protections to track animal movement and reduce the spread of disease.
- We need grazing management practices that produce the most profitable beef.
- The lack of a clearly defined, USDA-recognized “grass-fed” beef label outlining specific production practices, ingredients, and/or attributes creates inconsistency in the eating experience.

Opportunities

- Young and beginning farmers with a strong managed-grazing skill set want to enter the livestock industry.
- Aging farmers, particularly dairy, beef, and crop farmers, are retiring without defined successors ([see Succession brief](#)).
- Semi-retired dairy farmers with existing infrastructure can utilize their stored feed and manage beef in winter.
- Regional partners are coordinating sales of Vermont cattle into the regional system, are identifying skilled “grass-finishing” farmers, and are collecting packaged beef from farms with shared production methods to market under specific brands, using technological approaches to transparency of labelling and improved consumer education.
- Crossbreeding dairy and beef cattle for export to specialized markets may increase the value of dairy calves and meet consumer demand.

Recommendations

- Develop a multi-year benchmarking/tracking program with beef production methods (high and low-intensity grazing management, grain-finished and grass-finished), markets (regional auction, aggregator-mode, direct sale, etc.), and profitability levels in order to assist farmers in making better business decisions.
- Establish financial support for shared-learning cohorts of beef producers in business planning and management programs. In addition, make grant opportunities available to Vermont graduates of [Ranching for Profit](#), particularly participants in the benchmarking program.⁴
- Actively develop stronger beef-dairy partnerships to reduce feed and housing costs, share overhead expenses, and increase appropriate market channels for dairy beef as a complementary product.
- Create a targeted education and outreach program to improve beef quality and grazing management for all types of beef production, particularly for grass-finished markets, and to increase consistency to serve larger urban markets. Combined with this program should be improved matching of target markets to beef quality, land/soil quality, and grazing skills. Currently, staff capacity in this area is minimal and program establishment would require new funding.
- Identify and expand opportunities along the regional value chain focused on grass-based production. Models outside of our region include examples of shared services such as breeding technicians, veterinarians serving a cohort of partnering farms, co-owned equipment, and discounted rates on larger purchases of feed or supplies.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Hemp

What's At Stake?

Hemp is a versatile annual crop and, according to UVM research, is well adapted to Vermont's climate. In 2018, federal laws established hemp as a regulated agricultural commodity. That year, United States hemp sales grew to \$1.1 billion, dominated by cannabidiol (CBD), followed by personal care, food, and industrial products (e.g., building materials, textiles, bio-composites, etc.). From 2016-2018, the first Vermont farms and businesses that jumped in were rewarded with extraordinary prices for their high-CBD hemp. Market research shows the U.S. hemp industry will grow an estimated 19% from 2018-2022, however, as prices paid to producers continue to fluctuate, it is critical that Vermont's hemp sector prepare for where prices are headed, look to the future, diversify, and innovate.

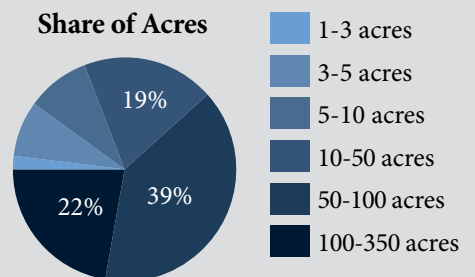
Current Conditions

In the United States, hemp is cultivated for its grain (seed), fiber, or cannabinoids (hemp's beneficial compounds, principally CBD). Vermont's hemp sector has expanded rapidly, driven by U.S. sales of \$390 million for CBD products in 2018. By 2019, cannabinoid production was the focus of 90% of registered Vermont hemp growers, followed by those growing hemp for seed or nursery stock, fiber, food, or "other." Among Vermont's 2019 hemp processors, most plan to dry hemp and/or extract its cannabinoids (64%). Another approximately 22% registered to explore seed oil or fiber processing, however, infrastructure and markets lag for these applications.

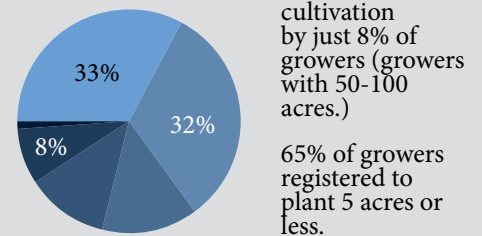
High-quality Vermont hemp biomass for CBD extraction was selling for \$100-\$150 per pound (net profit of approximately \$80,000-\$130,000 per acre) in 2018. As a result, successful 2018 operations expanded in 2019 and a flood of new registrants more than doubled the size of Vermont's hemp program. By November 2019, prices everywhere had dropped sharply to \$25-\$55 per pound. For those growers that rushed in unprepared, lacked a buyer, or harvested too late, 2019 will likely be a setback. Others who had the knowledge, a processing plan, and perhaps a sales contract, will do well.

As 2019 wraps up and Vermont measures its progress, the hemp industry faces regulatory headwinds brought on by USDA Interim Final Rule on the [US Domestic Hemp Production Program](#) and uncertainties about what steps the Food and Drug Administration will take to regulate CBD in 2020.

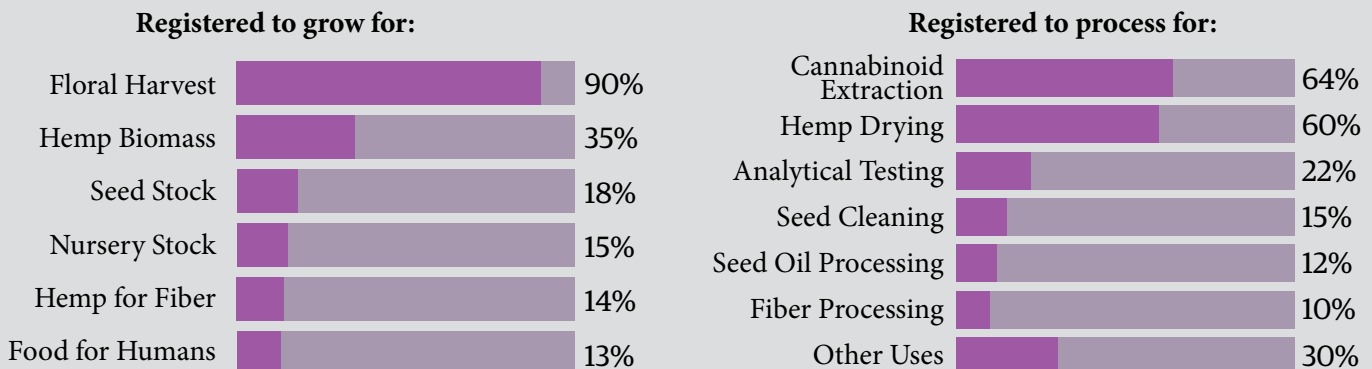
Registered Growers by Acreage Category



Share of Growers



Percent of Registered Growers and Processors in 2019 Registered for Each End-Use



Bottlenecks & Gaps

- Vermont farmers lack access to a high-quality and consistent supply of hemp seed. In 2019, difficulties obtaining seed and sales of poor-quality seed bred a lack of trust in the seed sellers.
- New hemp growers and processors lack industry knowledge and experience, access to markets, peer-to-peer networks, and the technical assistance needed to support informed business decisions.
- The hemp boom has led to an oversupply of high-CBD hemp, contributing to a steep drop in crop prices in Vermont and nationally.
- Due to a lack of sufficient investments in infrastructure at this early stage in the industry, various gaps and bottlenecks have emerged related to hemp production, drying, processing, testing labs, and other forms of infrastructure.

Opportunities

- Vermont's CBD hemp producers are gaining local and U.S. recognition for the quality, integrity, and the originality of their brands, in much the way that Vermont organic products, craft beer, and artisanal cheese have enjoyed market success.
- Hemp-derived CBD is now global and is projected to be a \$2.6 billion industry in the US by 2021. Vermont's climate and culture, the enthusiasm of its farmers and innovative entrepreneurs, and support provided by state government, will contribute to Vermont-branded hemp products enjoying a strong presence in the emerging marketplace.
- The passion of Vermont's hemp industry stakeholders presents an opportunity to prioritize research, development, and investment into other hemp applications, especially fiber, food, and feed.

Recommendations

- State investment in hemp research, education, feasibility, and innovation programs is essential to develop niche food, feed, fiber, and industrial products, professionals, and markets that go “beyond CBD.” UVM's Center for Agriculture and Life Sciences and Rubenstein School, UVM Extension, VAAFM, Vermont Sustainable Jobs Fund, and others are recommended to lead or expand such programs. The private sector also needs to accelerate hemp investment, research, and development.
- Additional technical assistance staff is needed to support hemp growers and processors. An allocation of \$200,000 to UVM Extension for two FTE staff is needed.
- UVM Extension should establish and support a hemp seed breeding and certification program over a three to five-year period. The program must engage Vermont growers to create stable genetics for the Northeast that cover the full range of hemp end-uses.
- The Vermont Legislature needs to pass legislation in 2020 approving hemp products (e.g., CBD) for use in food and beverages, and as a food supplement (see Maine's [ME LD630](#) from 2019).
- A working group is making progress towards forming a hemp trade association by Spring 2020. To jumpstart the group, the nascent hemp industry would benefit from two years of state funding to help leverage private funds. A trade association is critical as an information, education, and policy hub, and a clearinghouse for hemp market data. It could take the lead in promoting Vermont hemp products, becoming self-sustaining after two years. Cost: \$50,000 for two years.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Hops

What's At Stake?

There is an opportunity to diversify local agriculture given the large number of Vermont entrepreneurs producing, and consumers purchasing, agricultural products from Vermont. The number of breweries in Vermont has steadily increased to 68 and Vermont ranks first in the United States for breweries per capita (see [Beer brief](#)). Vermont breweries utilize more than 300,000 pounds of hops per year, yet Vermont growers produced less than 20,000 pounds of hops in 2019. This could represent a significant opportunity for Vermont hop growers. Hops production in Vermont represents a virtually untapped market to diversify Vermont farms.

Current Conditions

In 1860, the peak of state hops farming, Vermont produced over 640,000 pounds of hop cones. By 1910, hop diseases, movement of production to drier climates, and Prohibition led to extinction of hops from Vermont's agricultural landscape. The short growing seasons, moist climate, and pest and disease pressure still make it challenging to grow hops in Vermont compared to more favorable growing conditions in other regions of the world. Adding this to the incredibly high capital investments needed to grow on a commercial scale means hops grown in Vermont can be three times more expensive than hops grown in larger, more well-established hops regions, such as the Pacific Northwest. This results in additional challenges for Vermont farmers to maintain a competitive edge against lower pricing from dominant, large-scale hop-producing regions. Despite these challenges, hops are making a comeback due to recent innovations in hop production, local food movement interests, and applied research.

When craft breweries were first gaining a foothold in Vermont, there was essentially no local hops production, so brewers' business models were built on importing hops. The relatively higher volume and lower cost of these imported raw materials has made it difficult to incorporate the newly available locally grown hops into the brewers' production.

Additional success in breeding programs for hops across the globe has also led to highly desirable proprietary hop varieties with unique characteristics and flavor profiles offered to brewers, which can make it additionally difficult for our regional growers to compete. However, many newer breweries are building their business models to account for higher input costs, and are determined to source ingredients locally.



Bottlenecks & Gaps

- Potential up-front infrastructure costs of \$13,000/acre, in addition to specialized harvesting and drying equipment requirements and limited examples of successful regional producers, cause farmers to doubt that hops can be a viable agricultural enterprise.
- Growers need support services for plant nutrition, irrigation, pest control, and other cultural management practices, however the only group focused on creating new knowledge is UVM Extension, with limited grant-based funding for personnel with other duties.
- There is not enough regional or local processing capacity.
- Supply of local hops doesn't meet the current needs of local brewers primarily because of cost, inconsistent supply, and lack of desirable varieties, and there is currently no statewide group working in Vermont to advance local hops and other brewing ingredients with brewers or consumers.
- There is a lack of sensory evaluation and related information on the terroir and unique aromatic properties of hops grown in Vermont.

Opportunities

- The quality and format (pelletized hops) were past concerns of brewers, but may no longer be an issue for locally produced hops as brewers continue to adapt.
- Vermont hops likely have a unique terroir that could be used to develop specialty brews.
- Some Vermont hops producers have built effective relationships with brewers, and helped the brewers convey the importance of local ingredients to consumers.
- There is a perception among consumers that Vermont craft beer is high-quality and unique; when Vermont craft beer includes Vermont ingredients the beer is perceived as even higher-value.
- Understanding terroir helps brewers tell a more compelling story, which increases value to consumers.

Recommendations

- Increase and permanently fund technical assistance services through UVM Extension, Vermont Agency of Agriculture, Food and Markets, or other stakeholder organizations. The focus should include plant nutrition, irrigation, disease, pest, and weed management, as well as economics and marketing expertise to help differentiate Vermont hops from other hop sources. An additional one FTE would be appropriate to cover all aspects. Cost: \$125,000 for 1 FTE.
- Develop sensory profiles to capture the terroir of Vermont hops and increase market appeal and value to local brewers.
- Incentivize brewers to produce beer with higher quantities of local hops through branding opportunities, or statewide incentives to purchase beer produced with local ingredients.
- Provide assistance with building relationships between Vermont hopyards and brewers, and increasing the visibility of local hops with consumers, to build demand for locally grown hops.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Lightly Processed Vegetables

What's At Stake?

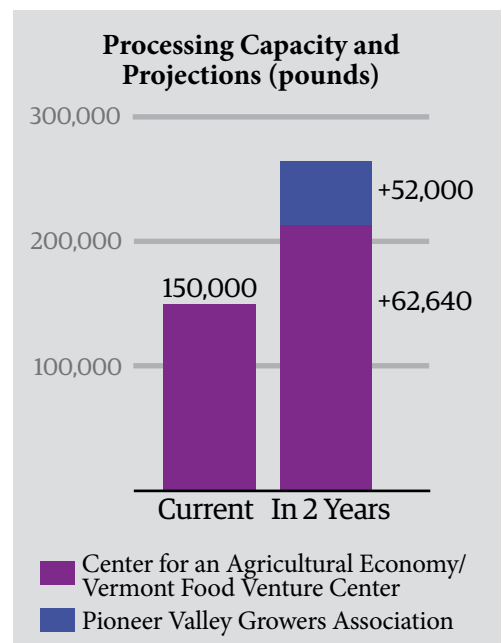
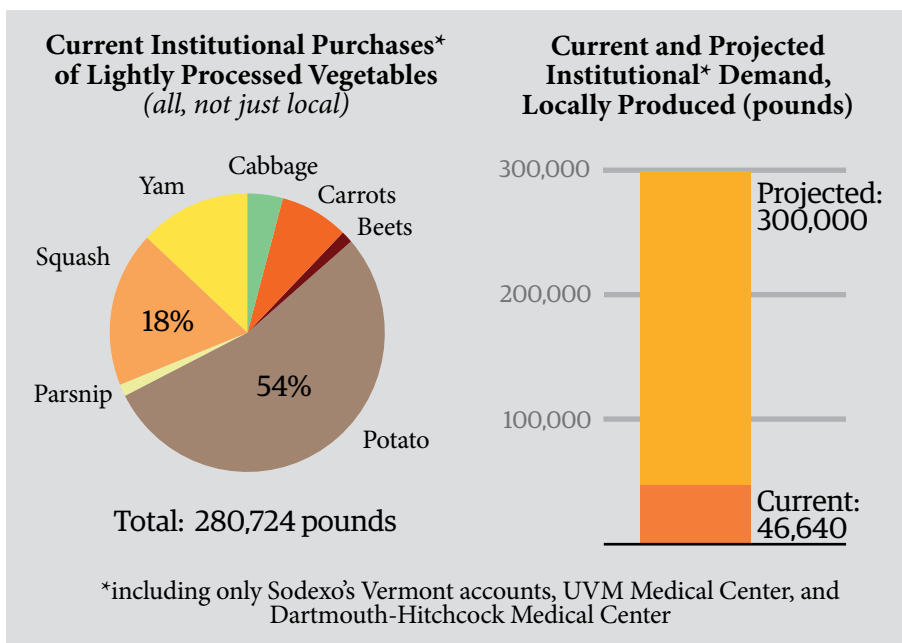
Vermont institutions, hunger relief organizations, restaurants, and food retailers are limited in the amount of fresh, whole Vermont produce they can purchase, due to increasing food service labor shortages and the difficulty and cost of working with seasonal, perishable, and irregularly shaped produce. To limit the loss of this market share to out-of-state producers, Vermont processing facilities have begun to sell cut and frozen locally grown vegetables, but issues of capital, infrastructure, logistics, and communication have limited their expansion potential. Collaboration between producers, processors, and buyers, substantial infrastructure investments, and policies to support producer and processor expansion are needed to encourage in-state minimal processing and continue the growing momentum of local purchasing.

Current Conditions

Vermont institutions are interested in Vermont produce, but this demand is often misaligned with the quantity, variety, and seasonality of fresh produce (see *College and Hospital Procurement* brief, *School Food Procurement* brief). There are a number of logistical barriers to address such as food service labor shortages (resulting in insufficient time and capacity to process vegetables on-site), difficulty in using irregular, perishable produce in a timely manner, inadequate communication between buyers and producers both pre- and post-harvest, and discrepancies between the price producers need to receive for their products and buyers' budget limitations for purchasing unprocessed produce. Several of these barriers can be overcome with "light processing," defined here as drying, cutting, and/or freezing vegetables.

In the past several years, at least four Vermont businesses and nonprofits increased their investment in processing facilities, but have struggled to expand to appropriate product volume and staff capacity levels and to create a year-round, profitable business model. Food processing facilities face considerable workforce shortages, high start-up and scale-up costs, and challenges navigating food safety regulations, efficiency of scale, and distribution logistics, all limiting the growth of existing and potential for new processing ventures.

Developing a thriving local processing system requires investment in processing facilities, improved communication and commitment between producers, processors, and buyers, and thoughtful workforce recruitment and retention.



Bottlenecks & Gaps

- Processing ventures lack capital to invest in expensive, medium to large-scale processing equipment.
- Facility availability and distribution methods are lacking for producers and processors lightly processing vegetables.
- There is a gap between the cost of growing and processing local produce and the price institutional buyers are able to pay, especially as both face the costs associated with scaling up production volumes.
- Buyer needs and consumer demand do not always align with what is currently produced in the state and much of the state's institutional purchasing fluctuates with the academic calendar.
- Jobs in light processing are difficult to fill, as they are physically demanding, repetitive, and seasonal.

Opportunities

- Vermont-based buyers' strong interest in local, lightly processed vegetables can help support and expand local production.
- Increased availability of local, lightly processed vegetables could help alleviate food service industry labor shortage pressure.
- Light processing can help to decrease food loss and increase producer revenue by utilizing hard-to-sell but otherwise quality produce.
- Many businesses and workforce stakeholders are finding solutions for labor, equipment, and transportation shortages, with several promising models and the potential for further collaboration between local food businesses and organizations.
- Forward contracting between producers, processors, and buyers could provide greater stability and predictability in the market.

Recommendations

- Anchor buyers (e.g., Sodexo) and processors (e.g., Salvation Farms, Vermont Food Venture Center, Mad River Food Hub, and Western Massachusetts Food Processing Center) should compile the challenges of the local processing business model and develop a product list that works for producers, processors, and buyers. Sodexo's Vermont First initiative has begun determining products with high institutional demand and low local production volumes that local producers could feasibly address. This initiative should be continued and shared among buyers, processors, and producers.
- Investors, institutional buyers, and grant-makers (e.g., [Working Lands Enterprise Initiative](#)) should fund processors' capital investment needs for expensive equipment to start or scale up processing ventures.
- Processors and buyers should work with producers to set up clear and consistent communication around volume, scheduling, and logistics, and offer forward contracting — a commitment between two parties guaranteeing a buyer will purchase a certain amount of product — when possible.
- Researchers, related organizations, and businesses should investigate and advise Regional Development Corporations, the Vermont Department of Economic Development, and the Vermont Department of Labor about the extent of and type of labor needs, and opportunities for expanded processing in the state.

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What's At Stake?

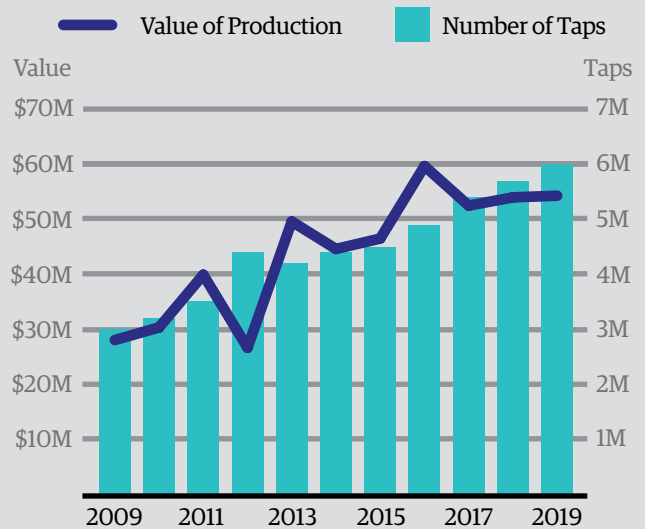
The Vermont maple sector is experiencing rapid growth in production and product innovation while holding a leadership role in maple distribution, research, and manufacturing for the United States. The expanding national demand for natural sweeteners, paired with improved production practices, creates an opportunity for continued expansion that will bolster job opportunities at all levels of the maple industry. Research estimates that 12% of the current maple resources are being used for syrup production, leaving a large amount of untapped forest available for expansion.¹ Maple leaders are optimistic about sustained growth but recognize the need to adapt to new policy, climate, land use, and market forces to maintain Vermont's role as the premier maple state in the United States.

Current Conditions

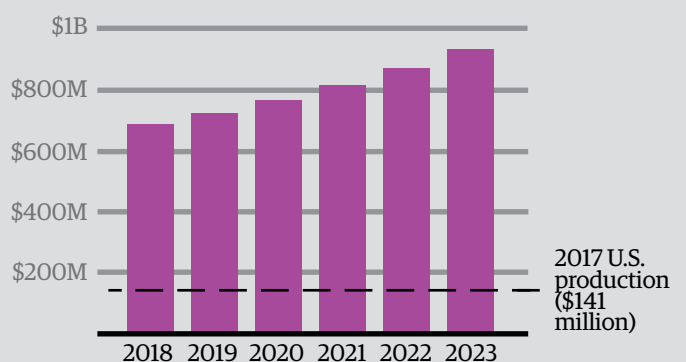
Vermont produces 50% of the entire United States maple crop. High syrup prices from 2008-2013 facilitated rapid expansion and a significant influx of new businesses. The overall tap count and gross agricultural sales of maple syrup doubled in Vermont from 2008 to 2018 with farm-level production valued at \$54 million in 2018.² By 2018 the softening market price slowed expansion but many existing producers continue to increase production. Research from the UVM Proctor Maple Research Center and adoption of new technologies have played a major role in improving best practices that have increased yields. Recent food safety policy, water quality regulations, and climate change, however, provide a new list of issues that will require new practices to address.

Over 80% of the annual Vermont crop is sold to bulk buyers and a large portion of Vermont syrup is exported out of the state by both packers and individual producers. In-state syrup markets are experiencing increased competition as the syrup supply and the number of producers increase. Canadian syrup imports and United States and Canadian currency exchange rates also create strong competition against Vermont syrup nationally. Recent U.S. trade policy and tariffs have provided an additional advantage favoring Canadian companies. Meanwhile, maple expansion in other states prompts the need to bolster an updated Vermont maple brand.

Vermont Production and Crop Value



Forecast Size of Maple Market in the Americas



Bottlenecks & Gaps

- A tight labor market for sugar bush management and food manufacturing jobs is a challenge to growing companies.
- USDA National Agricultural Statistics Service (NASS) data is thought to under-report maple production and accurate sources for maple forest land use data do not exist.
- Retail inspection oversight has not kept pace with market expansion.
- Climate change impacts on forest ecosystems are not fully understood.
- A growing global syrup supply creates a price-competitive marketplace that favors low-cost producers and capable marketers.
- The changing demographic among sugarmakers challenges institutions of member associations, knowledge exchange, and collective communication and advocacy.

Opportunities

- Education and verification programs can teach and promote food safety best practices.
- Markets have room to expand throughout the U.S. and internationally.
- Market research could develop relevant campaigns including more product attributes and consumer experiences. This includes maple promotion as an all-natural sweetener and the environmental attributes of maple forest stewardship.
- Innovation in maple packaging and new product forms could expand maple into new product categories.
- Overall, appropriate investment will enable Vermont to maintain its preeminent role in maple research, production, technology innovation and marketing.

Recommendations

- Public-private marketing initiatives should be developed in order to maintain Vermont brand recognition and facilitate market expansion of pure maple syrup across the U.S. This should include the development of consumer education campaigns that position maple as a natural sweetener (i.e., corn syrup alternative) and highlight Vermont's position as a brand leader. Public-private partnerships should fund product development research and support first-mover businesses seeking to expand into new product categories, such as beverages and snacks.
- Improve preparedness for state agencies and institutions to make increased investment to keep pace with industry growth. Investment is needed in the following areas:
 - Expand Vermont Agency of Agriculture, Food and Markets retail inspections and oversight to maintain standards for syrup in the marketplace.
 - Expand educational programs focused on syrup grading and quality standards.
- Initiate a statewide workforce development and workplace safety program to address the unique needs of both forest management and food manufacturing career tracks as job opportunities increase.
- Develop Vermont as the industry leader in maple food safety programs. Expanded funding is needed to maintain the Vermont Sugarhouse Certification Program coordinated by the Vermont Maple Sugar Makers Association past 2020. Industry and state representatives must collaborate to determine which entities have the long-term capacity to oversee critical maple food safety training and verification programs. Additional programs will be needed for maple processors and handlers throughout the supply chain. Cost: ~\$100,000.
- Improved economic and land use data is needed to evaluate the impact of maple in Vermont and nationally.
- Prioritize forest climate change research and new programs to develop adaptation strategies.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Meat Slaughter, Processing, and Products

What's At Stake?

It is critical to support Vermont's slaughter and processing industries in order for Vermont's 3,600¹ livestock and 256 poultry producers to meet consumer demand in local and regional markets. Slaughter, processing, and farm production of livestock for meat are interdependent. For example, unless processing services are expanded, slaughter capacity will not be maximized, and producers can't maintain or expand their operations, or capitalize on value-added products. Job growth over multiple sectors will be hindered without industry expansion, but additional workforce training is needed to develop the highly skilled employees who could support industry growth. The COVID-19 pandemic exposed weaknesses in the national meat supply chain that may open up additional regional market opportunities for the Vermont meat industry.

Current Conditions

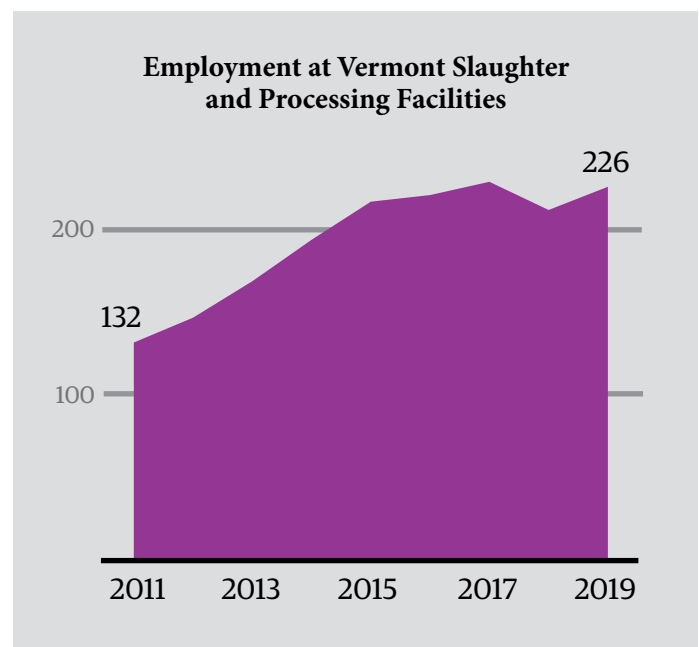
Vermont has 170 commercial operations offering slaughter, processing, wholesale distribution for livestock products, and animal food manufacturing, as well as 1,700 retail outlets ([for a more in-depth look at poultry processing, see Poultry brief](#)). Vermont-inspected and USDA-inspected facilities process carcasses into primal cuts or individually labeled packages for wholesalers and retailers (including small farms). Wholesale distributors market these cuts to retail outlets (e.g., restaurants, grocery stores). Shipping carcasses or primal cuts to retailers which have cutting operations increases the efficiency of the inspected facilities. Vermont regulations restrict specialty processes such as curing and smoking at the retail level, however, Vermont developed a variance program in which documentation addressing food safety hazards allows for a regulatory waiver, increasing market opportunities for these products.

Since 2005, overall meat slaughter and processing facilities have gradually expanded, and quality has improved, but more work is needed. New facilities in Lyndonville and Springfield are offering services that had been extremely limited across the state (e.g., curing, smoking, cooking). Expansion of the goat dairy industry, and rising demand for sheep and goat meat, increases the need for small ruminant slaughter, but most slaughter facilities concentrate on beef and pork due to better profit margins and higher demand. As expansion occurs, skilled workers are at a premium. Limited available technical training, working conditions, occupational hazards, knife skills, wages, and physical demands make it difficult to find and keep skilled help.

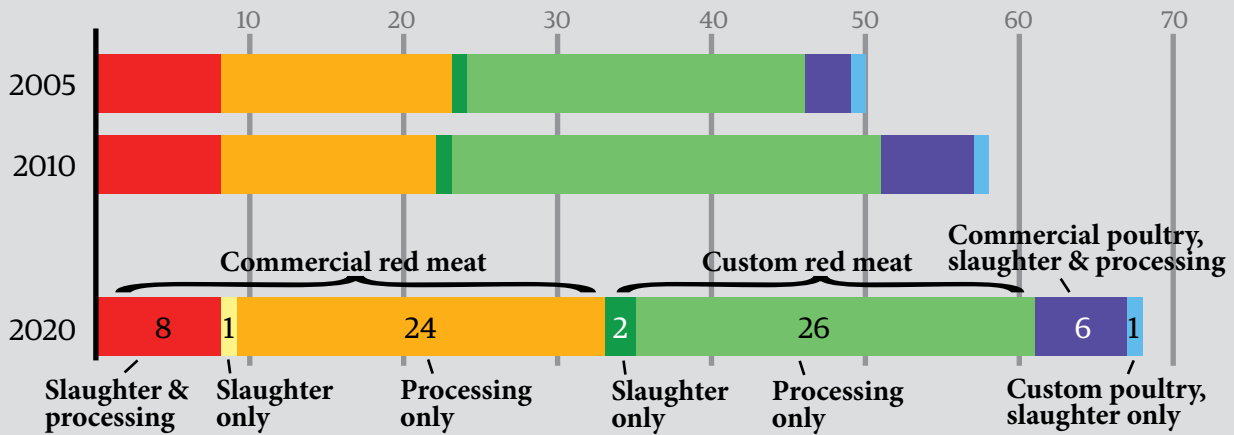
Higher costs associated with small-scale livestock raising, slaughter, and processing make it difficult to find lucrative markets within Vermont. Recent legislative changes exempting on-farm slaughter from inspection

were intended to assist small farmers. When livestock is pre-sold to consumers, then on-farm slaughter is allowed, but the practice has had limited growth.²

Consumer demand for locally produced meats rose during the COVID-19 pandemic, due in part to fear of food shortages, news of closures at national plants, and food safety concerns. Most commercial slaughter and processing facilities now operate at full capacity and wait times for additional processing slots can be several months. This can inhibit producers at all scales from meeting the growing consumer demand for their meat.



Number of Inspected Slaughter and Processing Facilities in Vermont



Slaughter

Current Conditions

Vermont has seven USDA-inspected, two state-inspected, two custom (i.e., acceptable facilities, no daily inspection, product labeled Not for Sale), and several exempt on-farm operations, all providing slaughter services to producers in Vermont and out of state. Most plants slaughter one to three days per week and also provide processing services. Some aggregate carcasses from multiple producers for larger orders or distributing for further processing under a label or to retailers. Some participate in more stringent third-party audits required by markets such as Whole Foods.

Bottlenecks & Gaps

- It is difficult to find and keep qualified staff, especially those with adequate stunning skills.
- Seasonality, the expense of providing health insurance, and an inconsistent quantity of livestock all impact the business viability of slaughter plants.
- A producers' lack of knowledge about inspection or regulations, or inadequate business planning, increases burdens on slaughter facilities.
- There is a shortage of facilities which slaughter sheep and goats.
- Additional financial and technical assistance for waste management and control is needed.

Opportunities

- Expanding slaughter to include small ruminants and Islamic Halal inspection can increase workload consistency, access to niche local and regional niche markets, and full-time employees.
- When exempt slaughter operations transition to state or federal inspection it increases profitability, available services, and Vermont meat sales.
- When farmers increase their herd size or act as contract growers supplying slaughterhouses with consistent numbers of animals each week, it expands the supply of Vermont meat.
- Small farmers can utilize the expanded on-farm slaughter exemptions.

Processing

Current Conditions

Vermont has 26 inspected and 24 custom meat-processing facilities. Most focus on processing their own products but are able to do private label, although few do so for small-volume producers. The larger facilities have equipment for streamlined efficiency and additional forms of processing. Few in-state facilities exist for producers who want to meet the growing consumer demand for value-added cooked and dry or semi-dry sausages (hot dogs, kielbasa, salami, etc.).

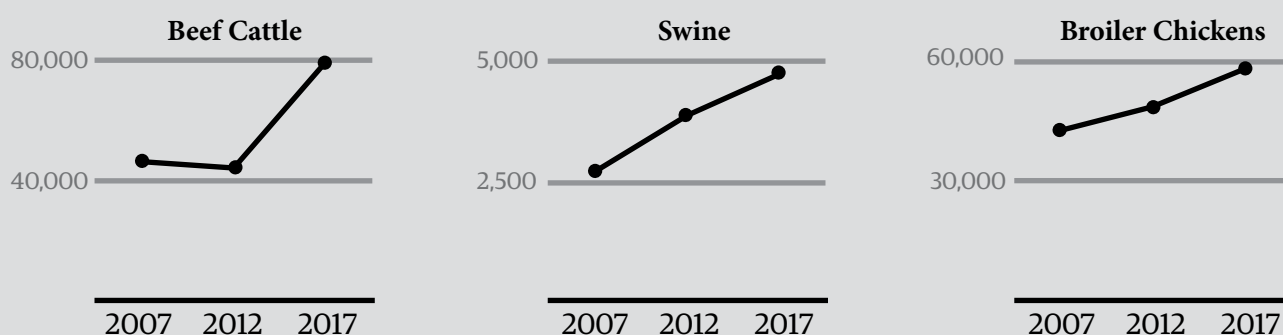
Bottlenecks & Gaps

- Limited value-added processing and co-packing options restrict market opportunities for small producers.
- There are not enough employees trained in safe production and handling of meat.
- Educational programs are limited, and expensive due to the high cost of raw materials for hands-on training.
- If the producer's paperwork for animal welfare and other label claims is lacking at time of inspection, the label cannot be applied, the producer will not be able to sell the product to the anticipated market, and relationships and finances suffer.

Opportunities

- Farmers and food manufacturers have access to Inspected co-packing operations can create new staff positions to provide consulting services concerning food safety, labeling claims (e.g., grass-fed), and marketing for producers, or, to assist slaughterers, processors, and producers in understanding regulatory requirements, thereby streamlining operations.
- Inspected incubator kitchens provide producers with opportunities to test products and expand.
- Processors are allocated 40 hours for inspection at no charge, so custom processing after hours can extend employment opportunities.

Total Vermont Inventory of Select Species of Meat Livestock



Products

Current Conditions

Local hams and bacon continue to be popular. Farmers and processors are also increasing profits and capitalizing on consumer interest with value-added processing, turning “utility cuts” (e.g., shank meat) into products like salamis and fresh artisanal sausages, though higher production cost limits the markets in Vermont. Consumer interest in humanely raised and labeled products presents marketing opportunities, but these claims require documentation and traceability from the farm to the package.

Bottlenecks & Gaps

- The lack of in-state operations capable of complex processing for large brands and small company private labeling limits expansion and job growth.
- Many producers do not have enough animals to start a processed product line.
- Many producers lack the marketing expertise to promote processed products.
- When producers lack marketing skills for utility-cut products, it causes a backlog of unsold product.
- The required food safety documents for whole muscle curing (e.g., whole ham prosciutto) are difficult to obtain, as they are considered proprietary information by those who developed the recipes.

Opportunities

- Rising consumer interest in sausages (cured or uncured, cooked, dry or semi-dry, etc.) encourages processors to expand capabilities to include smokehouses, ovens, and aging chambers.
- Restaurants are able to create menu offerings from cuts normally considered utility cuts (e.g., shanks).
- Many cuts typically ground (e.g., chuck) can be utilized for additional value-added products.
- Collaborative marketing between processors and producers for claims like “Small Batch,” “produced by...” etc., on specialty products can differentiate one producer from another.

Summary

The continued growth of local meat production depends on sufficient well-operated inspected slaughter and processing establishments, and producers understanding their co-dependency with these establishments. Federal inspection allows for widespread distribution of meat products, and incubator kitchens (e.g., Mad River Food Hub) have helped producers to start businesses and graduate to their own processing facilities, expanding production within Vermont. However, the small scale of producers, cost of raw product and further processing, labeling, etc., often drives prices higher than Vermont residents can or are willing to pay. Across all operations, lack of a qualified, properly trained workforce also hinders expansion. Solving the bottlenecks in the industry should be a priority as we look to expand the agricultural economy in the state.

Recommendations

- Establish a position to educate meat producers on all aspects of the inspection system requirements as well as general information to be aware of when contacting establishments for contract work, such as Hazard Analysis Critical Control Points (HACCP), humane handling, labeling, and packaging for both slaughter and processing. This position could also help inspected operations understand requirements of third-party audits for facilities, quality control, and animal welfare. One FTE recommended at UVM Extension. Cost: \$100,000.
- Subsidize existing food safety training courses for operators, their staff, and prospective entrepreneurs, and the academic and technical tuition cost for workforce development. Offer curriculum for marketing so producers can determine what market approach is right for their farm (i.e., direct marketing, contract growing, wholesale, carcass sales, etc.). Costs depend on the number of attendees and length of study.
- Develop an interactive business directory for slaughter and processing in Vermont which would include slaughter and processing schedules and available dates at facilities, trucking days, services offered, etc., in a regularly updated and searchable format. Producers could utilize the directory, which would improve communication and lead to efficiencies, helping operators to operate full days instead of multiple partial days. Costs to establish the directory and maintain it will need to be determined.
- Continue to support the development of clear guidelines for wastewater disposal and composting operations with Vermont Agency of Agriculture, Food and Market's (VAAFAM) Water Quality division and the Vermont Agency of Natural Resources. Develop funding to assist with construction of systems.
- Continue to support the growth of VAAFAM Meat Inspection and Agricultural Development programs, which help expand Vermont products into the national marketplace and develop consumer education and public awareness campaigns around the steps involved in getting meat products from farm to table. Suggested: two FTE positions, estimated cost: \$200,000.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



PRODUCT:

Poultry

What's At Stake?

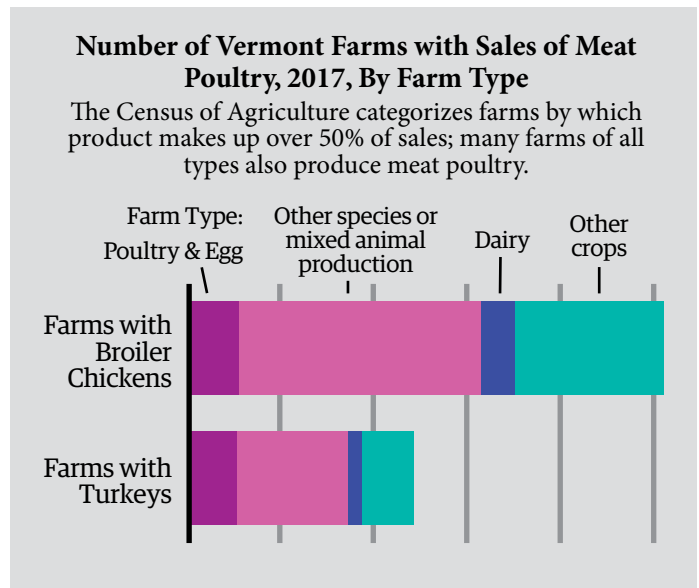
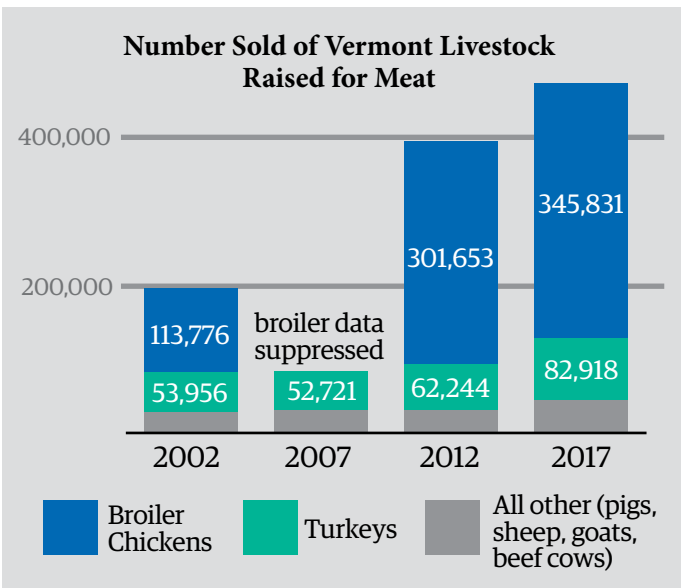
The United States poultry meat industry is one of the most concentrated in the food system, with four poultry companies controlling 60% of the market. Vermont's poultry meat producers compete against industrial poultry prices, and consumer price tolerance is a limit for growth in this field, especially for organic poultry (given high organic feed costs). Added production costs, spatial limitations, and slaughtering considerations present a challenge for Vermont poultry farms who wish to scale up production to meet customer demand beyond their limited direct markets. However, poultry is an enterprise that could pivot with relative ease and help fill gaps in national supply chains as food system vulnerabilities become apparent due to the COVID-19 pandemic. Collaboration between producers, processors, lawmakers, and policymakers is needed to take advantage of these gaps, close grey areas in packaging claims, and get Vermont's small-scale poultry producers into regional and metropolitan markets.

Current Conditions

Vermont has approximately 300 meat poultry producers. They produce over 400,000 birds per year, typically raising birds from early spring to late fall.¹ Poultry is often one of many enterprises on diversified farm operations, due to the low cost of set-up and the quick turnaround on a salable product.

Vermont has two state-inspected and four USDA-inspected on-farm poultry slaughter and processing facilities (USDA inspection is required to sell across state lines). Five of these facilities slaughter only poultry they have raised, while one offers services to other producers. All other Vermont poultry is slaughtered on-farm with an exemption from state inspection, which restricts how and where birds can be sold, and limits slaughter to under 1,000 birds annually.

Over the last decade, and especially after the COVID-19 pandemic, consumers have become increasingly willing to pay a premium to food products that prioritize humane animal practices, environmental considerations, and transparent production claims.² Unfortunately, most Vermont producers processing with an on-farm inspection exemption, who could take advantage of this consumer trend, can only sell birds whole and only on-farm, at local farmers markets, or to local restaurants. Small producers can take their birds to a licensed facility in order to have them processed into specific cuts, but as mentioned above, only one Vermont facility offers this service. On-farm licensed facilities with the ability to process birds raised on other farms struggle with the choice of triggering stricter labor requirements or supporting the success of small poultry operations.



Bottlenecks & Gaps

- Feed costs, lack of affordable or appropriately scaled infrastructure, and limited technical assistance make it challenging to scale up production.
- Finding people to work at a wage that makes sense for producers, processors, and hired labor can be challenging.
- Once a producer begins providing slaughter and processing services for birds raised off their farm to other farmers, their facility loses an exemption to federal labor laws, changing the payment structure of overtime for agricultural workers and impacting their business model.
- Values-based product certifications like “pasture-raised” have been exploited by large industrial poultry operations that follow only the bare-minimum requirements, making it difficult for Vermont producers who are committed to the spirit of these practices to sell competitively.
- Consumers are accustomed to purchasing poultry cuts rather than whole birds, which presents challenges for small producers who choose to process their poultry on-farm under the exemption.

Opportunities

- Consumer trends are supportive of the production practices and values of Vermont’s poultry producers.³ Consumers are looking for lean proteins and other nutrient-dense foods that fit their particular dietary wants and needs.
- Poultry meat and products are consumer favorites, food industry mainstays, and protein powerhouses, even with the recent explosion of plant-based protein alternatives.⁴
- Vermont has approximately 290 poultry producers raising 1,000 or fewer birds and using the on-farm slaughter exemption. If these producers formed an association, it could assist them with peer-to-peer learning, policy advocacy, marketing, industry expansion, and other needs.
- During the COVID-19 pandemic, Vermont meat sales significantly increased. As health and climate crises are expected to continue, it is likely that consumers will continue to seek a reliable, local, poultry meat supply.

Recommendations

- One additional full-time business and technical assistance advisor specializing in small animal livestock production is needed at UVM Extension. The advisor would provide production assistance for poultry operations and other agribusinesses on breeds, nutrition, animal health, incubation rates, biosecurity practices, and regional and national market access. Cost: \$100,000 annually.
- Vermont’s federal delegation should work with the U.S. Department of Labor to adjust overtime rules at processing facilities. Include an exemption authorizing straight time paid to workers for overtime due to processing birds raised off-farm, when that service remains supplemental to the facility business model.
- Funding should be allocated to assist Vermont’s poultry farmers in re-forming a producer association to serve the interests of small poultry producers. The association might create values-based marketing and packaging resources for poultry operations to utilize, assist in member-to-member engagement and consumer education, and be an advocate for Vermont’s poultry farmers.
- Industrial poultry operations often do the bare minimum to meet USDA values-based packaging claim requirements. The Vermont Agency of Agriculture, Food and Markets should work with Vermont’s federal delegation to suggest tighter requirements and bring more transparency to packaging claim regulations for all poultry producers.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Produce

What's At Stake?

Significant challenges are on the horizon for more than 1,000 produce farms that add diversity and innovation to Vermont's agricultural economy, which is otherwise largely dependent on the commodity dairy industry. Though small in proportion to dairy, produce farms (excluding apple farms) generate over \$50 million in annual sales, employ thousands of (mostly seasonal) workers, and supply key components of a healthy diet.

Current Conditions

Recent growth in Vermont's produce industry has been fueled by demand for healthy local food and sustained by innovative growers that produce high-quality crops. This diverse industry is comprised of farms growing various combinations of vegetables, berries, and ornamental crops, both in the field and in greenhouses (apples are considered produce but are discussed in the *Apples* brief). Many of these farms also produce tree fruit or livestock, and some produce hemp, mushrooms, and an array of value-added products. Farms range in size from a few acres to a few hundred acres, and they sell primarily to retail and wholesale markets in-state. Growth in this sector appears to be leveling off due to competition for markets, high production costs, regulatory obstacles, and lack of affordable labor. The future of many of the larger farms in this sector is threatened by their lack of a farm succession plan.

The 2017 Census of Agriculture found 716 Vermont farms selling vegetables, about 400 farms selling berries, 220 farms selling floriculture and bedding plants, and 199 farms selling greenhouse tomatoes. These farms had aggregate sales of \$48 million out of the \$52 million in total annual produce sales. In 2019, the Vermont Vegetable and Berry

Growers Association had 360 member farms, up from 213 in 2010. USDA-Natural Resources Conservation Service has funded over 400 high tunnel greenhouses in Vermont totaling 1 million sq. ft. since 2010. In recent decades many new farmers markets, CSAs, and roadside stands have been established. New farmers continue to arrive, both young people and people changing careers. Many come from out-of-state, or return here after working elsewhere, attracted to Vermont's innovative grower and marketer community, and its passion for local food and farms.

Vermont has about 70 summer farmers markets, 17 winter farmers markets,¹ 65 CSA farms,² 91 pick-your-own farms,³ and hundreds of farm stands. Although total direct-to-consumer sales continue to grow, anecdotal consensus is that direct markets for fresh produce are becoming saturated, so when new enterprises get established they take customers from existing markets.

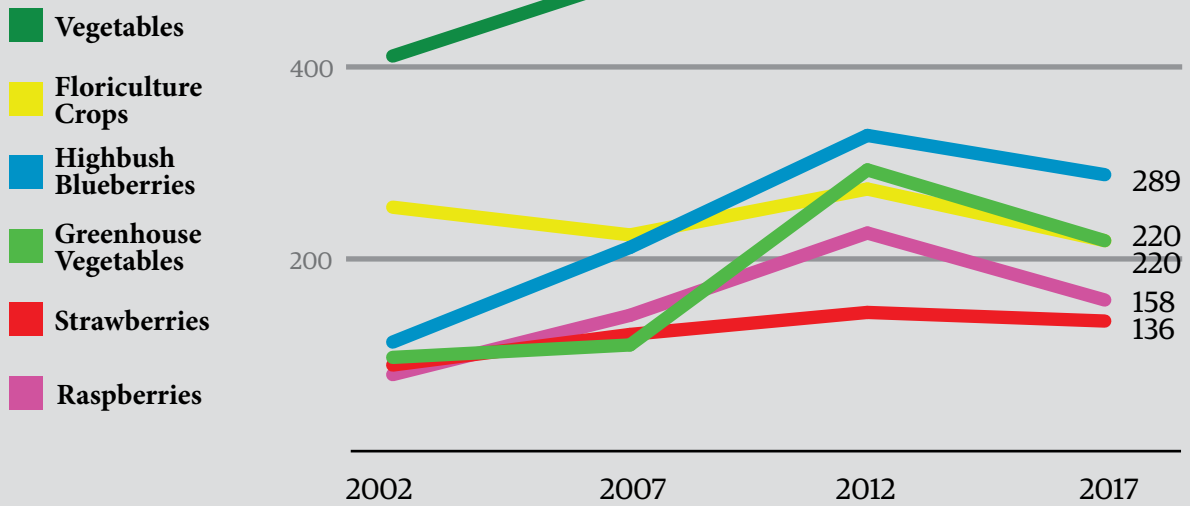
Although unsaturated niches exist, the potential for a lot more growth among direct markets seems low. Smaller farms could sell to wholesale markets, but in general

(continued)



Number of Produce Farms in Vermont, Select Categories

From 2002-2012 the number of farms selling horticultural products increased in all categories; from 2012-2017 that number declined in all categories.



Vermont Produce Farm Gate Sales, Select Categories



Current Conditions (continued)

those prices are not high enough to sustain farms that are used to getting retail prices from direct sales. A relatively small number of farms are selling to out-of-state retail customers through CSA delivery (e.g., Muddy Boots Farm collaborative), value-driven aggregators (e.g., Farmers To You), and specialty distributors (e.g., Meyers Produce). Those markets have potential for growth given larger urban populations in nearby states, and the capacity of Vermont growers to deliver high-quality, organic, and ecological products for much of the year as well as the widespread adoption of improved food safety, cold storage, and winter greenhouse production techniques.

Direct-to-store wholesale (not through a distributor) is a profitable and reliable market for many mid-sized produce farms, but sales may no longer be growing. This market, and other larger wholesale markets for fresh produce, are very competitive, with prices strongly influenced by low-cost, out-of-state producers. Unless per capita consumption of produce increases, new sales to retailers and distributors must come at the expense of existing and often well-established market relationships.

Supermarkets buy and sell a lot of produce (though specific data is lacking) but logistical barriers to entry are high and prices paid to producers are typically lower than those offered by health food stores, food co-ops, and some independent markets, which tend to buy in smaller volumes. Our larger vegetable farms are best suited to consistently supplying supermarkets, though a few smaller growers have developed strong market relationships with a nearby supermarket. According to grower testimonials, not many institutions (e.g., schools and hospitals) buy enough volume of produce, nor consistently enough, at fair prices to make that market viable. The few that do have organizational and cultural commitments to local food tend to go beyond economic motivations.

Value-added beverage and frozen opportunities exist for berries, but Vermont has only a handful of growers devoted exclusively to berry production, and most are at a scale better suited for PYO or direct-to-store sales. Vermont frozen fruit research shows that frozen production favors scale, requires significant investment and management acumen for post-harvesting labor, equipment, and quality control, and increased product liability coverage and food safety certifications.

Bottlenecks & Gaps

- Labor needs and costs are high, and retention of the seasonal workforce is a challenge. Reliability of local labor is low and as a result wholesale farms are very dependent on H-2A workers.
- In-state direct markets are nearing saturation and wholesale markets are competitive. Wholesaling profitably requires greater production efficiency and volume than most small farms are capable of.
- Many successful produce farmers are nearing retirement without a succession plan. There is a sizable pool of beginning farmers, but few are able to buy, or ready to manage, these larger-scale operations.
- There is often a mismatch between the larger parcel size and infrastructure of available or transitioning land, often dairy, and the needs of young and beginning produce growers. Dairy land parcels are often larger than needed for produce growers and capital costs to retrofit old dairy barns to meet produce food safety requirements can be prohibitive for young and beginning farmers with limited credit history and unstable cash flow.
- The time, expense, and knowledge required to comply with food safety, labor, water quality, and other regulations have increased.

Opportunities

- A changing climate, declining dairy industry, proximity to populous states, and an innovative farm culture may combine to increase the competitive advantage of our produce industry. Our growing season is getting longer, more farmland may be available, millions of potential customers for healthy food are just a few hours away, and there is a creative, connected community of growers and service providers to help with adaptation to an increase in extreme weather events, new pests, and regulations (see *Climate Change*, *Business and Technical Assistance*, and *Succession* briefs).
- Vermont's skill and reputation for quality organic and ecological produce is aligned with consumer preferences and could lead to a growth in sales to out-of-state markets, whether to retail aggregators, distributors, or supermarket chains. There is some evidence that younger customers (e.g., millennials) are especially keen to purchase this type of produce (see *Consumer Demand* brief).
- On-farm value-added processing could improve farm profitability and labor retention by adding non-perishable, artisan products that are easily shipped and serve year-round, high-end markets. On-farm operation and ownership allows farmers to retain control of the enterprises should they prove successful.
- Strengthening the network of technical service providers by establishing regular communication through video conference calls and annual in-person meetings would help clarify organizational roles, improve efficiency of service to the grower community, and should lead to program synergies.

Recommendations

- Offer grants to support farm infrastructure for marketing, processing, storage, and cooperative distribution. Build on the Vermont Agency of Agriculture, Food and Markets (VAAFAM) Produce Safety Improvement Grant program approach that requires and facilitates engaging technical service providers for project design, implementation, and documentation of results of on-farm projects. \$200,000 annually, up to \$20,000 per farm.
- Provide funding to hire a highly skilled farm transfer service provider to focus on produce farms, offering intensive, frequent, one-on-one assistance to develop and implement farm succession plans, working with funders to facilitate farm purchases. This position must collaborate closely with the Vermont Housing and Conservation Board's Farm & Forest Viability program, which is already facilitating this work. \$100,000 annually for five years to cover salary, fringe, overhead, and travel costs.
- Develop a regional training program to provide one-on-one business assistance and cohort-based educational programs which recruit, prepare, and place the next generation of wholesale produce growers and farm managers. Plan and implement the program through a consortium of Cooperative Extension and agencies of agriculture and economic development in several New England states along with nonprofits such as the Carrot Project and the New England Vegetable and Berry Growers Association.
- Collect ideas from small produce farmers on ways to make regulatory compliance easier and more efficient, through listening sessions, focus groups, and surveys. Examine policies in other states worthy of consideration. This should be a collaborative effort between VAAFAM, UVM Extension, UVM College of Agriculture and Life Sciences, and NOFA-VT.
- Provide ongoing grant funds for capacity development for grower organizations (Vermont Vegetable and Berry Growers Association, Vermont Association of Professional Horticulturists) so they can improve communication, education, marketing, and applied research in collaboration with UVM Extension. Suggested funding: \$10,000 annually available to each organization, to be matched 50:50.



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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Sheep

What's At Stake?

Sheep and their products—meat, milk, and fiber—were Vermont's first agricultural commodity and still have a significant role to play in the state's landscape. These small ruminants can take full advantage of Vermont's unruly topography and mixed vegetation in a way larger animals cannot. Currently, raw sheep products are imported into the state to meet demand for value-added processing, a sure signal that there is room for growth. For example, slaughterhouses import lamb for retail, cheese makers import milk for unique artisanal blend cheeses, and fine western fiber is blended with coarser local fiber in production manufacturing of soft yarns. With comparatively low capital investment requirements, starting up a sheep operation can be an attractive agricultural endeavor.

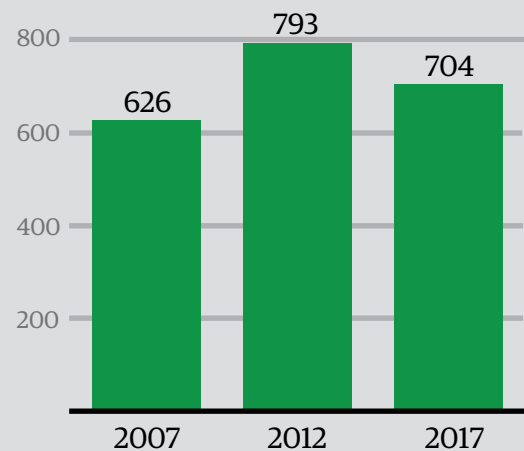
Current Conditions

The number of sheep farms in Vermont and much of the United States dropped precipitously in the 1990s when wool, the most lucrative revenue source for sheep producers, lost value against synthetic textiles.¹ Some boutique cottage industries developed (e.g. specialty yarns, Christmas stockings, rugs), as did service industries supporting them. A small percentage of the fleece "clip" is a fine, soft fiber and is directed to cottage industries. The majority of the fleece produced in Vermont, however, is coarse, and better utilized for more industrial-type purposes, although there is no large-scale processing in the state for it. Many Vermont sheep farmers have turned to meat and dairy as a money-making opportunity.

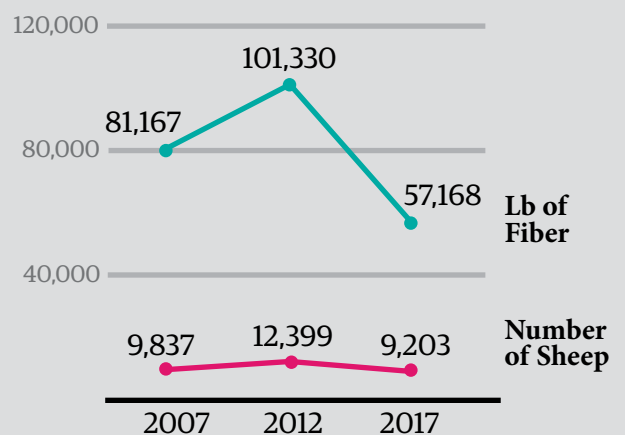
As of 2017, Vermont had approximately 704 operations.² Most (88%) tend to be operations with fewer than 50 animals, serving a local market.³ Scaled-up Vermont operations of greater than 100 head, producing lamb and/or milk for cheese, are typically profitable when they fully incorporate good grazing management.

Since 1995, sheep dairies have enjoyed growing consumer demand for artisanal cheese, creating several jobs in that sector, and creating a market for sheep milk. However, part of that sheep milk is now imported from out-of-state dairies that have converted from milking cows. The lamb market has also grown, as lamb occupies a niche in certain consumer markets. However, issues with slaughter and processing facilities continue to be a significant obstacle (*see Meat: Slaughter, Processing, and Products brief.*)⁴

Number of Vermont Sheep Farms



Number of Sheep and Pounds of Fiber Sold by Vermont Farms



Bottlenecks & Gaps

- Challenges with slaughtering and processing sheep meat in Vermont include limited facilities, seasonality of supply, inconsistent product quality, labor shortages and skill gaps, and facilities' reluctance to process lamb due to their higher cost relative to cattle and pigs, and having to deal with sheepskins, which often become a waste product ([see Meat: Slaughter, Processing, and Products brief](#)).
- Limited access to scouring facilities, for cleaning fiber for value-added goods, severely limits any exploration and development of new products.
- Getting products to market remains cumbersome for most sheep producers. For most producers, the burden of seeing their product through from pasture to cheese shop, meat shelf, yarn store, or rug shop remains solely their responsibility. It is a lengthy and quirky process and requires constant attention to detail and strong relationships with retail buyers (who change frequently).

Opportunities

- Sheep can easily regenerate or maintain marginal land without much need for amendments, meanwhile cycling nutrients, improving the soil, sequestering carbon in both the soil and their fleece, and providing meat, milk, and/or fiber for consumption.
- Sheep combine easily for complementary grazing with horses, chickens, and cattle, maximizing efficiency in land utilization.
- Sheep are perfect “starter” animals, as required finances are much less than what cattle require in terms of animal purchase price, infrastructure needs, real estate, and stored feed requirements.
- There is growing demand for contract grazing for town greens and underneath solar arrays, and control of invasive plants on both private and public venues.
- The coarser fiber produced by sheep in the Northeast has great potential as a locally produced plant fertilizer.⁵

Recommendations

- Encourage or incentivize utilities to collaborate with sheep producers, for maintenance mowing underneath solar arrays.
- Encourage or incentivize towns, government entities, and private landowners to utilize sheep producers for land maintenance. This could be done via payment for ecosystem services or carbon payments, for example.
- Working with existing fertilizer or compost companies, develop a new market for the coarse wool of Vermont by encouraging and incentivizing the use of locally produced wool pellets for fertilizer. This would use enormous amounts of wool, and provide a revenue stream for sheep producers. A cost assessment is needed to determine viability.
- The Vermont Agency of Agriculture, Food and Markets could devise a market-based solution to relieve the autumn slaughter scheduling bottleneck. For example, promote September to January as the “Season of Vermont lamb” and help restaurants (both in-state and out-of-state) promote lamb utilization in menu development. Costs would need to be studied.
- Continue funding support for larger, more expensive sheep infrastructure equipment such as fencing, chargers, water systems, and livestock chutes. Sheep profit margins remain small in comparison to the costs of larger-scale operational improvements, and existing programs for infrastructure improvement support have made a big impact on producers starting up and/or trying to improve their operations.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT: Specialty Foods

What's At Stake?

Vermont specialty foods are an important subset of the state's overall value-added product market. Food manufacturing is the second-largest manufacturing industry in Vermont, with \$3 billion in economic output.¹ Specialty foods are considered unique, high-quality food items typically produced in smaller quantities than their mass-market counterparts. As such, they may command a higher price point, though increasingly specialty food providers compete against less-expensive, mass-produced brands.

Many Vermont specialty food companies have grown to be nationally recognized brands. These enterprises create diverse employment opportunities including manufacturing, marketing, distribution, and sales. They are also an avenue for business owners to contribute to the state's food system—ideally through sourcing local raw ingredients—and economic development. Additionally, specialty food items are an important diversification tool for some farmers, providing a critical year-round revenue stream, either from the sale of ingredients to another producer or from manufacture and sale of their own products.

Current Conditions

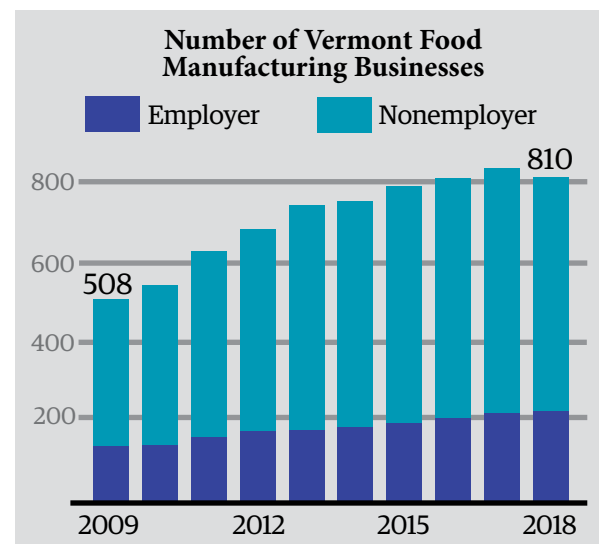
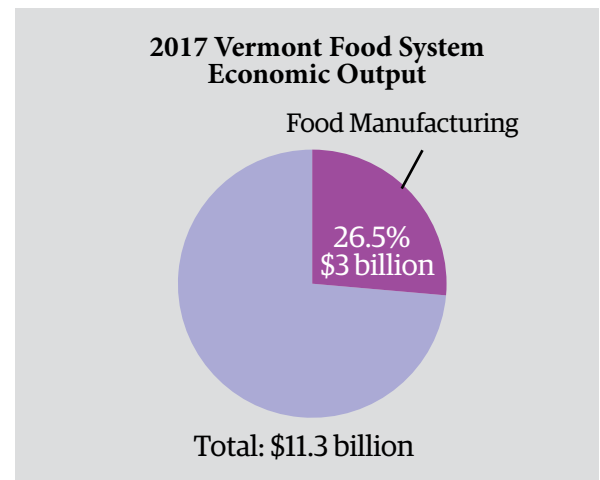
Vermont specialty foods include pickles, jams, jellies, relishes, sauces, dressings, chocolates, candy, cheese, yogurt, spreads, vinegars, pastes, marinades, crackers, snacks, cookies, and more. Depending on the type of specialty food, production may occur on the farm, by the producer in a commercially licensed kitchen, at a food-manufacturing facility, or through a private-label or co-packing service.

Many Vermont products highlight regional and local flavors and capitalize on place-based branding that in turn supports the state's many agricultural producers (e.g., Vermont cheeses and dairy farms). Products are sold to consumers via farm stands, as part of community supported agriculture shares, at farmers markets, online via company websites, and at a wide range of retail markets statewide, nationally, and globally.

Direct-to-consumer sales are critical in the early stages of launching a specialty food product. As businesses grow, they may choose to expand to larger geographic markets by either working directly with regional, national, and international retailers and distributors, utilizing support services such as food brokers or marketing/brand-building businesses, or attending trade shows and other business-to-business events.

Specialty food business models vary from small single operators, to cooperative models, to corporate ownership. Although business growth is desired, specialty food businesses that attract acquisition by out-of-state companies risk relocation of their operations. While some manage to stay, several businesses recently bought by larger companies have been moved out of the state, resulting in a loss of valuable jobs and state tax revenue.

Vermont is home to food business incubators and co-packing facilities which support small food producers and farmers to commercially scale their operations. Vermont has regional distributors, which focus exclusively on helping Vermont specialty products reach diverse consumer markets (see [Major Metropolitan Markets](#) and [Distribution](#) briefs).



Bottlenecks & Gaps

- Early-stage specialty food producers are challenged to match their operational scale with potential market channels in areas such as labor, order size, delivery frequency and method, price point, and other buyer requirements such as food safety and insurance (see [Distribution brief](#)).
- Vermont-produced specialty foods typically require year-round availability, which can limit the use of Vermont-grown ingredients. To manage costs, producers may need to use less-expensive non-Vermont alternatives.
- Purchasing infrastructure and equipment to increase production capacity is capital-intensive, and available equipment is often out of scale with producers' needs.
- Shared production facilities are limited in-state, and using co-packing services can sometimes push a product's end cost of production out of the competitive price point range, potentially forcing Vermont companies out of state to grow their businesses.
- Limited budgets and capacity restrict producer access to professional development, experienced sales personnel, and marketing to grow their business.

Opportunities

- With creative partnerships and planning, more Vermont-grown inputs could be incorporated in Vermont specialty foods.
- Products originally intended solely for retail sales (e.g., ice cream, tofu, black bean burgers), can be bulk packaged for sale to institutions, thus reaching additional markets and customers.
- More innovative financing options could be made available to develop facilities and infrastructure for processing and shared-use facilities.
- State marketing efforts could go even farther to highlight producers, brands, food and beverage, or agriculture products within Vermont, to both Vermonters and tourists.
- Increased grant funding and expanded state initiatives for promoting brands to outside markets at trade shows could increase awareness and generate new sales prospects beyond Vermont's borders.

Recommendations

- Increase access to low-cost capital and business assistance (including peer-to-peer support) to start, market, promote, and grow specialty food businesses. Enterprise start-up and expansion costs can be significant and it is typically easier to find funding for the infrastructure needs of a business than for the myriad expenses of attorneys, marketing, social media training, merchandising training, etc.
- Fund industry groups' capacity and programs so that they can continue to connect specialty food entrepreneurs with service providers. Aspiring and established specialty food producers benefit from technical assistance, training, and direct support to navigate everything from business licensing and business development to partnership agreements and maybe eventual acquisition.
- Fund producer-buyer forums. Local, regional, and national matchmaking events help specialty food entrepreneurs learn about entering different distribution channels, and help buyers to discover new Vermont products which will serve their own customer base and profitability. Local producer-buyer forums are a less expensive and time-intensive way for specialty food producers to meet distributors and retailers than regional or national trade shows. Cost: \$60,000 over 3 years.
- Increase funding support for the Working Lands Enterprise Fund to enable specialty food producers a greater chance of securing grant funding, since it can be difficult to compete against projects that will have a bigger acreage or labor impact on Vermont's working landscape.
- Adopt economic development policies that enable and incentivize business retention, for example support for increased access to co-packing and production facilities across the state.

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What's At Stake?

The Vermont distilled spirits industry is little more than 20 years old and has an outsized impact on Vermont's identity as a destination for farm-to-table dining and craft beverages. Distilled spirits present an opportunity for Vermont farmers and food businesses to have their products showcased as part of a premium drink's narrative, for Vermont's agricultural sector to access new buyers via shipment of spirits to export markets, and to build craft-spirits tourism on the shoulders of established beer tourism. While growth opportunities exist for distilling, and the industry can be an asset for developing Vermont's economy, brand value, and working landscape, supporting and expanding the industry further will require regulatory reform, capital and marketing investment, and supply chain coordination between Vermont farmers, food businesses, and distillers.

Current Conditions

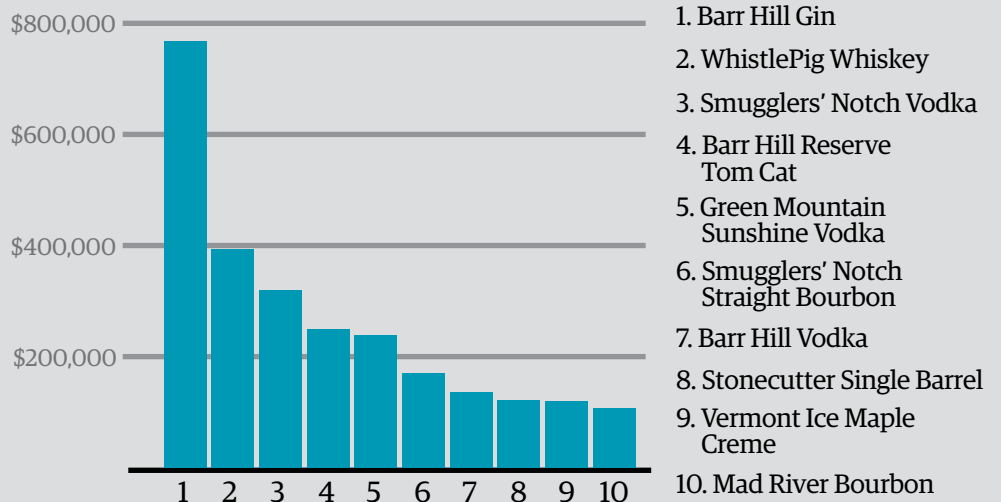
Distilling is the craft of taking alcohol generated from fermentation and concentrating it through evaporation and condensation. The number of licensed distilleries in Vermont rapidly increased from a single distillery in 2000 to over twenty distilleries in 2020¹. Some Vermont distilleries purchase a base alcohol ingredient—typically high-proof neutral grain spirits—and develop craft alcohol products from that base alcohol, while others produce their craft product from scratch, fermenting and distilling the sugars in grains, maple, and fruit before any finishing processes. While some are interested in sourcing their base sugars from locally grown products (particularly grains, including corn, rye, and malted barley), there is additional opportunity for other agricultural products to be added back to the spirits as flavoring agents after fermentation and distillation.

The state of Vermont has made efforts to promote the distilling industry when possible. Generally speaking, Vermont's "control state" liquor laws do restrict liquor sales, including requiring bars and restaurants to pay full retail price for each bottle of alcohol. But the control state model also allows Vermont to support and protect our Vermont distilling industry. Vermont has worked to foster the local spirits industry by allowing direct sales of spirits at distilleries, farmers markets, and off-site tasting rooms, and is lenient in keeping in-state spirits listed and available through their state-contracted liquor stores. Therefore, distillers in the state are ambivalent about a transition to a free market model for sales of distilled spirits.

Of the 103 new products added to Vermont state liquor stores in 2019, 21 were Vermont-made.



Top-Selling Vermont-Made Spirits at Vermont Liquor Stores (750mL), 2019



Bottlenecks & Gaps

- Spirits sales must reach both tourists and out-of-state markets; in-state sales alone will not support the industry.
- Costs of production for distilleries making their own base alcohols are substantially higher and these distilleries are challenged to compete on price with national brands.
- Major financial hurdles stand in the way of new distilleries opening, with reported up-front capital investments of \$250,000 to \$500,000. The growth stage of a distillery business is costly, due to marketing expenses and holding aging inventory. In some cases, start-ups will require independent wealth, or angel investment, to sustain expenses for several years.
- The complex production process involves significant up-front cost, specific equipment, stringent regulation, and quite a bit of knowledge and is therefore not something easily added to a farm as a new enterprise.
- Vermont's "control state" model for sales of spirits protects local distilleries as they build their brands and product lines but also makes expanding to unrestricted markets beyond our borders challenging.

Opportunities

- Farms interested in value-added processing into liquor can turn \$500 of corn and other grains into whiskey worth over \$10,000 in full retail value.
- Financial success can be achieved with either a low-volume, direct-sale business model or high-volume production paired with a national marketing campaign.
- It is not practical for many distilleries to source their primary ingredients from Vermont, but there is an opportunity to showcase Vermont-grown elements of a product, and an opportunity for distilleries and farms to co-market and gain significantly more value from crops that are used on a limited basis.
- Numerous distilleries have established supply chain relationships with Vermont producers. Examples include gin and vodka using honey, rum using local maple syrup, and other local spirits including barley, lavender, cucumbers, hot peppers, and elderflowers, to name a few.
- Grains and apples, both sources of sugar for base alcohols, could be significant Vermont-grown ingredients in a future expansion of Vermont distilled spirits.

Recommendations

- Develop best practices and guidelines to help distilleries forge supply relationships with local farmers, and develop in-state infrastructure (e.g., a centralized mill and quality testing lab) for standardizing and processing specific products for use in distilling, including Vermont-grown grain (see *Food-Grade Grains*, *Beer*, *Bread* briefs).
- The State of Vermont should invest in marketing for Vermont-made and Vermont-grown spirits, and spirits-related tourism. The Departments of Liquor and Lottery (DLL) and Tourism and Marketing could partner with the Distilled Spirits Council of Vermont (DSCV) to improve the quality of support and information around tourism. DLL could promote Vermont spirits with a Vermont-Made Spirits Month based on successful models in other states. DLL could raise its own revenue by creating an e-commerce portal for Vermont-made spirits, with fulfillment based out of its Montpelier warehouse, creating a new FTE and quickly recouping investment costs. (See *Major Metropolitan Markets* brief.)
- Vermont Technical College should partner with DSCV to develop better training opportunities for young Vermonters interested in fermenting, brewing, and distilling careers.
- The Vermont Legislature and DLL should update state policy to reduce the influence of corporate liquor interests and advance the interests of small businesses. A good incentive program would not necessarily increase total liquor sales in the state, but would shift the volume of sales towards local producers. This would generate more state revenue and build the strength of this industry.
- The COVID-19 pandemic State of Emergency helped us question the way we do things and identify clear priorities. Convenience and public safety can both be served by allowing alcohol delivery, relaxing alcohol take-out rules, and providing other safe outlets for buying distilled spirits (see *Beer* brief).

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The Vermont Agency of Agriculture, Food & Markets (VAAFMM) facilitates, supports, and encourages the growth and viability of agriculture in Vermont while protecting the working landscape, human health, animal health, plant health, consumers, and the environment.

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VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT:

Swine

What's At Stake?

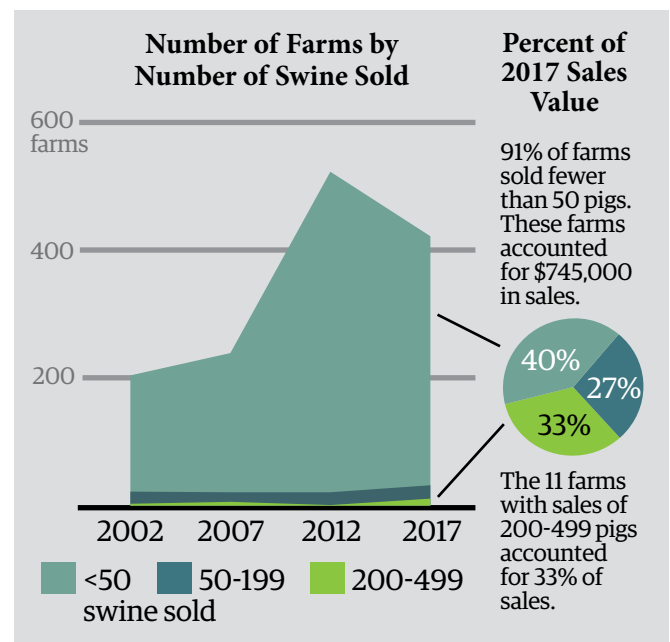
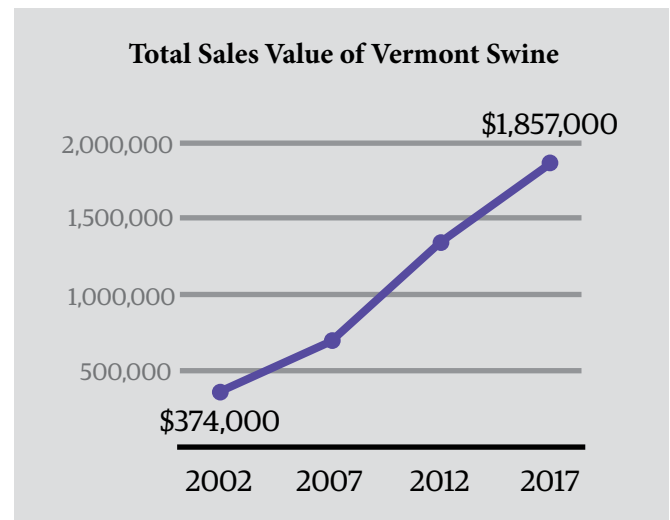
Sales of heritage, local, pastured, organic, and/or managed outdoor pork in Vermont grew 396% between 2002 and 2017 to \$1.86 million annually.¹ Despite this growth and interest in Vermont-grown pork, Vermont swine producers are challenged by high grain prices, little existing swine infrastructure, and the need to access swine genetics that provide efficient growth rates while meeting consumer expectations for consistent quality and flavor. Adding market value to Vermont pork through production practices or end-product attributes represents an opportunity for swine farmers of different scales and situations, whether direct marketing to households or institutions in Vermont, or selling live animals into larger regional outlets, but will require focused coordination to grow smoothly and consistently.

Current Conditions

Vermont pork is experiencing rising demand from consumers regionally and nationally. Larger Vermont swine producers with more built infrastructure are serving market demand in northeastern metropolitan regions (*see Major Metropolitan Markets brief*). High grain prices, small-scale operations, and common use of slower-growing, heritage-breed animals reduce Vermont's competitiveness in commodity and export markets. Typically, small-scale producers prefer heritage or less-commercial swine breeds, either for outdoor hardiness, ease of management in a low-intensity system, or particular meat quality attributes. Profitability is highly dependent upon the price and availability of feed, and maintaining a consistent supply of pork to markets is similarly dependent upon the price and availability of piglets.

Swine production methods emphasizing humane practices (uncertified), responsible land management, and/or heritage/non-commercial breeds are a significant portion of Vermont's swine sales, in direct-to-consumer, high-end wholesale, and institutional market channels. There is wide variability in swine management systems across Vermont, including managed pasture rotations, "land renovation" systems, wooded systems, deep-bedding barn systems, and free stall systems. Swine are single-stomached omnivores (like humans) and typically eat a grain-based diet, although some Vermont swine farms include feeding of other value-added production byproducts such as whey, apple pressings, vegetables, or distillery/brewery grains.

Vermont swine operations are typically divided into one of three models. "Farrow-to-finish" farms manage breeding through birth, growth, and marketing (127 producers). "Feeder piglet producers" manage sows and raise piglets through approximately 60 lbs (61 producers). "Feeder-finishers" (221 producers) raise feeder piglets to finished weight over six to eight months and either direct market to consumers and restaurants or ship to regional aggregators serving Vermont and Northeast cities.²



Bottlenecks & Gaps

- Well-started feeder piglets in sufficient quantity can be expensive or unavailable, requiring that piglets be imported from neighboring states and Canada in order to meet demand.
- There is limited Vermont swine-specific veterinary and technical assistance knowledge and capacity in the areas of nutrition, disease, breeding, and pasture/land management.
- Swine genetics developed and selected for hardiness, mothering, and forage-based or outdoor production systems have not emphasized growth speed or efficiency.
- There is a longstanding cultural expectation that individual farmers must be vertically integrated to manage every stage of the swine life cycle regardless of farm size, production system, or farmer skill set.
- Long shipping distances from grain-growing areas affects the affordability and availability of bulk swine feed.

Opportunities

- An increasing number of hog producers are identifying where they are most skilled and profitable in the production life cycle, and then partnering with other farms, aggregators, and markets to add their targeted portion into the whole production system.
- High-value specialty pork products (e.g., prosciutto) can be shipped to existing and new regional markets.
- Partnerships between regional swine experts and UVM Extension staff are in the beginning stages and could lead to a stronger network of swine knowledge and technical assistance.
- Act 148's emphasis on diverting organic food manufacturing byproducts out of the solid waste stream creates an opportunity to reduce feed costs through regional farmer/processor cooperation, within the framework of state regulations.
- Consumer demand for quality local, heritage, or pastured pork can grow through regional aggregation and marketing businesses (e.g., Black River Meats), individual farms offering direct delivery, and in-state farm stands.

Recommendations

- Create an education and outreach program to improve pork production and land management across production systems. In order to staff an outreach effort, UVM Extension would need an additional 0.5-1.0 FTE, with the balance of time used to build partnerships between producers, producer organizations, and additional swine resource personnel. Cost: \$50,000-\$100,000.
- Identify and expand opportunities for shared services among local, humane, heritage, and outdoor pork producers. Models outside of our region include shared services such as breeding technicians, veterinarians serving a cohort of partnering farms, co-owned equipment (e.g., loading chutes, lift trailer), and discounted rates on large purchases of feed or supplies.
- Bring together farmers, aggregators, and welfare certifiers to develop a shared set of definitions, principals, and protocols for differing land-based swine management systems (e.g., "pasture-raised"). This will enable better communication of the environmental, economic, and social benefits of Vermont pork to consumers.
- Develop a pork-focused agritourism project, such as a "bacon trail," publicizing a set of farms offering value-added pork products, or pork-product-based aspects to existing public events such as Open Farm Week. Bring together DigInVT partners, chefs, farmers, processors, and consumers to plan.
- Provide financial support for shared-learning cohorts of pork producers in business planning and management programs such as Ranching for Profit, and/or make grant opportunities available to graduates. Graduates could then participate in a profitability benchmarking program in order to better understand the program's benefits to their profitability and the positive impacts of learning and working in a producer cohort. Based on the costs of Ranching for Profit, estimated cost is \$100,000-\$150,000 to support farmer attendance, followed by business grants.

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Market Briefs

Vermont food producers sell their products in a wide range of market channels. The stage of business development and scale of the operation often inform which market channel(s) a producer pursues. From direct-to-store deliveries and farmers markets with their higher margins, to institutions and wholesale grocery stores where margins may be smaller but larger volumes can be sold, Vermont food producers continue to adapt to an ever-changing marketplace influenced by large-scale industry consolidation across the United States.

Many of the recommendations found in these seven briefs identify similar issues, such as the need for workforce development, marketing, distribution, technical assistance, and support with food safety regulations.

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VERMONT FOOD SYSTEM PLAN MARKET BRIEF



MARKET:

College and Hospital Procurement

What's At Stake?

Colleges and universities, hospitals, and other health care facilities have a significant role to play in supporting Vermont's farm and food sector. They are important community anchors, serving as employers, educators, and thought leaders who interact with most Vermonters on a regular basis. They buy over \$40 million in food annually, on a consistent and reliable basis, and thus provide an important market opportunity for Vermont farmers and food manufacturers. The cafeterias at these institutions create meaningful and lasting impressions on patients, students, staff, and visitors about how and what to eat. Healthy, sustainable Vermont food should be on the menu.

Current Conditions

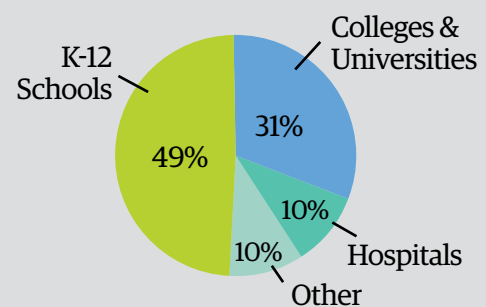
Vermont's 16 colleges and 16 hospitals serve tens of thousands of meals a day. Dining directors at these institutions overwhelmingly say they intend to buy more Vermont and New England food in the coming years. The increase in demand is coming from students, staff, and patients who increasingly expect to be served healthy Vermont food due to their experience with successful local food initiatives.

Investments in processing infrastructure for vegetables (e.g., Vermont Food Venture Center), beef, and pork (e.g., Black River Meats) are making processed products, which are easier to utilize in busy kitchens, more available to college and hospital buyers (see *Lightly Processed Vegetables* brief). Innovative purchasing strategies, including "forward contracting" at the beginning of the growing season, which guarantee sales for farmers and product availability for institutions, are helping increase local purchases as well. Changes in menus to favor seasonal foods and less meat enable institutions to use Vermont products without an increase in food cost. A strong network of organizations and agencies supports food service operators in the state and across the region with guidance, tools, and connections to accelerate promising practices that promote the use of local food.

However, colleges and hospitals still face significant barriers to increasing use of Vermont food. College and hospital budgets are getting tighter. Labor shortages make it challenging for dining operators to use whole (unprocessed) local produce and proteins which require more staff time and training, and to receive deliveries from multiple local producers. Consolidation in the food distribution industry has weakened relationships, and can make it harder for Vermont producers to become approved as vendors to these institutions and their distributors. Regional aggregation of dairy products makes it difficult to get 100% Vermont-produced and processed dairy. Further, institutions are accustomed

to low prices for dairy as well as specific serving sizes and formats that some Vermont dairy processors cannot provide (see *Dairy* brief). New federal, state, and institutional food safety regulations and standards add costs to Vermont producers selling to institutional markets, increasing the price to buyers.

Percent of All New England Direct-to-Institution Sales By Farms Made to Each Type of Institution

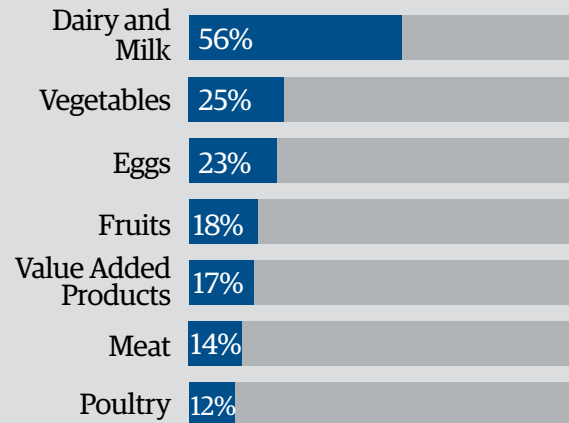


Colleges and Universities

Current Conditions

Vermont has 16 colleges serving over 30,000 undergraduate students. Thirteen of these schools serve an estimated combined eight million meals and spend nearly \$28 million on food annually. Of the six New England states, Vermont spends the highest percentage of its campus food budget on local food (31%), with \$4.5 million in local food purchases (2018). Small independent and large public colleges have more resources for local food while some of the small public ones have a more limited budget. Of the 16 Vermont colleges, 11 dining services are operated by food service management companies (FSMCs), such as Sodexo. The remainder are operated by the colleges themselves.

Average Percentage of Select Products Sourced Locally by New England Colleges



Bottlenecks & Gaps

- Vermont colleges have declining student enrollment, hence fewer students buying meal plans, and more constraints on college dining budgets.
- Dining operations do not always effectively promote local products, reducing the impact of the purchases in terms of student awareness.
- Fluctuating and seasonal college food service labor is a challenge for training staff to source, prepare, promote, and use of a greater variety of local foods. The seasonality of college food service is also misaligned with availability of some fresh farm products (e.g., summer vegetables.)
- Students have diverse dietary needs and interests which compete with buying Vermont food as a key priority.
- The wholesale distribution system is not transparent, so ordering Vermont whole or fresh products can be difficult.

Opportunities

- Students still forming life-long eating habits are an important constituency to reach with Vermont food.
- Student interest in local food continues to grow, justifying dining operator interest.
- Vermont agriculture and food are appealing aspects of the Vermont way of life to which out-of-state students are exposed and can encourage them to stay or return.
- There are 200 colleges in New England with dining services spending over \$100 million in local and regional food per year, representing an even greater market for Vermont producers.
- A variety of regional organizations provide resources to support college dining operators looking to increase their local and regional food procurement, including webinars, events, mentoring, toolkits, and research findings.

Health Care Institutions

Current Conditions

A majority of Vermont hospitals (15 of 16) are involved in the Vermont Healthy Food in Health Care Network, actively collaborating to source healthy, local food and address food insecurity. Vermont hospitals are national leaders in innovation in local sourcing. A 2017 Health Care Without Harm survey showed that nine reporting hospitals purchased over \$8 million dollars of food. Since hospitals provide steady, reliable, year-round demand for products, they represent important potential customers for Vermont producers.

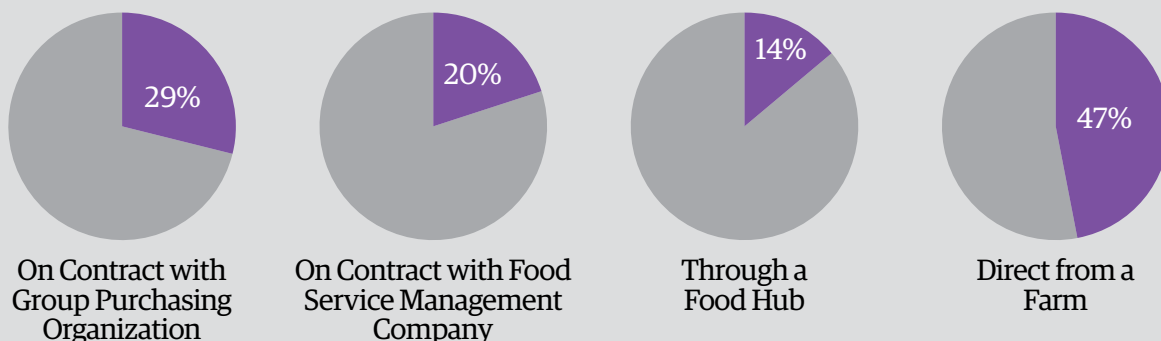
Bottlenecks & Gaps

- Hospital budgets are incredibly tight, and administrators may not choose or be able to prioritize local food expenditures.
- Health care institutions follow stringent nutritional guidelines, which are easier to meet using pre-packaged foods. Adding fresh local foods adds processes and costs.
- The Food Safety Modernization Act (FSMA) has some requirements that are challenging for Vermont producers to meet or verify, making it harder for them to be approved vendors for distributors and institutions.
- Smaller hospitals have a harder time getting distributors to source local as they have less buying power and influence.
- Some hospitals are bound by agreements to purchase most of their supplies through a Group Purchasing Organization (GPO) and/or nationally based distributors which do not often identify food sources, which makes it harder to know if products are from Vermont.

Opportunities

- Vermont hospital dining operators have a strong foundation of collaboration, and they represent a constituency ready to support statewide efforts to increase institutional sales of local food.
- Customers at Vermont health care facilities, including patients, staff, and visitors, have come to expect access to healthy, tasty, good food.
- Hospitals have a legal requirement (i.e., the community benefits program) as well as a moral imperative to spend funds supporting local communities, which can include sourcing and promoting local healthy food to address food insecurity.
- Hospitals are a dependable, consistent, year-round market and can create long-term buying agreements with food producers that enable greater investment, productivity, and profit.
- Senior and assisted living operations are joining the Vermont Healthy Food in Health Care Network because they are interested in local foods and professional development.

Percent of New England Hospitals Reporting Local Food Purchases through Different Sources



Summary

Vermont hospitals and colleges include recognized national leaders within the farm to institution movement, employing innovative strategies to source and prepare local healthy food, generating dependable markets for producers and positive impact on the local economy. While they have the potential to do even more, they face real barriers. Fortunately, there are effective Vermont and New England networks of partner organizations, businesses, and agencies that have a shared commitment to sourcing more local food at these institutions. There is a need for investment of time, energy, and resources to create sustainable purchasing relationships that will maximize benefits which far exceed the investment.

Recommendations

- Additional state and federal workforce development training funds are needed in order to train more food service workers in culinary skills that utilize more Vermont products, including skills to process, prepare, and serve irregularly shaped and sized vegetables as well as whole animals. Additionally, institutions need to create incentives to keep food service staff on the payroll: increasing compensation, providing paid training, and increasing longevity benefits.
- Vermont colleges and hospitals need assistance in marketing their contributions to the state's healthy and local food system as a way to increase food literacy. Building off the successful Vermont Farm to Plate "Rooted in Vermont" campaign, develop a strategy to help college and hospital dining operators market their use of local food.
- Help new and experienced Vermont producers understand college and hospital market opportunities. UVM Extension and the Vermont Agency of Agriculture, Food and Markets (VAAFAM) should collaborate with NOFA-VT, Farm to Institution New England (FINE), and Health Care Without Harm (HCWH) to help Vermont producers assess the costs and benefits of growing, processing, and marketing specific foods for institutions in Vermont and neighboring states. These entities can draw on numerous national models for evaluating costs and accessing institutional markets. Convene a forum to discuss current efforts and opportunities, including funding opportunities, and develop a coordinated five-year plan.
- Provide technical assistance to support contracting and supply planning at institutions. Colleges and hospitals can optimize their value as reliable, consistent markets for Vermont producers by making buying commitments in advance of the growing season. VAAFAM, UVM Extension, NOFA-VT, Vermont Farm to Plate Network, HCWH, and FINE should collaborate to provide assistance to producers and buyers on these contracting models.



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VERMONT FOOD SYSTEM PLAN MARKET BRIEF



MARKET: Direct Markets

What's At Stake?

Over a quarter of Vermont farms (1,833) sell directly to consumers through farmers markets, Community Supported Agriculture (CSA), and other “direct market” channels.¹ Direct markets are critical because they allow producers to capture more income for each product sold (compared to wholesale), require low up-front investment, give producers more autonomy over the products they sell, and foster customer relationships through experiential marketing (an increasingly important tactic across all industries). The trends towards consolidation and downward price pressure in wholesale markets favor larger producers and create challenges for many small to medium-scale producers, accentuating the importance of strengthening direct markets as the foundation of a working landscape of diverse farms at all scales.

Current Conditions

Since their revival in the 1970s, Vermont’s direct markets have been a critical market channel for producers and must continue to be a priority for focused market and business development. In addition, direct markets serve as a common entry point for shoppers who may be new to purchasing local food. In 2017, Vermont direct market sales totaled \$49.9 million.

Farms often rely on direct markets as part of a mix of market outlets critical to their business viability. The USDA’s Economic Research Service found, “farmers who market goods directly to consumers are more likely to remain in business than those who market only through traditional channels”² and that, for beginning farms, having direct markets as part of the business increased the chances of business survival.³ Through the 1990s to early 2010s, a boom in direct markets, buoyed by the burgeoning “local food movement,” coincided with growth in diversified farms across the state. This success brought competition from large retailers and corporations claiming “local” as a marketing term, sometimes misleadingly, leading to concerns about the viability of direct markets. Competition also increased innovation from direct market farms, from on-farm events to responding to consumer demand with more flexible CSA models (see *Agritourism* brief).

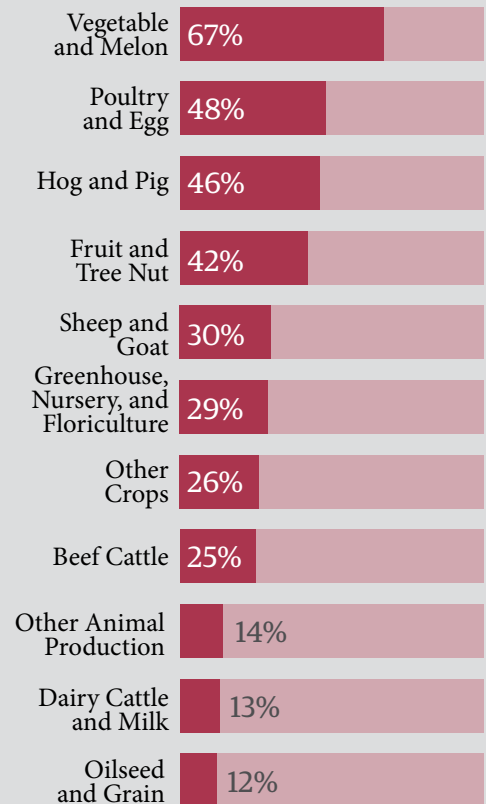
Results from the 2017 USDA Census of Agriculture show that direct sales are increasingly important to the bottom line for Vermont farms, with average sales per farm through direct market channels more than double those in 2012.⁴ Consumers in Vermont are spending more money in direct markets channels as well, with sales increasing over 82% from \$27.4 million in 2012 to \$49.9 million in 2017.⁵ Direct-to-consumer sales in Vermont made up over 24% of total local food and beverage purchases in 2017 and 3.3% of overall food and beverage purchases.⁶

Various organizations provide marketing assistance to producers, conduct statewide consumer campaigns about the benefits of direct markets, foster collaborative marketing between direct marketing businesses, and work to connect shoppers and visitors to Vermont producers. These promotion and technical assistance programs represent a solid foundation to expand upon.

1,833 farms, 26.9% of all farms in Vermont, sell some food direct to consumers.

These direct-to-consumer sales provide an average revenue of \$27,262 per farm.

Percent of Farms in 2017 with Direct-to-Consumer Sales, by Farm Type



Bottlenecks & Gaps

- Increased consumer demand for local food has resulted in distributors and retailers with vast marketing resources claiming products are “local,” even if their claims are not in line with customer expectations. This puts downward price pressures on farmers and challenges their viability.
- Direct market farmers are now competing against large companies able to capture customers looking for convenience through new marketing models such as online ordering, meal kits, and home delivery.
- Direct market farmers often lack the marketing skills, technology, broadband access, and funding necessary to reach modern consumers in this competitive environment.
- Many farmers markets lack resources to support professional staff, which impacts their capacity for marketing, managing vendors, securing stable locations, handling legal issues, providing good consumer experiences, etc.

Opportunities

- Consumer trends show people are looking for a relational form of food purchasing. Vermont can capitalize on these trends with increased marketing for, and storytelling about, direct markets (*see [Consumer Demand](#) brief*).
- Collaborative marketing is already happening at various levels (statewide, regional, groups of farmers) and can be built upon to support individual producers and farmers markets unable to compete with the marketing savvy of large companies.
- Online technology exists that can enable local producers to grow their web presence and reach a potential new customer base.
- Direct markets that participate in public health and/or food access programs such as [SNAP/3SquaresVT](#), EBT incentive programs, etc., ensure that all Vermonters can access local food from direct markets and producers can receive income from federal food assistance programs (*see [Food Access and Farm Viability](#) brief*).

Recommendations

- Provide \$500,000 annually in state funding for a collaborative, statewide marketing and consumer messaging campaign to focus on the unique attributes and values that direct markets offer, building affinity for shoppers to support direct markets.
- Provide annual funding for two FTE positions: one to provide centralized resources and marketing support to Vermont’s direct market producers, and one for the Vermont Farmers Market Association to provide centralized resources and marketing support to its members. Estimated cost: \$150,000 for two FTEs.
- Assess what resources would be needed in order to purchase/dedicate public land for eight “flagship” farmers markets across the state through land trusts, Vermont State Parks, or some other body that can help institutionalize market locations.
- To increase their sustainability and impact, provide funding to include farmers markets in business assistance programs like the [Vermont Farm and Forest Viability program](#). Funding would include stipends for the markets to dedicate a staff person to participate in the program. Estimated cost: \$3,000 per market.
- To expand direct markets’ ability to support public health/food access, create a state funding source devoted to perpetuating [NOFA-VT’s statewide direct market EBT doubling programs](#). Estimated cost: \$43,000 annually to support equipment and fees for 45 farmers markets and 20 farms.
- Develop peer-to-peer training and outreach to share success stories of producers that have been experimenting with online farm stands and customizable CSA models.

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VERMONT FOOD SYSTEM PLAN MARKET BRIEF



MARKET: Distribution

What's At Stake?

Distribution encompasses how Vermont farms and food manufacturers get products to consumers in the state and region. Without a robust and efficient distribution system that provides cost-effective options to get their products to market, Vermont farmers and food businesses will struggle to compete and capitalize on consumer demand for Vermont food. Consolidation in the distribution industry and resulting price pressures has created unfavorable financial terms for smaller producers and restricted their access to wholesale markets. This is happening as consumers are increasingly seeking source-identified products that are perceived to provide transparency, food safety, and positive community impact. More direct investment is needed for distribution infrastructure, technology, and technical assistance to introduce system efficiencies and make wholesale and regional markets accessible and viable for Vermont farmers and food producers.

Current Conditions

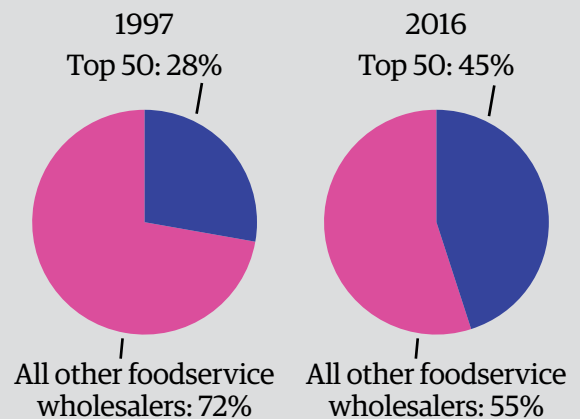
Distribution models utilized by Vermont producers include self-distribution, freight shipping, wholesale distribution, and intermediated market distribution.

“Self-distribution” is when a producer delivers a product themselves, and often is the first way producers fulfill wholesale orders. “Freight shipping” providers simply charge for transportation services. Freight shipping accommodates e-commerce, allows producers to receive full retail prices while retaining control of sales accounts, and removes financial and logistical burdens of self-distribution. Freight is more widely available and cost-competitive for shelf-stable food products than for produce, meat, and dairy, which have stringent cold-chain requirements and need specialized packaging and/or refrigerated trucks.

“Wholesale distributors” buy food products for resale and transport them to retail buyers. Producers can access new markets and increase sales volumes by using a wholesale distributor, but strong existing sales and high production volumes may be a prerequisite. These distributors face considerable pressure to keep prices low in order to retain market share in competitive retail and institutional markets. For producers this can mean low prices and hidden fees from distributors (see *Grocers brief*).

Because the wholesale distribution landscape is dominated by larger distributors who favor national food businesses, smaller produce, specialty food, and beverage wholesale distributors that operate in the state and Northeast are integral to the success of Vermont food businesses. These smaller distributors (food hubs, online distributor-retailers, and regional specialty distributors), which explicitly emphasize local food as part of their business, make up a part of what USDA calls “intermediated markets.”¹ These intermediated market distributors are addressing the need for better prices for producers and the growing consumer and institutional demand for local food (see *Consumer Demand, College and Hospital Procurement, School Food Procurement briefs*).

Sales of the Top 50 Foodservice Wholesalers as a Percent of Total U.S. Wholesale Sales



Bottlenecks & Gaps

- Commercial Driver's License (CDL) driver shortages, mandatory electronic logging of driver hours, and tighter cold-chain regulation due to the Food Safety Modernization Act are increasing the cost and limiting the availability of distribution in Vermont.
- The lack of in-state warehousing and cross-docking makes distribution throughout the state less efficient, and best practices and on-farm infrastructure for efficient product transfer to distributors are lacking.
- Some Vermont producers have difficulty finding and comparing distribution options (particularly for freight) and accounting for distribution costs in their business plans.
- Delivery to metropolitan areas is logistically challenging. Traffic, parking, overnight driver accommodations, and the potential for empty trucks on the return all make metropolitan delivery more expensive. (see *Major Metropolitan Markets* brief)
- Food hubs and other intermediated market distributors lack the communication and logistics technology to optimize shared ordering and routing.

Opportunities

- Established networks between Vermont producers, intermediated market distributors, and support organizations can leverage more public-private investments and increase coordination.
- More farm-to-farm aggregation and coordination in drop-off and pick-up can reduce transportation costs for farmers and distributors.
- Existing resources, like the Distribution Options Financial Decision Making Tool, help producers assess what type of distribution works best for their scale and markets.
- The Vermont wholesale producer-distributor database could develop into an online portal to help producers find distributors, distributors scout Vermont products, and buyers discover Vermont products.
- Vermont and regional intermediated market distributors adapted to rapidly changing market conditions during the COVID-19 pandemic, and successfully served wholesale buyers impacted by national supply chain disruptions. This will potentially benefit Vermont producers over the long term.

Recommendations

- Develop a distribution and logistics infrastructure investment plan to guide strategic transportation investments with the express purpose of improving the efficiency and cost-effectiveness of in-state and regional food distribution. Include a business plan analysis for a public/private Vermont wholesale terminal market that would provide cross-docking, cold storage, and logistical service between Vermont producers and regional wholesale buyers. Examples include the Wisconsin Food Terminal, the Ontario Terminal Market, and New York City's Wholesale Greenmarket. Cost: \$100,000.
- Offer a cohort-based distribution training series for farmers and food producers. Cover topics such as evaluating distribution costs, maintaining cold-chain integrity, best practices to optimize drop-off and pick-up, and pitching to distributors. The series would also include direct meetings with state and regional wholesale distributors to understand onboarding requirements and how to optimize the supplier-distributor relationship. \$60,000 to develop module-based curriculum and pilot trainings; annual cost of \$15,000-\$25,000 to conduct trainings.
- Using the infrastructure study as a guide, increase public-private investment in intermediated market distributors to improve operational efficiencies and overall sales through improved marketing, infrastructure, route optimization and shared transportation-management software, and access to logistics professional development and consulting. Cost: \$500,000-\$1,000,000 over three years.
- Explore the demand for and feasibility of a producer-distributor-buyer web portal to expand the sale and distribution of Vermont products and improve communication, connection, and transparency throughout the supply chain. The portal would list Vermont wholesale products, distributors who carry these products, and general distributor information such as base rates, volume discounts, product categories carried, geographic regions served, and insurance requirements.

Farm to Plate is Vermont's food system plan being implemented statewide to increase economic development and jobs in the farm and food sector and improve access to healthy local food for all Vermonters.

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VERMONT FOOD SYSTEM PLAN MARKET BRIEF



MARKET:

Grocers

What's At Stake?

Retail food stores, from village markets to food cooperatives (co-ops) to national chain supermarkets, are the primary sales outlet for Vermont farm and food businesses of all sizes and scales. In 2017, Vermonters spent a total of \$310 million on local food, purchasing 32% of those foods at Vermont co-ops and grocery stores.¹ These stores have significant impact on Vermont's food producers, rural communities, and economy. The current trend toward out-of-state ownership and consolidation of distributors and food stores is greatly impacting the ability of Vermont farms and food manufacturers to sell their products to stores of all sizes.

The viability of independently owned businesses and regional supermarkets committed to increasing local sourcing is in turn critical to farm and food business viability. Vermont must support both growers' and value-added producers' ability to service grocery markets. Meeting growing consumer demand for fresh, local, high-quality products at grocery stores will advance Vermont's rural economic development and our rural communities.

Current Conditions

Local food and beverage sales at co-ops and other grocery stores in Vermont amounted to \$98.5 million in 2017, with \$42 million in local sales at co-ops alone. In total, Vermont's independently owned grocery stores (general stores, co-ops, rural convenience stores, on-farm stores, and small-scale supermarkets) account for approximately \$750 million in retail food and beverage sales in Vermont.²

There is much room for growth in the grocery market channel, both locally and regionally, as retail demand for local products and many of their associated values is high among consumers. However, accelerated consolidation in retail and distribution businesses (e.g., Amazon's purchase of Whole Foods, Reinhart Foodservice's acquisition of Black River Produce and the subsequent purchase of Reinhart by Performance Food Group) threatens the viability of the grocery market for Vermont farmers and food businesses (referred to as "suppliers" in the industry). Consolidation increases downward price pressure, diminishes suppliers' leverage in negotiating favorable terms and prices, and creates barriers for new suppliers to access retail markets.

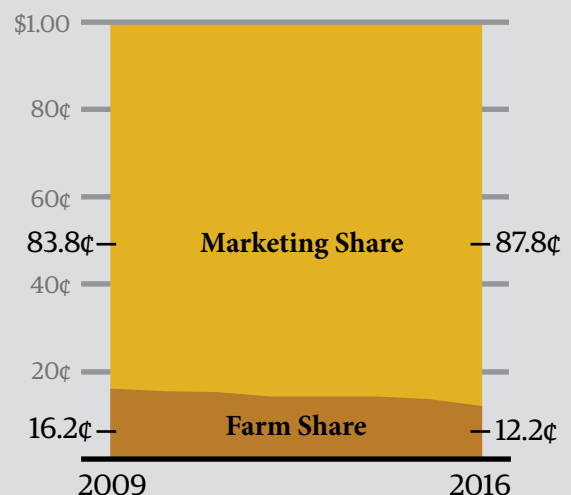
Consolidation is also happening at the independent store level and in rural areas. Over the past 15 years many independently owned village stores with gas stations were purchased by large, regional oil companies. This trend, combined with an influx of discount stores (e.g., Dollar General), shifted consumer purchases away from community owned and operated stores. At the same time, it reduces opportunities for local and fresh food to be sold within rural communities, some of which are, or are on the verge of becoming, food deserts.

Various business assistance and marketing initiatives

have emerged over the past few years to address these challenges and capitalize on opportunities in retail (e.g., a distribution cost analysis tool, retail merchandising and local sourcing training, subsidized attendance at regional trade shows, and collaboration amongst food hubs). These initiatives and increased investments in farm infrastructure to improve food safety, production, and storage, are all key ingredients to maintaining vital grocery market sales for Vermont suppliers.

Marketing Share of Each Food Dollar, 2009-2016

The farm share is the amount of each food dollar received by farmers from the sales of raw food commodities. The marketing share accrues in the rest of the supply chain, including inputs, transportation, wholesale, food service, marketing, etc. Numbers are adjusted for inflation to 2009.



Producers

Current Conditions

Most food is purchased at retail food stores, which are an important source of revenue for Vermont producers. There are 737 Vermont farms selling directly to retail markets, institutions, and food hubs, totalling \$54 million in sales.³ Local products are in demand and many Vermont producers are building a business around grocery sales, but the structure of the grocery market is complex and hard to navigate, and changes related to industry consolidation put most Vermont producers at a disadvantage.

Bottlenecks & Gaps

- Expanding food safety regulations require capital investment and make it harder to gain entry into grocery markets.
- After all expenses are taken into account, a producer selling into retail markets can receive 30% or less of a product's retail price.
- Producers and technical assistance providers have knowledge gaps related to the complexities of the grocery market channel.
- The seasonality of many Vermont farm products is a disadvantage when distributors and large grocers prefer or require consistent year-round supply.
- Producers may not know how to account for the costs of distribution into their business planning.

Opportunities

- Wholesale farmers benefit from selling to large buyers when they are able to sufficiently scale their operations and be efficient in their production methods.
- There is a well-coordinated business assistance network in Vermont which can provide advisory services related to retail markets.
- Cooperative processing ventures can expand market access for Vermont farm products.
- There is strong consumer demand for certain food attributes that align well with Vermont-made products (*see Consumer Demand brief*).

Distributors

Current Conditions

Food distributors, tasked with getting food from producers to stores, are a vital part of the farm-to-grocery supply chain. There are stores that accept deliveries directly from producers, freight providers (e.g., FedEx), and local food hubs. However, utilization of established distributors who purchase product from producers and resell to retailers is the predominant way to sell into the grocery marketplace, particularly to regional grocers.

Bottlenecks & Gaps

- Getting product into wider distribution networks requires trucking, proximity to existing truck routes, loading docks, and often pallet-sized volumes of product, which are not always readily available.
- Consolidation in the distribution industry limits onboarding of new producers as well as local product availability and source identification.
- Inefficient trucking routes and costly maintenance drives distribution costs up in Vermont, and understaffing of Commercial Drivers License (CDL) drivers and warehouse workers at distribution companies constrains the supply of affordable distribution options.

Opportunities

- Farmers and food manufacturers have access to new business planning tools which help them evaluate distribution options.
- Workshops that bring together farmers, food manufacturers, and distributors have been occurring in recent years across the state.
- Undertaking a rigorous assessment of the distribution system, including truck routes, backhauling, and cross-dock opportunities, may streamline trucking options and minimize costs.
- Alternative distribution models exist with potential to counteract industry-level consolidation (e.g., food hubs and other values-based small-scale distributors).

Sales at Independent Stores

Current Conditions

Sales of specific Vermont products at independent stores are hard to quantify, however, Vermont's large food co-ops do track sales and consistently see a high dollar value of Vermont products sold. National-scale supercenters, warehouse club stores, and online retailers (e.g., Walmart, Costco, Amazon) with their consolidating stores, broad marketing reach, and wide-ranging product mix are challenging the survival of independent stores in our rural communities.

Bottlenecks & Gaps

- With fewer marketing and financial resources, independent stores work harder to stay engaged with customers and trends, while attempting to maintain their narrow profit margins.
- Competitive pressure means stores must streamline buying, receiving, and store operations, potentially reducing staff numbers, which can reduce time for relationships with producers and distributors, and in turn local food deliveries.

Opportunities

- Independent grocers, as local community institutions, are well-positioned to understand and capitalize on consumer trends within their communities.
- Independent grocers do have the ability to be flexible with producers and can gain competitive advantage by offering products representative of their community and the state.
- In-store retail training and support services focused on Vermont independent grocers have proven successful and can be replicated.

Sales at Supermarkets

Current Conditions

Supermarkets sell groceries, produce, meats, baked goods, prepared foods, and housewares, and represent the primary outlet where consumers purchase food. Supermarkets serve customers seeking convenience, lower prices, and a wider selection than smaller, independent stores. Similar to independent grocers, supermarkets are experiencing heightened competition for market share due to the emergence of online retailing and shifts in consumer purchasing behaviors (e.g., consumers are less likely to shop at just one store for their groceries).

Bottlenecks & Gaps

- The efficiency of scale sought by supermarkets creates strong financial incentives for them to simplify supply chains and reduce the number of suppliers from which they buy. This, in turn, can limit options for consumers and producers alike.
- Supermarkets levy unanticipated fees, seek large producers who can guarantee contracted amounts, and will easily change the supplier of a product, dropping a local supplier in order to save pennies on the pound.

Opportunities

- In the last decade, supermarkets started capitalizing on demand for local food, developing local food programs that more prominently market local options, and leading to a surge in local food sales estimated to be \$19 billion in the U.S.⁴
- The threat of losing customers demanding “local” to other grocery outlets is pushing some traditional supermarkets to adapt to local producers’ needs.
- Trainings, a local products database⁵, producer-buyer forums, and other resources have shown promise in facilitating supermarket access for Vermont wholesale producers.

Summary

Food retail is undergoing a period of significant disruption, simultaneously adapting to and fending off online competition while shifting store space and product selection to satisfy changing consumer preferences and shopping habits. To keep up, many small store owners and food co-ops are navigating towards greater consumer engagement, local food sourcing, in-store amenities like cafés, delis, and bakeries, and greater emphasis on convenience foods and prepared meals, while also reconnecting to their role as community resources. Disruption in the retail market caused by the mergers among major distributors and supermarket chains leaves small stores, farmers, and food manufacturers with less leverage in the marketplace. The grocery market remains a substantial opportunity for Vermont producers, and local food can be a strong differentiating foundation for Vermont's independent retailers, but increased business assistance, affordable capital, strategic partnerships between producers and values-aligned distributors and buyers, and improved marketing are needed.

Recommendations

- Continue philanthropic and state funding support for producer-buyer forums that bring together industry experts and buyers (both Vermont and regional), including product-specific forums (e.g., cheese, meat, produce, specialty food). Forums build market access for suppliers, help buyers differentiate their product mix, and increase trade association collaboration and engagement. Cost: \$60,000 total over three years.
- Explore the demand for and feasibility of a produce-buyer database web portal to expand the sale and distribution of Vermont products within Vermont and the region.
- Create three Vermont marketing broker positions to develop the regional market for a strategic catalog of Vermont products. The brokers would pilot a three-year program, identifying and developing top market channel opportunities within three target urban centers in the Northeast. Estimated cost: \$600,000 over three years.
- Devote more resources to retail-specific sales and marketing technical assistance. Subsidize the cost of attendance at national sales and marketing events for producers and service providers. Investigate funding models that could provide Vermont product merchandising, Point of Sale materials (e.g., product signage), and brand ambassadorship in retail markets. It is imperative that our food producers are given the tools they need to compete within regional and national markets, and can affordably access professional services needed to succeed in retail. Cost: \$50,000.
- Develop a five-year plan for statewide retail market development that helps stores maintain profitability and navigate the next period of consolidation and disruption through trainings, speakers, resources, and events.



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VERMONT FOOD SYSTEM PLAN MARKET BRIEF



MARKET:

Major
Metropolitan
Markets

What's At Stake?

Vermont currently has 6,800 farms and 1.2 million acres in agricultural production, with a farm-gate value of roughly \$781 million dollars¹, and in 2017, Vermont's food manufacturers generated \$3 billion in economic value.² These food and beverage businesses are essential to the cultural and economic fabric of our rural economy. Given the limited population of Vermont, many agricultural business owners rely on populations outside of Vermont to make purchases and sustain their business. Without the support of regional consumer markets, the growth and earning potential of Vermont farms and food businesses will be limited and this important sector will see stagnation or begin to shrink in size.

Current Conditions

Within a six-hour drive, or 330 mile radius from Montpelier, Vermont, there are 49 metropolitan areas, with a population of 49.4 million people³, and 17,818 U.S. grocery stores⁴⁵. These metropolitan markets are and will continue to be integral to the success of Vermont food and beverage companies and the growth of the rural economy.

When Vermont products are sold in the regional market, they compete directly with other international, national, regional, and local products, and often do not obtain the same premium price that they receive in Vermont. While Vermont's reputation, or the Vermont brand, has some clout in metro areas such as Boston and Albany, there is lesser affinity in New York City, Syracuse, Hartford, Philadelphia, and others, forcing businesses interested in those markets to invest more heavily in marketing and branding, look more closely at their cost of production, and build relationships.

Staying front-of-mind with retailers and distributors requires a great deal of effort and investment, and requires certain volume, consistency in product quality, successful branding, and ability to offer promotions. Many small businesses have limited administrative capacity, lack of funds for marketing initiatives, limited time to travel and build relationships, and lack of expertise in sales, distribution, and logistics.

While wholesaling is one of the primary ways to reach metro areas within the region it poses unique challenges for small businesses. Distributors selling in large metro areas have an expansive pool of local, regional, national, and international products competing to meet the customer demand (see *Distribution* and *Marketing* briefs).

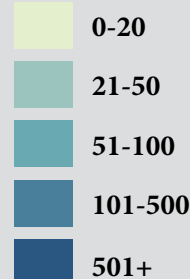
Finally, despite the many Vermont resources available for assistance navigating these complex relationships, producers have limited capacity to step away from the business and invest in learning about opportunities or seeking resources such as grant funding or technical assistance. Food brokers and distributors who serve as intermediaries in gaining access to and servicing metro markets are increasingly important to producers.

Major Metropolitan Markets within a Six-Hour Drive of Montpelier

For the full-sized map, see end notes.



Number of Grocery Stores per County



Metro Areas by Population Size



Bottlenecks & Gaps

- Some Vermont producers do not have sufficient product volume to warrant the cost of freight delivery.
- Building relationships is integral to getting and keeping products on the shelf and takes time, resources, understanding of logistics, and a specific skill set—all of which can be challenging to a new or small business owner.
- Customers in major metro areas expect excellent customer service, a strong internet presence, and consistency in product quality and volume. A small business may not have capacity to meet these expectations.
- Wholesaling requires a sophisticated business model, as businesses must look at the margins as a whole rather than at each transaction. In addition, they must be looking very closely at labor and other expenses to eliminate any waste and maximize revenue.
- Businesses have limited administrative capacity to navigate paperwork, connect to technical assistance, and take advantage of grants and other funding opportunities.

Opportunities

- Small-scale and regional distributors can provide support services such as consumer feedback, coaching on getting to market, and a level of flexibility that larger distributors cannot. It's important to work with a distributor that matches the scale of the business.
- Cooperative relationships for marketing and distribution can maximize financial resources and increase the volume necessary for freight.
- Consumers are purchasing food in many creative ways. There is opportunity to explore alternative methods of distribution to regional consumers such as direct-to-consumer models and/or convenience items (e.g., pre-cubed butternut squash, sliced carrots, or ready-to-eat meals).
- The COVID-19 pandemic demonstrated that a strong online presence and communication/marketing strategy can enable businesses to be resilient in difficult circumstances.

Recommendations

- The Vermont Agency of Agriculture, Food and Markets (VAAFAM) should provide small grants to businesses for in-store demos. Grants can be added as an activity in the Trade Show Assistance Grant program, which allows up to \$5,000 per grant.
- Provide marketing funds to VAAFAM and Vermont Department of Tourism and Marketing to collaborate on a Vermont marketing promotion in a prominent public space within a priority metro area, in order to create a customer affinity for Vermont products and tourism. Cost: \$100,000 per year.
- Conduct a market study to identify the perceived barriers and/or why the cost of production is perceived to be higher in Vermont than other New England states. Cost: \$40,000.
- Provide administrative support to multiple Vermont producer associations, through services such as collaborative marketing technical assistance, and membership admin/development/outreach/engagement shared across entities. Funding to be shared in part by the producer associations as well as a carve-out from VAAFAM. Cost: 1 FTE at \$100,000 per year.
- VAAFAM, in partnership with Vermont producer associations, should build partnerships with Departments of Agriculture and other regional producer associations across New England and New York, to consider cooperative marketing efforts for specific product categories and to broaden the reach of marketing efforts.
- Develop an intensive, structured, competitive, technical assistance and mentorship program to further increase the business acumen of successful Vermont food and beverage businesses. Include topics such as cost of production, processing, growing, marketing, consumer trends, etc. An existing Vermont technical assistance provider could adopt such a program, with additional funding from the Working Lands Enterprise Initiative or other state funding source. Estimated cost: \$25,000 for up to 15 businesses per year.

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VERMONT FOOD SYSTEM PLAN MARKET BRIEF



MARKET: *Restaurants*

What's At Stake?

From mom-and-pop diners to high-end establishments, restaurants play a key role in shaping the way consumers eat and think about food. They also play a role in the success of Vermont farms by featuring, and increasing the amount of, locally grown food that they purchase. Enhancing restaurant and farm partnerships is a win-win for the health of Vermont's rural economy and the overall financial sustainability of rural communities. Before the COVID-19 pandemic, restaurants accounted for 3% of all local food purchases in Vermont, with at least \$9.7 million flowing back to local food producers. As of this writing, the COVID-19 pandemic economic shutdown has hit restaurants hard: 30% of restaurants will not reopen according to current estimates. It will take time to rebuild lost restaurant livelihoods, jobs, farmer and chef relationships, and community gathering spaces, and without a dedicated and coordinated response, they may never return to pre-COVID levels.

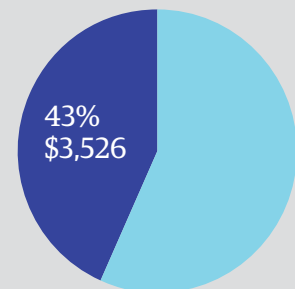
Current Conditions

Over the last 20 years, Vermont's farm-to-table movement has grown tremendously. Consumer expectations and increased demand have driven restaurants to increase their sourcing of local ingredients, form partnerships with local farms, and include food sourcing transparency as an integral element of their brand identity. The COVID-19 pandemic may reinforce consumer trends related to transparency, health, and freshness which favor local-sourcing restaurants.

The restaurant market is highly competitive, with razor-thin margins and an overall industry-wide staffing shortage both in Vermont and nationally. The obstacles that restaurants face to increased purchasing of local food include product cost, staffing shortages, staff training, storage, and consistent product quality and supply. Because of limited distribution resources, many farms deliver once or twice per week (larger restaurants and/or restaurant groups prefer three or four times per week). Lack of technology and limited distribution networks put small and medium-sized farms at a disadvantage when competing against large distributors serving the restaurant markets.

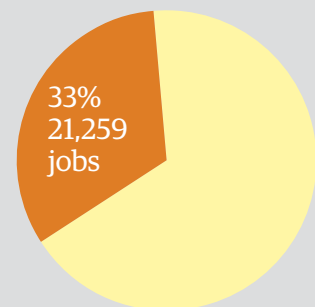
To increase the purchasing of local food in the restaurant market, we need to remove barriers in the farm-restaurant relationship. These barriers can include the cost to consumers, inefficient communication, lack of awareness of what's available, and the lack of farmer utilization of or interest in distribution networks. It is important for restaurants and farmers to understand each other's businesses, and to strengthen their partnerships with increased communication and education. Statewide organizations and smaller regional organizations provide resources, tools, and marketing assistance that foster linkages between restaurants and producers, and should build on current efforts while removing duplicative ones.

Nationally in 2019, consumers on average spent 43% of their total annual food expenditure on food away from home.



In 2018, there was an estimated \$1.1 billion in sales at Vermont's 1,413 eating and drinking locations.

In 2019, the 21,259 jobs at Vermont food service and drinking establishments made up a third of all Vermont food system jobs.



Bottlenecks & Gaps

- Restaurant budgets are tight and staff may not designate local food purchasing as a priority because buying and preparing certain local foods requires processing equipment, more storage space, and additional staff training.
- For small to mid-sized farms, direct-to-store wholesale and direct-to-consumer sales can be more profitable, reliable, and consistent than restaurant sales.
- There is a lack of small distributors, or larger distributors who offer source-identification, to increase product reach across the state and offer restaurants more local food options.
- For restaurants, communicating with each individual farm or specialty food producer can take time and be inefficient. For farms, it can be hard to keep communication channels open with restaurant partners when manager and chef turnover occur.
- Vegetable producers may be competing against each other with the same products, and/or avoiding the financial risk of new markets or products related to restaurants.

Opportunities

- Regional food hubs and small distributors that cater to small and mid-sized producers could build another market channel by serving the restaurant industry.
- By working closely with farms in the winter and early spring, restaurants can plan with producers for the coming season, leading to new products and farm connections with new buyers.
- Restaurant staples in high demand but not currently available from local producers, such as canned tomatoes or cooking oil, may present an untapped market opportunity for local producers.
- Existing organizational efforts and resources to strengthen connections between producers and restaurants can be built upon.
- A collaborative marketing program between restaurants and their producers could promote food transparency and increase marketing reach for both sectors while deepening relationships.

Recommendations

- The restaurant industry will need sustained support to survive the COVID-19 pandemic and recover to pre-COVID levels. Helping restaurants will in turn assist with the recovery of the rural economy, tourism, and downtown vitality. Safety measures (e.g., increased air circulation infrastructure costs, PPE, reduced seating capacity), intermittent full closures, and personnel concerns are adding costs while reducing business income and viability. Creativity, state funding, technical assistance, and much more are needed and should continue to be funded by the Legislature. Providing the universal workforce needs for health care, transportation, and child care will also assist in restaurant recovery.
- Increase Vermont Agency of Agriculture, Food and Markets grant funds to programs supporting farm to table relationships. Possible uses for such funds include exchanges in which farms share their products with chefs and chefs discuss their needs with producers, supporting restaurants' efforts to locate products, and bolstering online resources which facilitate communication between partners.
- Develop processing facility infrastructure and additional training and support for food hubs. Put strong systems in place for additional types of product processing (e.g., meat and/or "new" local products that could be considered for restaurant staples) with investments in equipment, training, and industry best-practice standards for safety, and craftsmanship (see *Business and Technical Assistance, Meat Slaughter, Processing, and Products, Lightly Processed Vegetables, Specialty Food* briefs).
- Investigate whether and how local food purchasing incentives could work for the restaurant industry.
- Offer local food purchase tracking templates and technical support to help individual restaurants market themselves and track their individual impact. This could help the industry as a whole communicate its impact on the local food system. Support the implementation of standardized ordering and invoicing systems between farms and restaurants.

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VERMONT FOOD SYSTEM PLAN MARKET BRIEF



MARKET:

School Food Procurement

What's At Stake?

Teaching Vermont students the value of Vermont food for both their own health and their community is an investment in future generations who will support agricultural policy, buy local, consider food system careers, and invest in resources for schools and other institutions. Schools purchase Vermont foods to build relationships in their community, and understand that the relationships have to be sustainable for both the school and the producer. However, pressures to prioritize cheap and/or prepared food are increasing due to decreased student enrollment, school consolidation, and administrative personnel changes. In addition, regulatory demands and food costs have increased at a greater rate than federal and state school meal reimbursement. School nutrition personnel, teachers, and administrators are focused on the basics of teaching required subjects and federal requirements for student meals rather than being able to creatively expand their Farm to School curriculum or spend time sourcing, purchasing, and serving local foods that students will enjoy. All this means that local purchasing is at risk of decreasing.

Current Conditions

“Farm to School” (FTS) is a spectrum of activities connecting the classroom, cafeteria, and community. The Vermont Farm to School Network (VT FSN) is working toward the goal of schools procuring 50% of their food from local or regional sources, and 75% school participation in integrated food system education by 2025. In 2019, the Vermont Legislature adopted a goal of 25% local purchasing in schools by 2023.

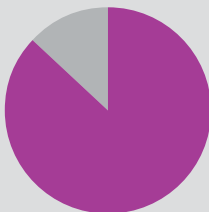
Approximately 250 public schools in Vermont serve meals to more than 50,000 Vermont pre-K to Grade 12 students, following the [USDA Child Nutrition Program](#) guidelines. The program costs \$50.3 million each year, and \$15.5 million of that money is spent on food. Of these students, 41% qualify for free or reduced-priced meals as part of the safety net for low-income families.¹ A 2016 UVM study found that in 2013-14, Vermont schools spent \$915,000 on local foods, or 5.6% of all food dollars spent. This in turn generated \$1.4 million in the Vermont economy, including \$374,000 related to the farm and food processing sectors.

If Vermont schools doubled their 2013-14 local food spending (from 5.6% to 11.2%) the total annual economic impact would be \$2.1 million.

Despite progress, schools continue to face significant obstacles to increasing their local food purchasing, including cost and staffing constraints, reliable supply, and delivery and storage considerations. In the majority of schools, the meal program budget is separate from the school educational budget, and must operate sustainably on its own as a revenue generating program rather than a nutritional and learning program.

Much progress has been made in understanding how certain local products get into schools, the importance of values-based buying, and the complexities of the aggregation and distribution system. However, buying Vermont foods is not mandatory for schools. Success depends on the values of the school community, which builds the demand, and the ease of sourcing, properly procuring, and using local foods.

87% of Vermont schools purchased food from a local producer during the 2016/2017 school year.



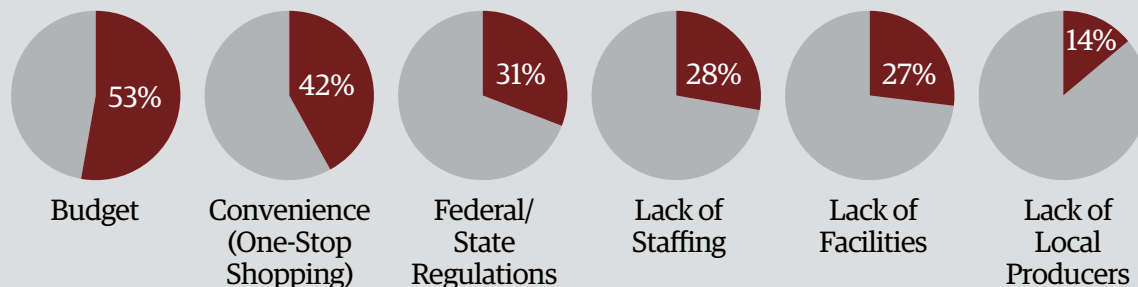
56% purchased local food often.



49% intended to increase their local purchasing during the following school year.



Most Commonly Cited Barriers to Purchasing Local Food (percent of schools listing barrier)



Values and Demand

Current Conditions

A virtuous cycle can be created as people increasingly value the school food program: providing more local foods leads to increased school meal participation, which increases the revenue for the program, and thereby increases the food budget capacity to purchase additional local foods. “Local” often becomes a proxy for the values people hold when they evaluate whether the school food is good or the meal program is valuable. Many people believe “local” also implies fresh, quality, organic, or homemade meals. Schools are starting to develop values statements for their school food programs in order to clearly explain what their meals program is striving to do. In addition, many schools are developing “tiered buying” in which they identify specific products they want to purchase in their ultra-local area, from Vermont, and from the Northeast.

Bottlenecks & Gaps

- School food programs are expected to raise all the money they need by selling school meals. Food costs are increasing faster than the federal and state meal reimbursement rates schools receive for the number of nutritionally appropriate meals provided.
- School meals and school nutrition staff are often not valued or seen as essential for student success and are treated as outside the school educational environment and the total school budget.
- Buying and serving local food requires more work, storage, equipment, and professional development of staff. Schools are not prioritizing this investment.

Opportunities

- Experienced statewide and regional FTS partners provide technical assistance.
- Schools and districts are taking more interest and control over their school food programs, whether they write specific FTS local purchasing requirements in a Food Service Management Company (FSMC) bid, hire an experienced director to oversee multiple schools, upgrade the cafeteria, and/or contribute general funds to the school nutrition budget.²
- Other U.S. states are incentivizing local food purchasing in schools and their models are available to assess and use in Vermont.

Aggregation and Distribution

Current Conditions

Most schools have contracts with large distributors to purchase up to 95% of all their supplies and food, to cut labor and food costs, and to receive rebates. In order for schools to meet their FTS local purchasing goals, some are pressuring distributors to label the local products. For their “close to home” or “ultra-local” food purchases schools often buy directly from farmers or small food hubs that are more transparent about their operation costs and food sources, though this takes more work.

It is important for farmers and service providers to know more about how the wholesale and institutional supply chains work, whether through direct purchasing or through an aggregator (e.g., food hub or distributor), and how the school nutrition program operates. To ensure that we are building a sustainable food system for all, it's also necessary for institutions and organizations supporting school food procurement to be knowledgeable about how increasing local purchasing impacts the viability of farmers.

Bottlenecks & Gaps

- School procurement has complicated federal rules, prompting many schools to choose a large distributor over local suppliers to make local food purchasing easier.
- Managing purchasing relationships with multiple farm partners takes additional work, including ordering, delivery, and billing.
- To be viable, farmers often need to participate in the wholesale distribution supply chain to access institutions outside of their immediate region, yet this limits their ability to market their identity and values to the end buyer (the school), and get a fair price.

Opportunities

- VT FEED is successfully conducting values-based tiered buying and local food procurement training with FSMCs and independently run school nutrition programs.
- Expanding school meal participation is translating to an increase in local food purchasing.
- Food hubs are evolving as values-based organizations that provide a transparent supply chain from ordering to delivery, and a transparent pricing structure for farmers.

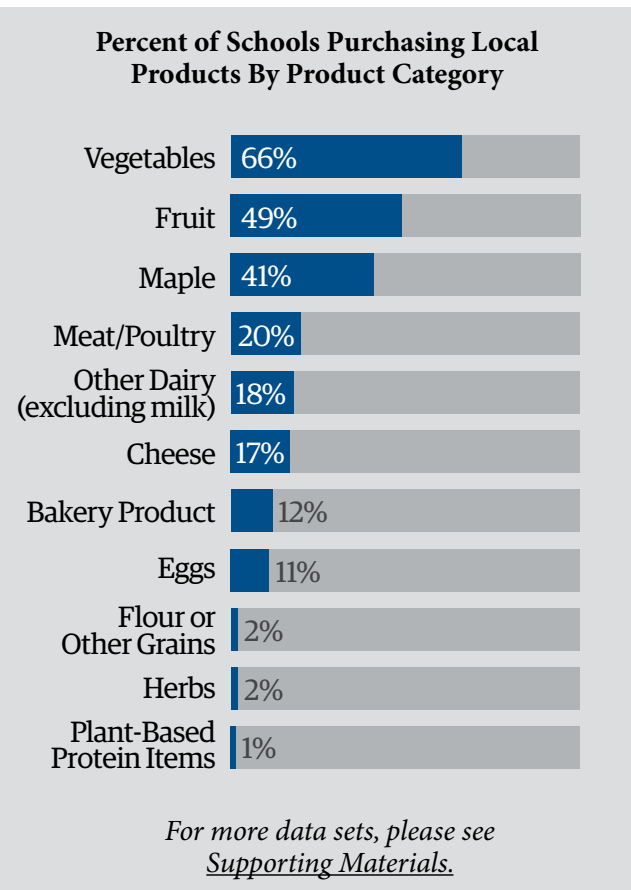
Products

Current Conditions

Common products purchased by schools are vegetables, fruit, maple syrup, milk and other dairy products such as yogurt, and meats. Uncommon products are grains and legumes.

Over the years, Vermont FTS Network studies have estimated demand for local foods and determined the opportunity for increasing Vermont food sold to schools. The specific demand results have been presented to service providers, distributors, and farmers, listing the key products and amounts which schools would use, if more readily available. This has not significantly increased the amount of local food purchases, since no farmer will produce for an anticipated school market unless there is a contract or a guarantee.

Values-based tiered buying planning that VT FEED introduced several years ago is having a positive impact. Schools define their food program values and set goals for buying ultra-locally (in their county), from Vermont, and from the larger region. By doing this, schools are deciding what they can buy directly from a farmer or food hub, and can track what is from Vermont or regionally from their distributors (as long as the distributor labels products). The success of values-based tiered buying comes through training and technical assistance primarily provided school by school.



Bottlenecks & Gaps

- Schools are often seen as the last market because of a myth that they won't pay prices farmers need.
- If school administrations and staff don't value local food in the school food program, the incentive to make additional efforts to purchase is absent.
- The definition of local food is determined by law by each School Food Authority. Distributors have their own definition of local as do FSMCs (which serve about 35% of schools). Thus, the sources of product purchasing data have different definitions of "local," ranging from 20 miles to 400 miles, making data tabulation challenging and labor intensive.

Opportunities

- When technical assistance and training on the procurement of local foods is provided, there is evidence of positive change in individual schools and product tracking becomes more possible.
- School districts buy a lot of food on a consistent basis, rarely go out of business, and can be a stable part of a diversified market for Vermont farmers and food manufacturers.
- Consolidation of school districts, in some cases, is leading to the hiring of skilled school nutrition directors who oversee multiple schools, can increase volume by aggregating purchasing, and thus become a more interesting customer to local farmers.

Summary

Schools have many competing priorities and yet Farm to School has become a top priority: an opportunity to develop community connections through local food and agriculture, thereby regenerating farming communities as much as regenerating agriculture. By pushing the dominant wholesale and distribution system to source more local food, we can ensure that a transparent system that values more than cheap food (a values-based system) is in place. This will enable schools to purchase food according to their evolving values, not just the price and convenience prized by the traditional system. This will also embolden students and school staff to value their school nutrition program and the food that is served.

Recommendations

- The state should support incremental steps towards universal meals, which increase student participation, decrease paperwork, and allow for time and money to be used on local food procurement.
- The Vermont Legislature should fund the Vermont Farm to School Network with \$500,000 of annual base funding for Farm to School infrastructure grants, technical assistance, and training to grow FTS in all counties.
- Incentivize local purchasing by developing, with Farm to School partners, a percent-per-meal reimbursement to schools for purchasing local products above a certain threshold. For example, New York provides \$0.25 per lunch to schools incorporating 30% New York product in their meal program. According to a Farm to School 2016-17 economic study³, "every dollar spent on local food contributes an additional 60¢ to the local economy."
- Further develop a transparent values-based system so buyers can buy according to their values, not just price. This includes values such as supporting the local economy, farming practices that support healthy soils and planet, fair labor practices, etc.
- Increase education and matchmaker events for buyers and producers to learn about values-based purchasing, forward contracting (i.e., contracted annual commitments between farms and buyers), and the criteria schools use to make purchasing decisions. Support the school nutrition profession with more school-funded opportunities for technical assistance and training around buying and using local foods for school nutrition, and around cooking from scratch and using local products.

Farm to Plate is Vermont's food system plan being implemented statewide to increase economic development and jobs in the farm and food sector and improve access to healthy local food for all Vermonters.

The Vermont Agency of Agriculture, Food & Markets (VAAFMM) facilitates, supports, and encourages the growth and viability of agriculture in Vermont while protecting the working landscape, human health, animal health, plant health, consumers, and the environment.

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Issue Briefs

These 23 briefs encompass topics ranging from water quality and climate change, to consumer demand and food access, supporting farmers and food entrepreneurs with access to business assistance and the right forms of capital as well as the increased need for assistance with intergenerational transfers of land and businesses. A number of the recommendations contained in these briefs will require collaboration with other networks of organizations (e.g., child care and health care networks) in order to address the challenges faced by many farm and food enterprises in Vermont.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE: Access to Capital

What's At Stake?

Properly capitalized farms and food businesses are critical for a healthy food system. Food system businesses need different kinds of capital depending on their stage of growth, scale of operation, and the markets into which they sell. In part due to the aging of our population, Vermont is experiencing an unprecedented generational transfer of farmland and food businesses. We need to develop new business models, and support access to affordable farmland for new and beginning farmers and young entrepreneurs to take over food businesses, all of which require significant capital and business acumen for success. Critical to this process is connecting the next generation of values-driven investors with opportunities to support farms, food producers, and food system businesses, through a variety of capital provider organizations and through programs that educate new investors.

Current Conditions

Strengthening the state and regional food system is one of the most important paths for broad and sustainable wealth creation in rural communities, yet Vermont farm and food businesses are forced to rely on a more limited financing landscape than businesses in other sectors.

There is a deep interrelationship between matching the right kind of capital with the right capital structure and provider, as well as individuals and/or networks that can provide that capital.

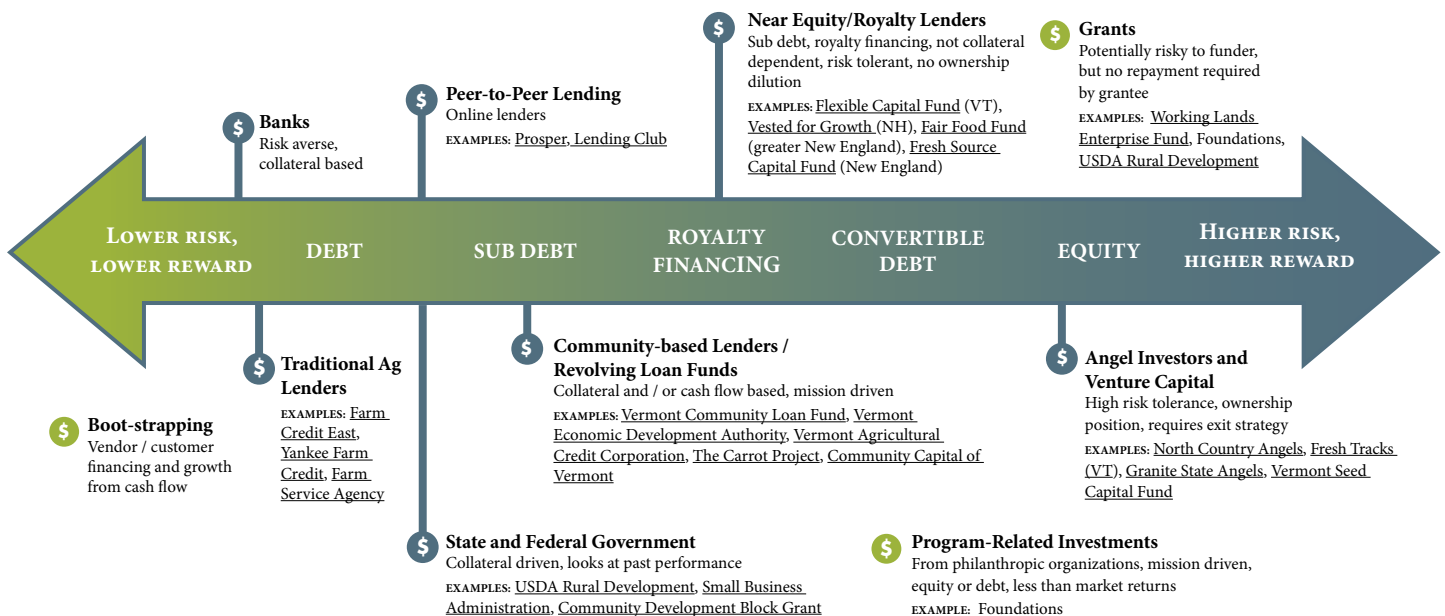
Capital can take many forms, as shown in the capital continuum diagram. Financial capital can be structured as debt, equity, grants, and more. The maturity of different types of businesses within the food system can impact

access to capital, as well as dictate the form of capital that is most suitable. For instance, for food manufacturing businesses that are growing or pivoting their business and expanding facilities and/or distribution, there is often a lag time between when investments are made in a new facility or equipment and when revenues are generated from that investment. This leads to cash flow challenges as the business grows and requires additional working capital that is patient and flexible.

From 2008 - 2018, a suite of new and diverse forms of capital have become available to Vermont farm and food businesses. Alongside the growth in Yankee Farm Credit

(continued)

Capital Continuum



and Vermont Agricultural Credit Corp (VACC) portfolio of loans over the last decade, new lending programs, such as the Vermont Community Loan Fund's (VCLF) [Food, Farms & Forest Fund](#), have been developed. The advent of crowdfunding, complemented by the changes to the Vermont Small Business Offering Exemption, have allowed food system businesses the ability to seek capital directly from individual investors. One example is Milk Money Vermont, a platform for businesses to raise capital from Vermont investors in amounts and at a scale that are accessible to the full range of individual investors.

The Vermont [Working Lands Enterprise Fund](#) is another example of an important new source of capital, providing grant funding to strengthen and grow the businesses connected to Vermont's working landscape. Since its inception in 2012, the Fund has distributed over \$5.3 million to 184 agriculture and forestry projects.

➤ See [Supporting Materials](#) for a full Farm and Food Enterprise Financing Inventory of Capital Providers.

Financing Farmland and Farms

Current Conditions

Demographics and market shifts are accelerating the pace of generational farm transitions. There are multiple costs when farms transition, including the farm land transfer, the transaction, and the start-up costs of the new farm. New and beginning farmers are attempting to access farmland on which to develop their businesses, but as the historic mechanisms of family inheritance and transferable dairy markets have become the rare exception, innovative lease-to-own models are emerging that enable incoming farmers to build equity and working capital while they grow markets and customers.

Bottlenecks & Gaps

- Some of the traditional agricultural capital providers are not yet knowledgeable about new and diversified farming business models (e.g., grass-fed beef), and many have taken losses that might make them more risk averse in the future. Additionally, the methods of risk assessment commonly used by such capital providers cannot readily be applied to new models.
- Affordable land access is one of the biggest costs in starting and growing a farm business. The fact that Vermont's new farmers often don't have the equity and down payment needed to purchase land calls into question cultural assumptions that land ownership is the first step for a new farmer.
- When new farmers do purchase land early in the life of their business, they often struggle to have sufficient capital for operating expenses and capital expenditures to make improvements.

Opportunities

- Yankee Farm Credit is expanding their [Young, Beginning, Small and Minority \(YBSM\) farmers program](#), which includes Farm Start, reduced underwriting criteria for YBSM, business consultation, and business education.
- Yankee Farm Credit partners with the Farm Service Agency (FSA) on the [USDA Beginning Farmer program](#), requiring only a 5% downpayment on real estate purchases.
- Both VACC and FSA offer low-cost real estate and operating loans to beginning farmers and on-farm value-added operations.
- The Vermont Land Trust's [Farmland Access Program](#), and newly launched [Farmland Futures Fund \(FFF\)](#), is an innovative, successful, and evolving tool for the transfer of farmland to the next generation.

Financing Food Businesses

Current Conditions

There are myriad lending programs supporting Vermont value-added food businesses. Companies with hard assets (e.g., equipment, real estate) are commonly able to finance early growth in small amounts through these sources of debt. As food system businesses scale and grow, they can be at risk of over-leveraging their business if they don't grow as quickly as planned, or they can lack sufficient working capital and personnel to properly manage the growth.

Meanwhile, new and emerging businesses with high-growth-potential products (e.g., breweries, kombucha, CBD products) are seeing an influx of capital during their early stages of growth, but as they grow and need larger and more risk-focused capital, they are having a hard time raising it from in-state sources.

Bottlenecks & Gaps

- We need more educated, values-aligned, equity investors in Vermont that can bring sufficient amounts of capital to help businesses grow.
- Attention to succession planning and the requisite capital to facilitate a transition to new ownership is often brought up too late in the life cycle of the business.
- Few food system businesses have advisory boards or mentors to help them navigate the challenges of growing their business.
- There is a gap in flexible funding options for slower-growing, lower-margin food system businesses.
- There remains a lack of understanding of the sources of capital among food entrepreneurs.

Opportunities

- Businesses and projects in Vermont's Opportunity Zones (OZ) may see better access to alternative sources of capital if the OZ attracts investor dollars.
- Writing case studies and sharing stories of failures in food system entrepreneurship can provide important lessons learned to entrepreneurs who are just starting out and would benefit from knowing they are not alone.
- Advisory boards can mitigate risk for entrepreneurs and investors, while insuring against executive burnout and enhancing growth strategies and access to markets.
- The Vermont Women's Investor Network and the Northern New England Women's Investors Network educate and engage female investors in support of female entrepreneurs.

Systemic Issues Impeding Food System Businesses' Ability to Access Capital

Current Conditions

Capital providers tend to be siloed. If investors, lenders, grantmakers, bankers, and other types of capital providers built stronger ties across the capital continuum and outside of their traditional networks, they would have a wider choice of providers to bring to the table when an entrepreneur doesn't fit their particular criteria or needs more than one type of capital to grow. The traditional investing model is lopsided and skewed towards investor gains (or protection from losses), as opposed to being a true partnership with entrepreneurs whereby all stakeholders' interests are considered.

Bottlenecks & Gaps

- There are low-cost loans available to farm and food businesses but much of this debt remains dependent on collateral to get approved, which can be challenging for early-stage businesses.
- There are not enough diverse investors (e.g., women, people of color, Generation X, and millennials).
- Business assistance providers have varying levels of expertise and knowledge along the capital continuum, which could lead them to suggest a mismatch between businesses and capital providers.
- We have some mechanisms for helping low-income and underserved populations access capital, but typically in the form of small grants that are expensive to administer. Furthermore, these populations often lack access to social capital and advisory services.

Opportunities

- A significant transfer of wealth from baby boomers to millennials is underway. Millennials are more likely to value strong local food systems and community (see Consumer Demand brief), and are interested in alternative investment opportunities.
- Impact investing has gained traction among a wide range of investors, including the largest financial institutions, pension funds, family offices, private wealth managers, foundations, individuals, commercial banks, and development finance institutions. Impact investing refers to investments made into companies, organizations, and funds with the intention to generate a measurable, beneficial, social or environmental impact alongside a financial return.

Summary

Human and social capital are as important to food system businesses as financial capital. Having the right people and talent, networks, and connections is as critical as money to grow a business, and can assist with the transition of that business to new ownership when the time comes. Human capital is defined as the team that brings value to your organization. Social capital is the connections and shared values that exist between people and enable cooperation. When a company has developed social capital, it is much easier to access other resources such as investors, recruiting experts, or building a team. Even if a company is generating revenue and has a great team, without a network of supporters, the first bump along the way may send the company down a road they can't recover from. The recommendations below offer ways to support entrepreneurs and their need for financial, human, and social capital.



Recommendations

- Provide at least \$1.5 million in funding annually to the [Working Lands Enterprise Fund](#). These grant funds are a unique and critical source of capital that leverage and accelerate innovation and sustainability in Vermont food system businesses.
- Work with public-private entities to explore the creation of an Agricultural Loan Loss Reserve Fund for businesses that need financing but lack collateral. Such a fund would serve as a guarantee in lieu of collateral, and only be drawn from upon loss of principal.
- Foster regional relationships across New England states to bring regional capital (financial, social, human) into Vermont for food system businesses (e.g., Northern New England Women's Investors Network, New Hampshire and Maine Charitable Foundations). In particular, convene philanthropic, public, and private organizations to collaborate on solutions for farm-transfer financing (e.g., down payment on land, guarantees for farmers who provided owner financing, and lease-to-own models designed to address farmer needs and interests).
- Provide targeted education and outreach to main street investors (non-accredited) to build awareness of opportunities to invest in intermediary institutions, such as Community Development Financial Institutions (CDFIs) and credit unions who are lending to and/or investing in food system businesses.
- Revise the [Vermont Training Program](#) statute to enable funding for food system and working lands entrepreneurs who want to secure coaching and mentoring services (e.g., leadership and CEO/peer-to-peer mentoring). As businesses grow and scale, entrepreneurs and founders need the same support an incumbent worker may need to upgrade their skills.
- The Vermont State Treasurer should expand the focus of the state's Local Investment Initiative to include investments that support a healthy food system in Vermont. Investments could be in the fixed income public markets, fixed income private debt markets, cash, and real assets. The [Soil Wealth](#) report provides guidance on investing in agriculture across asset classes.
- Explore what would be required to develop a college loan forgiveness program for aspiring farmers to make it easier for them to acquire land and start their farm.

Farm to Plate is Vermont's food system plan being implemented statewide to increase economic development and jobs in the farm and food sector and improve access to healthy local food for all Vermonters.

The Vermont Agency of Agriculture, Food & Markets (VAAFMM) facilitates, supports, and encourages the growth and viability of agriculture in Vermont while protecting the working landscape, human health, animal health, plant health, consumers, and the environment.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE:

Agricultural and Food Literacy

What's At Stake?

Agricultural literacy and food literacy are important because increased knowledge of agriculture and food can help Vermonters make informed choices, as both consumers and civic actors, that support their health, their communities, and the environment. A variety of barriers currently prevent us from achieving an economically robust food system that provides dignified compensation for its producers and workers, protects the environment, and produces healthy products for consumers. One barrier is a culture of cheap food that prioritizes low prices at the expense of social and environmental values. Culture is a complex and dynamic system, subject to change as new information, new values, and new frameworks emerge and gain popularity. While knowledge alone will not result in immediate changes to our food system, it is a key ingredient: knowledge contributes to attitudes, social norms, purchasing habits, and, eventually, policy. The ongoing disruptions from the COVID-19 pandemic shine a spotlight on national food supply chains, and more consumers are understanding the vulnerabilities of the existing food system.

Current Conditions

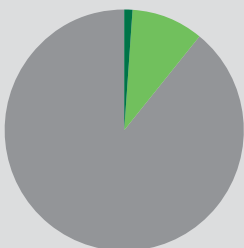
Agricultural literacy and food literacy exist on a continuum of food system knowledge related to how food is produced and consumed. The value of agricultural literacy is in how people understand the labor, resources, and expertise necessary to produce raw agricultural products. This can lead to a greater appreciation for the value of food, including the importance of farmers receiving compensation that matches their costs of production. Agricultural literacy means understanding the nuances and policies related to how different production practices can have implications for workers, livestock, health, and the environment (see *Agriculture and Food Policy* brief). It can also foster higher tolerance of the sights, sounds, and smells associated with living near farms.

Food literacy is associated with an understanding of the health implications of our food choices, as well as the preparation of food, while food system knowledge is a

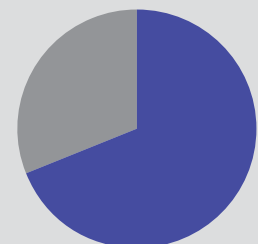
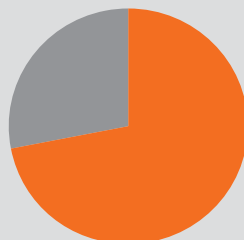
more holistic understanding of the multiple stages of the agricultural and food supply chain, from production through processing, distribution, and consumption. A food systems lens is inclusive of environmental and social considerations throughout the food system, as well as the interconnected nature of policies and conditions that affect it.

Vermonters currently gain knowledge about food, agriculture, and the food system through a variety of mechanisms, including product marketing, various media, relationships with people who work in the food system, formal and informal education, and visits to farms (see *Agritourism, Marketing* briefs). Some programming has been developed with the express purpose of exposing people to experiences that help them develop a more nuanced understanding of food and agriculture, including cooking classes and annual events (e.g., Open Farm Week).

Nationwide in 2018, only 11% of total U.S. jobs were in the food system, and only 1.3% were on farms.



In a nationwide survey of consumers in 2011, 72% said they know very little or nothing about farming and ranching but 69% think about food production at least somewhat often.



Bottlenecks & Gaps

- United States food policies designed to keep food costs low for consumers have created an expectation that food should be cheap and all types of food should be available year-round.
- Because many consumers do not have personal connections to the people who grow their food, they are uninformed about factors such as production costs, production methods, and environmental and economic benefits.
- People develop their relationships with food as children, where palates and preferences are set in the context of their family and the broader culture, so additional knowledge may not change certain eating habits.
- Specific data about the most effective way to shift Vermont residents' knowledge related to food and agriculture and potentially affect their purchasing habits is lacking.
- Local relationships and socio-economic factors are limits to local purchasing even when literacy is high. An individual might know that local foods are healthy and good for their local economy, but they may not have access to the funds to purchase them.

Opportunities

- Many Vermont residents are proud of Vermont's agricultural character and are open to learning more about farms, and farmers are eager to increase the agricultural literacy of consumers.
- Existing programming (e.g., food system programs at institutions of higher education) has the potential to expand in order to reach audiences who have not traditionally participated, and farm education programs that primarily serve youth have the potential to ripple out to family members as well as increase agricultural literacy for future generations (*see Agricultural Literacy K-12 brief*).
- Social media campaigns (e.g., Rooted in Vermont) can help people develop a social identity with the local food economy.
- Providing people with experiences that elicit an emotional response (e.g., farm visits) may complement food and agricultural knowledge, and result in more desired changes in purchasing habits and attitudes about food and farming.
- Health care providers can support food literacy through nutrition education.

Recommendations

- Prioritize research related to the relationship between Vermont residents' food and agricultural knowledge and other drivers of purchasing decisions. Use a validated food literacy assessment tool to establish a baseline of agricultural literacy of Vermont residents. Possible research questions include: to what extent does knowledge of agricultural production and personal relationships with producers play a role in food choice? What type of experiences or information result in greater levels of behavior change (e.g., visiting a farm vs. reading about a farm)? How do programs like Crop Cash impact access to local foods, and do they improve agricultural literacy? Research results can inform the next decade of agricultural literacy efforts in Vermont.
- Expand existing successful farm and food education programming for adults and explore strategies for including new audiences, with 1 additional FTE at an established Vermont farm education outreach program. Cost: \$100,000.
- Provide annual state funding for a collaborative statewide marketing and consumer messaging campaign for local agricultural products. Leverage stories, messaging, and increased public awareness related to food supply chain vulnerabilities emerging from the COVID-19 pandemic to generate more awareness about where our food comes from, who produces it, and under what conditions it is produced. Further leverage these experiences to draw connections with the implications of future climate disruptions and advocate for policies that shift Vermont to a more diversified and regionalized food system (*see Consumer Demand brief*).
- Cross-sector relationships to build agricultural and food literacy exist via the Farm to Plate Network and other collaboratives. Expand collaboration and coordination between groups (e.g., partner with health care providers and nutrition professionals on the relation between food, health, and local food sources).

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE:

Agricultural Literacy, K-12

What's At Stake?

Almost everything we eat, wear, or use comes from a plant or animal on a farm, but we are losing the knowledge of how to grow food, work on farms, and cook with whole ingredients. Americans' physical separation from farms, declining direct involvement in farming, and dependence on consolidated national and global food supply chains sets up the next generation of Vermonters to lack knowledge and experience for self-reliance in this changing world, especially given climate change and global health pandemics. For Vermonters to be knowledgeable local food consumers and agricultural advocates, they need food and farm experiences throughout their lives. Starting with the earliest learners, the populace needs to be connected to the land and Vermont farmers, taught basic knowledge and skills in food and farming, shown the connection to other issues including climate and water, and develop work ethics and transferable skills.

Current Conditions

There is a growing national movement to increase agricultural knowledge via the K-12 educational system. Many Vermont students receive some form of agricultural education, but it is variable across the state. Vermont is a recognized leader in K-12 Farm to School (FTS) programs and offers traditional agricultural career path options for older students. However, Vermont lacks a coordinated approach to embedding agriculture education into all students' learning. Individual teachers must be confident, creative, motivated, and knowledgeable in place-based agricultural education integration to offer their students these opportunities.

Professional development opportunities are available to educators (pre-K-12) on food and agricultural curriculum integration through Vermont's Farm to School grant program, the Farm to School Institute, and the organizations that make up the Vermont Farm to School Network. Career and Technical Education (CTE) and Future Farmers of America (FFA) remain the lead options

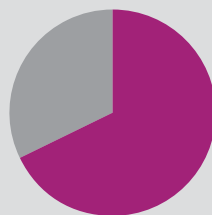
for high school students to pursue agricultural career training, although an increasing number of middle and high schools are incorporating greenhouses, food system studies, and school gardens. School cafeterias are also important classrooms for improving agricultural literacy ([see *School Food Procurement* brief](#)).

Nonprofits and farm businesses throughout the state offer family programs, on-farm school field trips, after-school experiences, and summer camps. County fairs, 4-H, festivals, and farm-to-community programs provide out-of-school agricultural experiences. Vermont Ag Literacy Week and Open Farm Week encourage families to learn and explore more about Vermont agriculture. 4-H has had an increase in youth seeking animal experiences and UVM's animal science program is at capacity. With existing and historical networks in Vermont, increased national resources, and the growing interest in agricultural experiences, there is a pressing need to support and grow these programs.

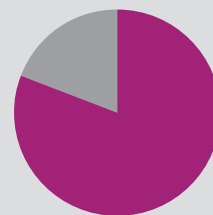
61% of Vermont schools had a least some integration of FTS programming within the curriculum in the 2016/2017 school year.



68% had at least some FTS integration with the community.



81% had a school garden. Schools with elementary grades were more likely to have a garden.



Bottlenecks & Gaps

- FTS programs have dramatically increased food system education in Vermont, but there are education gaps in certain sectors (e.g., dairy).
- The Vermont Agency of Education (AOE) lacks staff to support existing agricultural education, or to identify and track how agricultural education programs can support Learning Plans.
- Existing agricultural education resources for educators are scattered, outdated, and conflicting. Existing programs have limited capacity to address the host of statewide pre-K-12 agricultural literacy issues and needs. Agricultural education in school cafeterias is often constrained by meal program budgets, infrastructure, and regulations.
- Some school authorities are steering kids away from agricultural careers, due to outdated perceptions of the field or budget implications of sending students to out-of-district CTEs.
- On-farm visits and education are hindered by farmer liability concerns and lack of knowledge on the part of educators about which farms are willing to host students.

Opportunities

- The COVID-19 pandemic and climate change have focused public attention on food system weaknesses while increasing public interest in local food. This heightened awareness, during large-scale economic recovery efforts, presents unique opportunities for K-12 agricultural literacy.
- Agricultural literacy can be improved by prioritizing K-12 meal programs as important educational tools and supporting them with adequate funding and resources.
- Many related efforts could be leveraged to align strategies and resources for increasing agriculture literacy in the state (e.g., agritourism, the FTS Network).
- Updated resources, relevant tools, and applicable models of agricultural literacy from other U.S. programs could be integrated into Vermont teacher professional development and student programming.
- Schools could expand ways to award educational credit to agricultural learning, linking to education initiatives (e.g., Proficiency Based Learning). Middle and high schools which offer hands-on agriculture programs could partner with CTEs.

Recommendations

- Increase AOE leadership, representation, and involvement in agricultural education initiatives. Create programmatic staff and/or a liaison to oversee CTE content, stay current on agricultural sector educational needs, access federal dollars, and serve as point person with agricultural education programs. Improve coordination between AOE, Department of Labor, and Agency of Agriculture, Food and Markets to support career exploration opportunities throughout the state that meet students' interest, address workforce needs, and offer statewide access to on-farm experiences.
- Convene statewide relevant partners to identify, and create a plan to address, the existing gaps in agricultural education in Vermont.
- The Vermont Legislature should fund the Vermont Farm to School Network with \$500,000 of annual base funding for FTS infrastructure grants, technical assistance, and training, to grow FTS in all counties.
- Support efforts by Vermont's CTEs to redesign the state educational funding model so that CTEs have independent funding streams and budgets and are not in competition with sending schools.
- Provide a greater variety of training opportunities by supporting existing (and developing new) programs such as apprenticeships, certificates, stackable credentials, and concurrent degrees, in an affordable and accessible format.
- To reduce farmer liability concerns about hosting on-farm visits, draft tightly crafted legislation around the definition of agritourism in a way that supports a limited liability statute for farms offering agritourism and educational experiences ([see Agritourism brief](#)).

Farm to Plate is Vermont's food system plan being implemented statewide to increase economic development and jobs in the farm and food sector and improve access to healthy local food for all Vermonters.

The Vermont Agency of Agriculture, Food & Markets (VAAFMM) facilitates, supports, and encourages the growth and viability of agriculture in Vermont while protecting the working landscape, human health, animal health, plant health, consumers, and the environment.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE:

Agriculture and Food Policy

What's At Stake?

Public policy is generally described as a system of laws, regulatory measures, courses of action, and funding priorities concerning a given topic, promulgated by a government entity or its representatives. Existing agriculture and food policy in Vermont seeks to strike a balance between farm viability, maintaining the working landscape, and protecting environmental and public health. It is critical that Vermont's food and agriculture policies continually evolve to best support food and farming systems that benefit the public at large, while allowing Vermont agricultural and food producers to live healthy lives, produce high-quality food, and operate thriving businesses in their communities.

Current Conditions

Agriculture and food policies govern a wide range of issues, opportunities, and conflicts. These include public health and private land use considerations, and myriad environmental concerns such as decreasing erosion and preserving water quality, reducing the use of harmful chemicals in agricultural systems, and improving agricultural practices to reduce greenhouse gas emissions. Policy can also foster transparency in supply chains, promote equitable food access, impact subsidy allocations and food labeling, and resolve labor and trade disputes.

The federal farm bill governs policies and programs related to farming, food and nutrition, and rural communities. Over the past several decades federal policy has led to massive consolidation within agricultural

industries, loss of farmland, and the hollowing out of rural communities in Vermont and across the country. During the same period, the public's interest in food and agriculture policy has risen as the organic and local food movements have successfully shifted public preferences in favor of local food production, transparency, and quality over convenience, quantity, and shelf life.

While Vermont producers' values have been in general alignment with these public preferences for decades, Vermont state agencies are challenged to apply federal policies, designed to address large-scale industrialized agriculture models, to the scale and diversity of Vermont's producers.



Bottlenecks & Gaps

- The state does not have a clearly articulated set of values and goals guiding its policy decisions around food and agriculture.
- Despite strong local and state public participation requirements for development of food and agricultural regulations, most citizens, including farmers, have limited time for, ability to, and/or interest in giving input.
- Consolidation within agriculture, and corporate lobbying efforts, often lead the federal government to prioritize large agricultural interests over small producers and family farms.
- Agriculture is often perceived through examples of its bad actors, instead of through its innovative successes and integral role in solving climate change and other environmental issues.
- State policy initiatives have not ensured that farm families are supported with basic life needs such as health care and child care, an issue highlighted when the COVID-19 pandemic added pressure on farmers to maintain a stable local food supply.

Opportunities

- Many Vermont producers support practical and innovative approaches that secure public goods like clean water, healthy soil, thriving communities, and healthy people.
- Vermont's strong state-level governmental and legislative bodies emphasize public participation in food and agriculture policies.
- Use Value Appraisal (aka Current Use), scale-stratified regulations built into Required Agricultural Practices (RAPs), Act 250, and other state policies are a solid foundation for a comprehensive policy framework.
- Vermont's agricultural businesses have demonstrated the ability to utilize new technologies and methods, creating co-benefits that improve food production, health, environmental sustainability, and climate mitigation/adaptation.
- Vermont's small population base and participatory government culture allow both private and public-sector perspectives to form the foundation of policy initiatives.

Recommendations

- It is important for policy makers and others to prioritize farmers' mental health via programs and educational events. Trade wars, climate change, depressed commodity prices, and labor issues, all beyond Vermont farmers' control, impact farm viability and hence farmers' physical and mental health. (*see [Health Care](#) brief*)
- Provide at least \$1.5 million in funding annually to the Working Lands Enterprise Fund, which provides strategic grant funds to strengthen innovative farms and food businesses.
- Fund Vermont Housing and Conservation Board's Farm & Forest Viability Program annually with \$3 million from the Property Transfer Tax Fund, in order to expand its capacity to provide critical business and technical assistance services to farms and forest products businesses of all types across Vermont.
- Invest in the development and implementation of innovative mechanisms, such as payment for ecosystem services, which strike a balance between public benefit and farm viability (*see [Payment for Ecosystem Services](#) brief*).
- Develop policies that support adaptation to new business models, with triple-bottom-line benefits, and incentivize innovation, value-added production, and infrastructure support for Vermont's agricultural community.
- The Vermont Agency of Agriculture, Food and Markets, in partnership with agriculture and food policy stakeholders, should build a comprehensive and fully aligned state-level agricultural policy road map. This could include an annual review of existing and proposed new policy objectives before each state legislative session to ensure policy decisions compliment each other, and to balance reactive and proactive programs. Such a roadmap could also allow for more public participation at multiple points throughout the policy development process.

Farm to Plate is Vermont's food system plan being implemented statewide to increase economic development and jobs in the farm and food sector and improve access to healthy local food for all Vermonters.

The Vermont Agency of Agriculture, Food & Markets (VAAFAM) facilitates, supports, and encourages the growth and viability of agriculture in Vermont while protecting the working landscape, human health, animal health, plant health, consumers, and the environment.

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What's At Stake?

Agritourism is a promising sub-sector of Vermont's agricultural economy, encompassing direct-to-consumer sales of local food (e.g., farm stands, pick-your-own), agricultural education (e.g., school visits and workshops on farms), hospitality (e.g., overnight farm stays), recreation (e.g., hunting, horseback riding), and entertainment (e.g., hayrides, harvest festivals). Agritourism enterprises allow farms to diversify their operations while preserving their core production model and the working landscape, retaining or creating additional jobs, and maintaining farming traditions. At the same time, the public becomes educated about the importance of agriculture to a community's economic base, quality of life, history, and culture. However, opening a farm to visitors increases liability exposure and requires skills beyond food production, such as marketing and customer service.

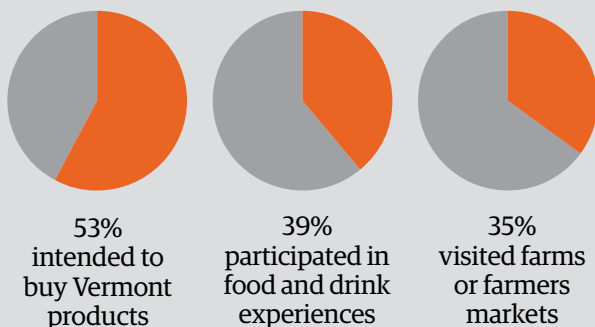
Current Conditions

Consumer demand for local food and experiences on farms has led to rapid increases in agritourism around the world. The global agritourism market was estimated at \$5.7 billion in 2018 with projected annual growth of 12% through 2025.¹ Vermont is at the forefront of this movement. In 2017, at least 1,833 farms in Vermont benefitted from \$49,971,000 in direct sales. The same year, 186 farms reported \$1,709,000 in income from agritourism and recreational services such as farm tours, hay rides, hunting, and fishing. In addition, many farms offer agritourism activities as a way of building consumer demand without receiving income directly from those activities.² (see [Consumer Demand](#) brief, [Direct Markets](#) brief).

Agritourism is a way for Vermont farms to differentiate themselves through authentic experiences that strengthen the Vermont brand and increase product sales. Several organizations are working together to establish beneficial

partnerships for marketing and technical assistance to support food, beverage, and farm tourism. However, bridging the divides between agriculture, education, and tourism comes with challenges. Farmers must acquire different skills than those used for producing food, and new facilities may be needed to accommodate visitors. Innovative enterprises test the boundaries of policy and regulation, which led to the passage of Act 143 in 2018, related to accessory on-farm businesses. A multi-state research project led by the University of Vermont is underway to address critical success factors for agritourism, but substantially more research and outreach is needed to fully understand the scale and scope of this sub-sector and the best ways to support farmers, their communities, and the local food system.

In 2017, there were an estimated 13.1 million out-of-state visitors to Vermont. A 2014 survey of visitors showed that:



The number of Vermont farms reporting income directly from agritourism and recreational services grew steadily from 2002-2017, with 186 farms in 2017 reporting an average \$9,187 in revenue per farm from these activities.



Bottlenecks & Gaps

- Agritourism may require new skills for farmers, such as marketing and customer service.
- Farmers often have questions about zoning, regulations, and permitting at the municipal, state, and federal levels; and creative enterprises may test boundaries. Answers can be difficult to find and vary from town to town.
- Concerns about liability and safety discourage some farms from allowing visitors on their property.
- The languages of tourism and education are different than the language of agriculture, creating barriers for collaboration.
- There is not a current, comprehensive database of all types of agritourism businesses to advise tourism operators and the media.

Opportunities

- Many people, both within and outside of Vermont, are interested in experiencing agritourism and are looking for ways to identify specific experiences.
- Best practice standards for high quality, educational, authentic agritourism experiences were initially developed by Vermont Farms Association and have been updated.
- Municipal and county officials regularly participate in training and professional development programs.
- Separate training and networking events already take place annually for Vermonters working in agriculture, education, and tourism and can be built upon.
- Research methods from other states have been developed to measure the size and scope of agritourism as well as food and farm tourism in a broad sense.

Recommendations

- Organize training and networking events that bring together farmers, educators, and tourism professionals, contribute to the development of a statewide agritourism strategy, and help service providers support agritourism. Priority topics include marketing and communications, liability and safety, and group tours (ranging from school field trips to media tours).
- Develop and promote best practice standards for agritourism that enhance the Vermont brand and reputation for high-quality, authentic products and experiences. As agritourism is rapidly expanding, standards are needed that allow for innovation while also protecting farmers, consumers, and neighbors.
- Conduct market research to develop a narrative toolkit for practitioners and consumer-facing digital content. Consolidate databases and share lists to facilitate communication internally and contribute to research that measures the size and scope of agritourism.
- Draft tightly-crafted legislation around the definition of agritourism in a way that supports a limited liability statute for farms offering agritourism experiences. This type of legislation would build on the accessory on-farm business statute (Act 143) and potentially impact zoning, insurance, liability, signage, and the types of activities permitted on farms.
- To demystify zoning and regulations, develop decision trees that detail procedures for addressing issues related to zoning, regulations, and permitting at the municipal, state, and federal levels. Help farmers strengthen relationships with municipal and planning officials to create a more supportive environment for agritourism.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE:

Alternative Land Ownership and Access Models

What's At Stake?

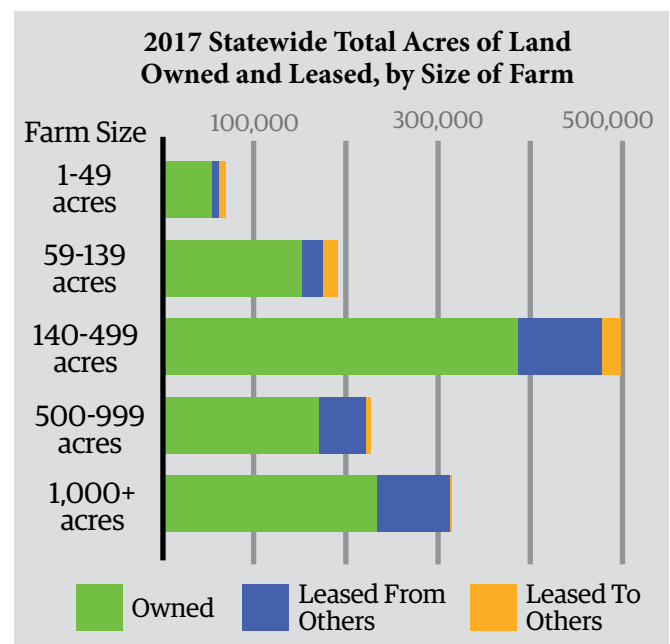
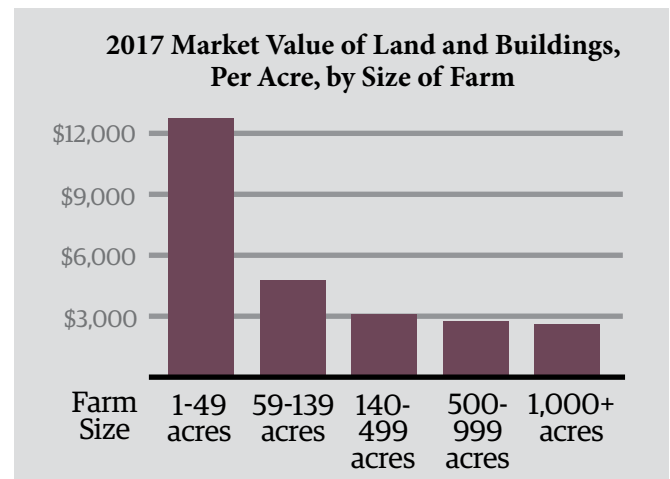
Vermont will have a substantial transfer of agricultural land over the next decade. Prioritizing creative approaches to farmland ownership and access will create farming opportunities for more people, including historically marginalized communities within and outside Vermont, who are disproportionately underrepresented in farmland ownership. The model of fee simple farmland ownership by a single family is not possible for many farmers, and not desirable for some others. It is unlikely to sufficiently address the shift underway in farmland ownership, as the price of land continues to rise and the costs of production and land are well above the return obtained from many farm businesses. If we do not explore and implement a range of approaches that provide alternative methods of land ownership and access, we risk losing farming opportunities for new entrepreneurs and existing farmers, agricultural land, and the opportunity to redress historical racial injustices related to land.

Current Conditions

Ensuring access to land for those wishing to farm or to expand their current operations should be a top priority within Vermont. The majority of farm support systems (technical assistance and resources, lending structures, and other financial tools) are set up for fee simple models of ownership. While a transition to a new owner might include a fee simple purchase with a conventional loan, farmers, service providers, funders, and communities are looking for ownership alternatives to help facilitate the volume of transfers on the horizon.

Alternative models of land access and/or farm transfer are tools that can be applied to achieve multiple objectives and goals. Land ownership can play an important role in generating wealth for future generations, yet it is inaccessible for many farmers. The Vermont Land Trust's (VLT) Farmland Access Program is an alternative approach already in use in Vermont. The program assists both those who prefer fee simple ownership by one buyer and those who want to pursue ownership by multiple individuals looking for less-typical models. The program offers a variety of pathways to secure affordable land access to a much wider group of farmers.

Additional land ownership and access structures which might be considered alternative include long-term leases, leasing public land, lease-to-own, collaborative and cooperative ownership models, ownership of land by nonprofits including community-based land trusts, and the use of investor capital or crowd-funding capital to finance transactions. These and other models should be researched, promoted, and encouraged as they address a range of limitations among the existing, more frequently occurring option of fee simple purchase by a single farmer or family utilizing debt financing.



Bottlenecks & Gaps

- The cost of farmland for lease or purchase is high relative to the profitability of business models on that land base given current market conditions.
- Conventional models of farmland transition, where an incoming owner-operator purchases land from a retiring owner-operator, require addressing multiple barriers including existing infrastructure, the difficulty that new farmers face accessing capital, and the high cost of land (see *Succession* brief).
- There are limitations to agricultural easements and their ability to help farmers afford land, especially when already-conserved land is being sold, or has inadequate farmer housing (see *Farmland Conservation* brief).
- Alternative models are not well known by all technical service providers, and the number of providers is not sufficient to the volume of land transfers.
- Financing alternative land ownership can be difficult, as banks and other lenders are not always set up for financing alternative models of ownership (e.g., cooperatives).

Opportunities

- Farmland held by community based land trusts, or other forms of community ownership of agricultural land, reduces one of the largest expenses on the farm (i.e., the land), and could also allow for local residents to have more power over what happens on farmland in their communities.
- In the absence of fee simple ownership, affordable, long-term leases can offer secure land tenure, and ground leases can provide means for farm enterprises to build equity for their business.
- Vermont's nationally renowned technical service providers, land trusts, nonprofits and others, with support and collaboration, have a demonstrated history of innovation and have a sincere interest in continuing to develop alternative methods to address land access issues.
- Cooperatives and models based on LLC or condominium structures exist in Vermont and elsewhere, and are models worth considering by service providers and interested farmers.

Recommendations

- Provide funding support for researching and developing alternative land ownership, access, and financing models. Involve communities which have worked on and practiced alternative models, including communities of color, as leaders of this conversation and learn from their successes and failures. Two examples are the Northeast Farmers of Color Land Trust, which will acquire land and easements to provide secure land tenure for Indigenous, Black, Latinx, and Asian farmers, and the Agrarian Trust, which has just created ten Agrarian Commons across the country (one in Vermont and one in New Hampshire). Agrarian Commons are community land trusts managed by community stakeholders that will hold farmland and issue long-term leases to local farmers.
- Research possible policy incentives to encourage multiple tenants or owners on larger conserved farms. For example, public funds and/or easement permissions may be critical to repurpose, remove, or add infrastructure to support new businesses and new business models to utilize this acreage.
- Support increased funding for the VLT Farmland Access Program, which is attempting to develop and utilize these types of new arrangements.
- Investigate current use of publicly held land in the state to determine viability of low-cost and long-term farm leasing on these lands.
- Investigate whether there are more ways the state of Vermont could support and incentivize partnerships of landowners, operators, and investors to encourage multi-stakeholder/collaborative farming efforts on larger tracts of land, to create more long-term secure land tenure for farmers.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE:

*Business and
Technical
Assistance*

What's At Stake?

Water quality regulations, market changes, low farm gate prices, and increased competition are all challenging the profitability and future viability of Vermont farms and food businesses across most production types. Working with business and technical assistance service providers is an effective way to strengthen a business in good times and work through various options during challenging times. Vermont's agricultural and food business and technical assistance network is well established and nationally renowned. However, additional effort, investment, and personnel are needed to ensure programs and providers keep up with the rapidly evolving needs of the agricultural and food sector (e.g., succession planning, dairy supply chain disruptions), so that they are able to continue to provide relevant, high-level, valuable services to businesses across the range of production types, scales, and markets.

Current Conditions

Many nonprofit organizations and private consultants in the state work with farms and food businesses across various stages of development, while some focus on certain stages or types, such as new and beginning farmers or growth-stage food manufacturers.

Business assistance providers work with the owners/operators of farms and food businesses to build business plans, identify and secure appropriate capital, assess capital expenditures and equipment needs, plan for business or farm succession, and strengthen their personnel and project management skills.

Technical assistance providers offer a range of support services, from agronomic and production best practice research to food safety planning, engineering and permitting support, animal health and nutrition consultations, water quality and nutrient management assessments, and equipment optimization support (e.g., temperature and humidity of produce coolers).

The Vermont Housing and Conservation Board (VHCB) Farm & Forest Viability Program finds that in-depth business planning over a two-year period results in an average 10% increase in gross income and a 62% increase in net income in the year following Viability Program participation (aggregated data from 2014-2018). In addition, business planning assistance leads to higher business acumen and very high success rates in accessing capital. Of Farm & Forest Viability Program 2014 participants who used their business plan to seek financing, 100% successfully received loans and 87% successfully received grants.

An estimated 17 additional full-time business and technical assistance positions are needed to serve the sheer number of farms and food businesses who need

additional support services, if Vermont's agricultural sector is to remain the backbone of the state. There is also a great need to invest in the professional development of existing services providers, given the challenges facing the farming community — from emergency situations and financial rescue, to shifts in production and business models, to increased need to market and sell products wholesale, to beginning farmer training or succession planning. Food entrepreneurs need greater support in understanding their unit economics, how to manage cash flow while expanding their operations and navigating food safety regulations, and raising equity or other forms of expansion capital.

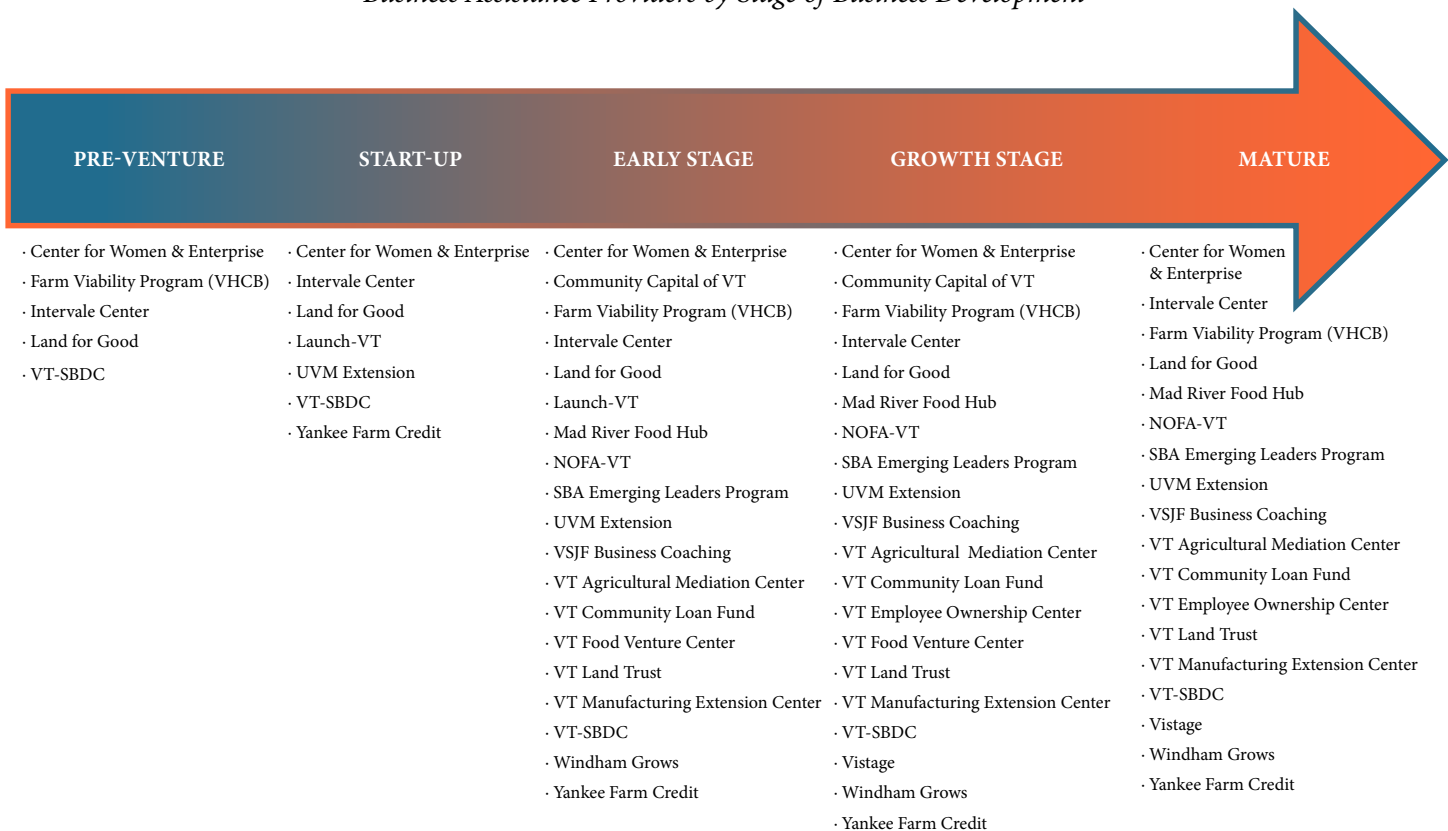
The importance of the existence of an aligned and coordinated network of service providers and the diverse set of accessible services they offer statewide cannot be overstated.



Business and Technical Assistance Providers

- By state statute, the Vermont Housing & Conservation Board is tasked with managing the **Vermont Farm & Forest Viability Program** in partnership with the Vermont Agency of Agriculture, Food and Markets (VAAFAM). The Viability Program manages and invests in a network of nonprofit organizations and consultants that provide wrap-around, individualized business assistance across a breadth of business topics from financial recordkeeping and business planning to management, accounting, succession planning, marketing, and enterprise analysis.
 - The Farm Viability network of nonprofit organizations includes UVM Extension, NOFA-VT, Intervale Center, Center for an Agricultural Economy, Land for Good, Windham Grows, and the Vermont Sustainable Jobs Fund (VSJF).
- **UVM Extension** also provides specialized technical and production assistance on crops, soils, engineering and design, food safety, etc., despite declining state funding, often through soft-funded Extension positions and programs.
- **Farm First** was created by the Vermont Legislature and the Agency of Agriculture, Food and Markets to provide the equivalent of an Employee Assistance Program (EAP) to address farmers' needs and issues and support the emotional health of farm families. It is a critical resource available to farmers and their family members.
- The **Vermont Agricultural Mediation Program**, primarily federally funded, provides legal and mediation resources for such issues as debt restructuring, bankruptcy, family conflicts, and succession planning.
- In 2011, the State of Vermont created the **Working Lands Enterprise Initiative (WLEI)**, which provides competitively awarded funding for business and technical assistance in addition to direct grants to agricultural, food, and forestry sector businesses. The WLEI staff and board place a high value on business and technical assistance and have seen the direct benefit to grantees who have accessed high-quality outside assistance.

Farm and Food Business Assistance Continuum Business Assistance Providers by Stage of Business Development



For more details about this list of business service providers and the services they offer, visit workinglands.vermont.gov/working-lands-business-development-continuum

Bottlenecks & Gaps

- Businesses frequently wait too long to get outside support, which can allow avoidable emergencies or larger issues to arise. Businesses more successfully navigate financial, production, or personnel challenges when they engage with business assistance providers early.
- Farmers and food business owners are often so tied up with day-to-day operational issues that they cannot dedicate enough time to work *on* their business (e.g., longer-term planning, sales pipeline development, workforce training, succession planning).
- There is a skills gap among existing business and technical assistance providers on topics like marketing and sales, production benchmarking, land and environmental assessment, and what types of capital are best given a farm or food business' current needs.
- Non-agricultural professionals (e.g., lawyers, CPAs) are often not equipped to work with farmers, but Vermont has an increasing need for farm transfer and succession support.
- It is difficult to recruit new business service providers for open positions, there are an insufficient number of providers overall based on the level of need, and some areas of the state are less supported than others.



Opportunities

- Increased funding to the organizations involved in the Viability Program network would enable them to hire more full-time personnel, which in turn would lead to additional farms and food businesses being able to receive support, at a time when many market forces are negatively impacting these businesses. The support structure to do this important work is already in place, it just needs additional funding to match the level of need.
- A regional Northeast business provider network is currently under development and will open up more possibilities for communities of practice, professional and workforce development, and possibly increased access to funding.
- Farmers and food entrepreneurs have an easier time acquiring capital if they have well-founded business plans and financial acumen, which is often a result of working with a business assistance service provider. Lenders, grant-makers, investors, and other capital providers advocate for and in some cases support business and technical assistance programs.
- With additional resources for outreach and marketing, it would be possible to improve the awareness of farmers and food entrepreneurs about the availability of high-quality service providers who can assist them throughout their business life cycle.

What Do We Mean By Viability?

Viability means that a farm or food enterprise is economically profitable as well as socially and environmentally responsible.

Viable enterprises tend to be the sole, or an important, contributor to the owners'/operators' family income once past the start-up stage, and they must be profitable in order to provide adequate income. Owners/operators of viable enterprises understand and can articulate their mission and the direction they want to take their business, and are successful in meeting their goals, even if those goals shift over time with changing markets, competition, family situations, etc.

This definition of viability includes nonprofit-owned enterprises. Such enterprises must still cover their costs in order to be viable, but the nonprofit may bring in funds to subsidize educational activities or other mission-based programming that complements the farm or food enterprise.

Recommendations

- Increase the number of Vermont farm and food business service providers with specialized skills, and ensure qualified providers are available to farm and food businesses equally across the state and across stages of development. Estimates from the 2020 Vermont Food System Plan Briefs show the need for at least:
 - Six additional business assistance providers with a focus on succession planning, business finances, transition to other production strategies, and potential diversification. Four of these to work with dairy farms and two to work with other types of farms and food businesses
 - Two additional technical assistance advisors with expertise in land and environmental assessments
 - Two additional consultants or FTEs with expertise in marketing and sales
 - Two additional FTE business and technical assistance advisors specializing in grazing (i.e., grass-based business models) and small and large animal livestock
 - Four additional FTE technical assistance advisors with specialized production expertise: one for grain, one for apples, and two for hemp production
 - One additional FTE at Farm First and/or the Vermont Agricultural Mediation Program, to assist farmers in crisis
- Provide current service providers with professional development on farm succession planning as well as climate change threats to Vermont food production.
- Increase outreach to farms and food businesses to increase awareness of the diverse network of service providers that exist and the value of having someone outside a farm or food business provide advice and assistance across all stages of development and over time.
- Support alternative ways to encourage farmer learning including peer-group-based education, workshops, and farmer-to-farmer programming.
- Investigate the creation of a searchable database to connect available bookkeepers and accountants with working lands businesses, to increase the businesses' financial literacy.



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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE: Child Care

What's At Stake?

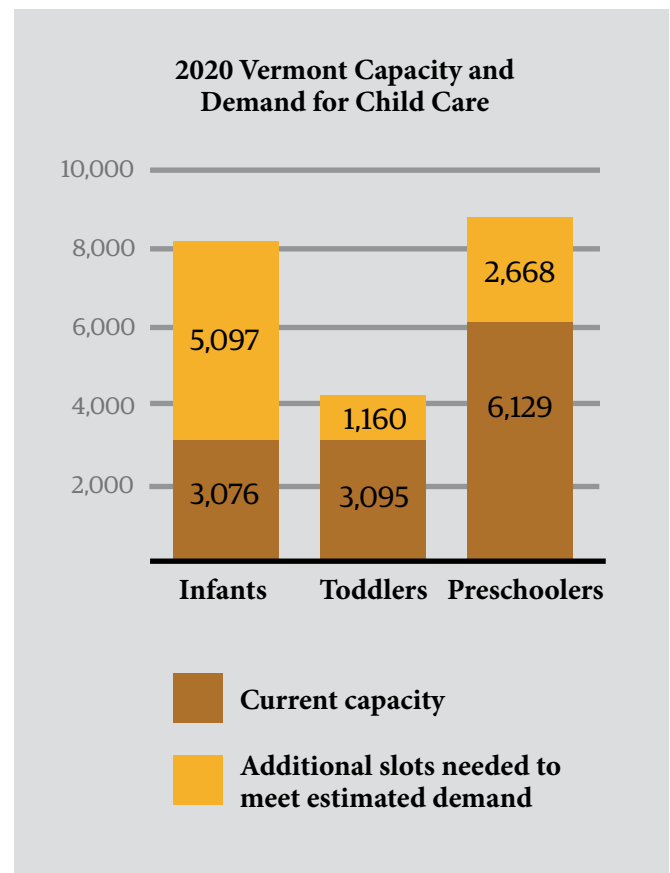
Child care is fundamental to household economics, and therefore farm economics. Farmers with children must continuously negotiate access to affordable child care as the needs of their children and families change.¹ Planning for these adjustments is part of whole-farm business planning, yet rarely taken into account in farm business support. Even with financial assistance, Vermont families may spend almost 30% of their annual income on child care. Vermont estimates the basic wage needed for two adults with two children (ages 4 and 6) to live alone and support their children is \$31.75 per hour (or \$66,036 annually), often far above a farmer's or farmworker's hourly wage.² Child care is also the best way to keep farm children safe.³ Addressing farm families' and farm workers' need for child care is necessary to support long-term, thriving, and equitable food systems in Vermont. There is further need to examine how national and state child care policies intersect with farm family well-being and farm economic development.⁴

Current Conditions

The time when farm families have young children is particularly vulnerable for a farm operation, and access to child care can help parents maintain the farm during this period.⁵ In Vermont, 71.5% of children ages five and under are in families where all available parents are in the labor force.⁶ Despite this, almost two thirds of infants and nearly one third of toddlers and preschoolers do not have access to licensed care programs.⁷

Child care choices for farm families are influenced by values, farm productivity, cost of care, and distance to care centers and relatives. Family care is the preferred child care arrangement for farm families due to affordability and flexibility around non-traditional schedules.⁸ Low and fluctuating profit margins make it difficult for farm families to afford off-farm care.⁹ Household stressors play a significant role in amplifying overall stress levels on farms. How child care is practiced affects relationships, inequitable division of labor, and day-to-day operations.¹⁰ First-generation and women farmers face the most significant challenges in accessing affordable child care.¹¹

There is tension between the belief that farming helps children gain life skills and a reluctance to use one's children as labor.¹² Farm parents' time is split between the farm and their children, and allocations towards one come at the expense of the other.^{13,14,15,16} Farm parents must regularly weigh the safety risks and benefits of keeping their children on the farm.^{17,18} In the U.S., approximately 33 children are seriously injured in agriculture-related incidents every day, and approximately every three days a child dies.^{19,20} About 60% of agriculture-related injuries are sustained by non-working children.²¹



Bottlenecks & Gaps

- Farmers struggle with lack of child care providers, distance from providers, cost, and scheduling constraints.^{22,23} For seasonal, migrant, and undocumented workers, language, transportation, and safety issues may compound these challenges.²⁴
- Care of young children largely falls on women. Gendered roles can exacerbate family tensions and intersect with isolation and lack of extended family, contributing negatively to mental and physical health.²⁵
- Different abilities amongst children limit options for appropriate child care. Children requiring extra care directly affect relationships in the family, farm structure and management, and overall quality of life.²⁶
- There is no comprehensive accounting of how cost, availability, and access to child care affect farm structure and management. Agricultural service providers lack training and expertise in providing support to farmers around child care, and family scheduling is often not factored into their services.²⁸
- Vermont needs approximately 2,090 additional early childhood educators to meet current needs for young children.²⁹

Opportunities

- Farmers with access to child care have an increased chance of improving farm viability and personal and family health, while reducing their stress.³⁰
- There is demand for cooperatives and on-site, affordable child care, particularly in rural areas and the farming community.^{31,32,33}
- Access to child care could increase Vermont's attraction for many rural families, including farmers and farm workers. Along with cost of land, soil quality, and familiarity with an area, some farmers also consider access to child care when deciding where to establish their operation.³⁴
- European public social support systems provide a model for comprehensive child care and family policies with generous parental leave and subsidized care available to all parents.³⁵
- Child care subsidies are currently underused by rural families, despite higher poverty and unemployment rates.³⁶ Farmers who are able to access subsidies describe them as a boon to their farms.³⁷

Recommendations

- Develop and enact policies which create just and equitable systems for fairly compensating farmers and farmworkers. Systemically work across sectors to bring voice to, and address the gendered nature of, child care and household work and its consequences for society, particularly farms.
- Ensure universal, high-quality child care for all families living in Vermont. Invest in the necessary facility infrastructure changes, and increase support for and expansion of current programs, particularly in rural, underserved areas. Provide living wages, scholarship supports, and ongoing professional development and training to early childhood educators to enable them to both enter and remain in the field.
- Conduct research into how child care cost, availability, acceptability, and access affects farm structure and management, and how these factors may evolve as children age. Conduct a comparative analysis between U.S. farmers and farmers in western European countries where child care and social support systems are more robust.^{38,39}
- Integrate care work as a critical component of farm planning and child safety.^{40,41} Direct agricultural service providers to work with the Vermont Department of Children and Families (DCF) and to include household economics as a part of farm economics. Train service providers to share information about tax benefits and child care assistance programs with farmers.
- Work with Vermont DCF to simplify and expand the criteria for child care subsidies to make them more accessible to farmers, including pursuing an IT system that enables these changes.

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What's At Stake?

Vermont will face considerable disruption to the local food system and farm profitability and viability because of climate change.¹ In addition, the significant impact of climate change on global food production and supply chains intensifies the need to increase the resilience of Vermont farming and local food systems and maintain our agricultural land base. Supporting Vermont farmers' efforts to adapt will also reduce greenhouse-gas emissions, improve water quality, and perhaps make farmers more competitive with farms outside Vermont. Additional training, education, financial support, and research on adaptation will help farmers be resilient and innovative as the climate continues to change.

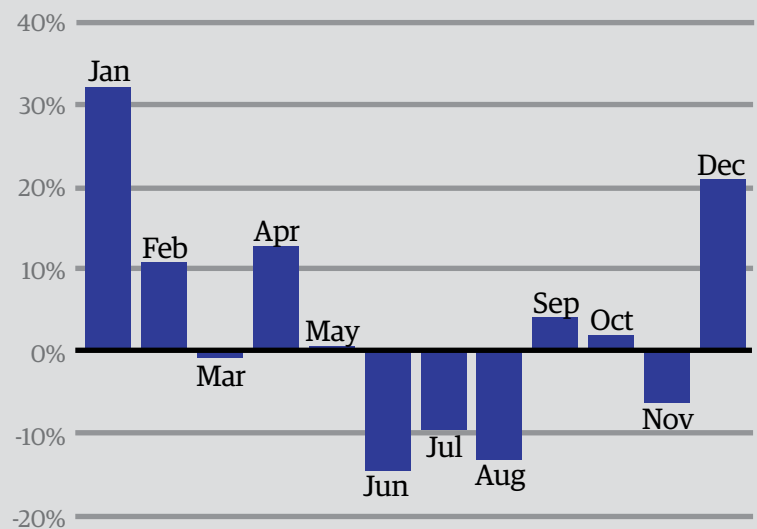
Current Conditions

Climate change effects on Vermont agriculture are largely dependent upon the type of farm, its specific production system, and its location and exposure to extreme events (e.g., flooding). Observed climatic changes include an increase in annual precipitation, a greater frequency of heavy storms, warming in annual average temperature, and higher temperature extremes. Projections estimate that these trends will continue to intensify, with more rain through the winter and spring months, and an increased risk of drought in late summer. For farms, this means increased pest and disease pressure, water stress on crops, and more heat stress on livestock.

Wet soils are already a significant concern and will continue to exacerbate resulting soil compaction, along with the risk of greater runoff, erosion, and nutrient loss from fields due to heavy storms. Overall, farms may face fewer field-working days due to wet soils in the spring, despite a lengthening of the growing season. At the same time, reliable water sources will become increasingly important for all farms, and efficient irrigation will be critical to sustain fruit and vegetable production. Apple growers will face an increased risk of frost damage as a result of warmer winter and early spring temperatures. Sugar maple sap runs may occur earlier in the winter, and result in a sugar season with fewer days when sap can be collected.

Farmers are adapting to the observed changes to some degree, but many lack the capacity to invest in adequate adaptation measures. There is also significant interest by farmers in employing management practices that store carbon and help mitigate climate change, but financial incentives for doing so are currently lacking. More action is necessary to maintain agricultural viability into the future.

Vermont's precipitation has been changing, and will continue to change. This figure shows projected change in **monthly average precipitation** between the period 1980-1999 and 2050.



Very heavy precipitation events have been increasing. From 1958 to 2016, the Northeast experienced:

- a **55%** increase in volume of precipitation falling in the heaviest 1% of events, and
- a **27%** increase in the maximum daily precipitation in consecutive five-year periods.
- In both of these metrics the Northeast saw the greatest increase of any U.S. region.

Bottlenecks & Gaps

- A recent survey indicated that vegetable and berry growers utilized crop insurance at a very low rate (7%) due to restrictive guidelines or structure of the programs.²
- A large majority of farmers understand they are vulnerable to extreme weather conditions. Fewer claim to have the knowledge and skill to deal with the threats. Only 45% say they have the financial capacity to deal with the threats.³
- Climate change adaptation is not currently funded by any financial and technical assistance program in Vermont.
- Applied research on specific adaptation practices is lacking for a variety of farm types, enterprises, and sizes.

Opportunities

- With research and by drawing upon agricultural knowledge and practices now being used in regions south of Vermont, new enterprises and crops can be adopted that are more resilient to the expected climate conditions and associated impacts.
- New programs could be developed to pay farmers to implement practices that help mitigate climate change and/or provide other ecosystem services (e.g., water quality, soil health, etc.).
- Significant greenhouse gas emission reductions and carbon sequestration on a national and international scale can help slow down climate change, giving Vermont agriculture more time to adapt. Vermont can support and partner with larger movements to encourage climate action.

Recommendations

- Fund a training program to be given to all agricultural service providers on the observed and projected changes in Vermont's climate, how it can affect agriculture, and basic adaptation principles. What is learned in these trainings can then be shared with their farm clients. Existing farmer networks can be utilized for climate change outreach and education, especially through peer-to-peer connections.
- Further investigate market mechanisms and existing systems, nationally and internationally, including voluntary, bilateral, and compliance, for providing payments to Vermont farmers for sequestering carbon and reducing greenhouse gas emissions.
- Investigate innovative funding mechanisms for assisting with implementation of climate change adaptation practices (such as cover crops and building organic matter in soil), crop insurance for diversified Vermont-scale farms, and emergency recovery following extreme weather events, so that we are better prepared to respond when climate change related events occur. Even with technical assistance program support, some water quality Best Management Practices (BMPs) that assist with climate change resiliency are still financially out of reach for many farms.
- By 2023, create carbon sequestration offsets protocols within Vermont's rules for the Regional Greenhouse Gas Initiative and the emerging, analogous Transportation Climate Initiative.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE:
*Consumer
Demand*

What's At Stake?

Consumer demand for local, organic, and specialty foods have surged over the last ten years, helping Vermont's agricultural vitality. As these markets are maturing, slowing growth and increased competition are leading to downward price pressure and other scale-related barriers for Vermont producers. While Vermont's food producers are renowned for high-quality products, authentic stories, and inspiring social values, it can be difficult for these businesses to develop marketing platforms and messages in order to stand out in an increasingly crowded field. Americans are exposed to 4,000-10,000 ads each day and only about 100 will successfully penetrate the "attention wall." If Vermont producers want to earn premium pricing, they will need resources and coordination to support strategic and compelling marketing tactics that are able to penetrate the noise and attract consumers' scarce time and attention.

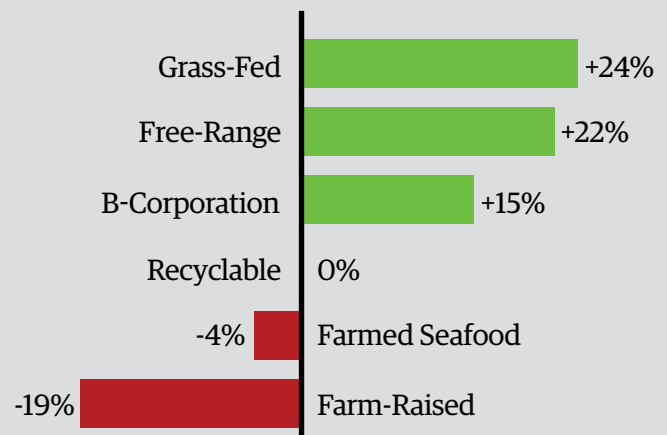
Current Conditions

Vermont has long benefited from a reputation for high-quality, authentic food products. This reputation, or "market value," offers opportunities for increased sales if producers can gain visibility and align with consumers' needs. To leverage market value, producers must employ good marketing strategies including market research, market positioning, brand development, and marketing tactics. The relatively small size of many Vermont producers limits competitive advantages gained from economies of scale, and their marketing spending is generally believed to be an area of under-investment compared to national industry averages.

Complicating Vermont producers' ability to fulfill consumer demand is that today's food marketplace is no longer the predictable, regular weekly trip to the grocery store. Consumers now purchase food in many different outlets (e.g., supermarkets, "big box" stores, specialty stores, online, etc.) and at many times of day.^{1,2} Disruptions in traditional media and retail channels are mirrored in consumers seeking shopping experiences that fit their custom needs (see *Grocers brief*, *Direct Markets brief*). They are seeking products that align with their particular dietary preferences, and demand transparency of ingredients and production practices.

To stay viable, Vermont's food producers must be savvy to these rapidly shifting consumer trends. In addition, investment is needed in both the private and public sectors to elevate the presence of Vermont products to consumers. Recent examples of state investment to understand consumer demand include consumer-based market research from the Vermont Agency of Agriculture, Food and Markets (VAAFAM) and Agency of Commerce and Community Development (ACCD) to understand consumer perceptions related to the Vermont brand, maple, and specialty cheese.

Change in Dollar Sales for Sustainability Claims in U.S., 2017-2018



Demographic Consumer Trends and Consumer Values-based Demand

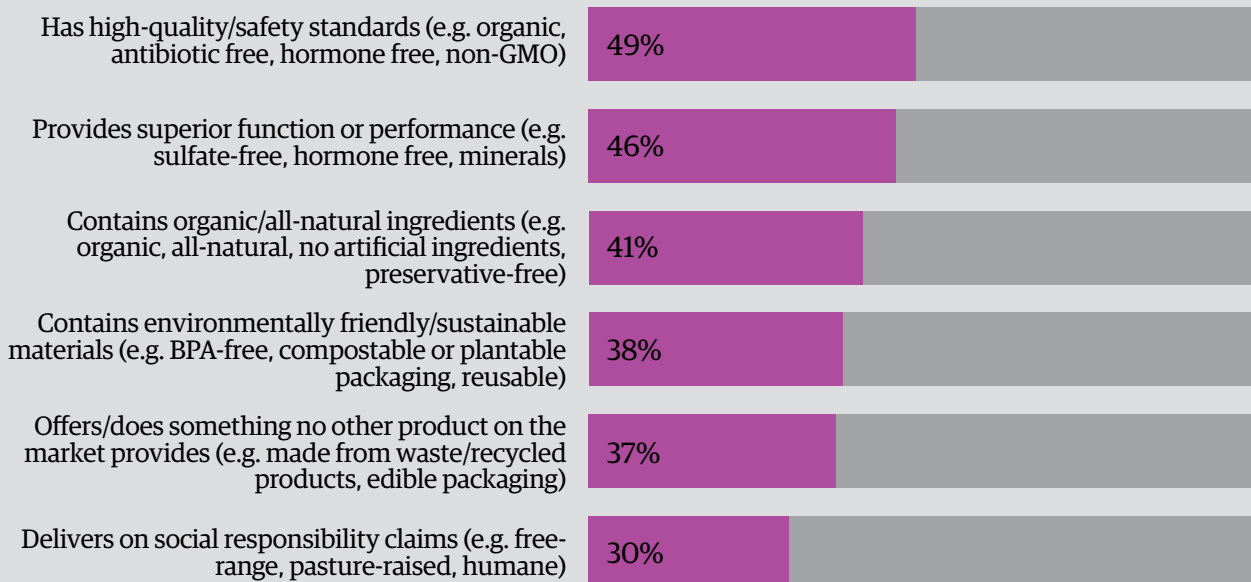
While baby boomers (b. 1946-1964³) still have impact, millennials (b. 1980-1996⁴) are now the largest generational group and are influencing the marketplace with their purchasing choices. Millennials communicate their identity and values with their product choices. They favor unique and personal experiences, which leads them to try new brands, new channels, and to seek niche shopping experiences.⁵ Meanwhile Generation Z (b. 1996-2015) is emerging as the largest and most ethnically diverse generation. Millennials and Gen Z consumers are increasingly vocal about their purchase experiences and turn to their online networks for purchase advice. Further, these hyper-connected consumers are seeking purchase experiences that appear authentic and will be share-worthy.⁶

Today's consumers demand products that meet their own health needs, emotional values, and broader social concerns. Many of these values have direct relevance to Vermont producers and present strategic marketing and growth opportunities. Local, organic, and non-GMO labels have widespread market appeal. The U.S. local food market grew from \$5 billion in 2008 to \$12 billion in 2014 and is expected to rise to \$20 billion by the end of 2019.⁷ Across the board, consumers are emphasizing a need for increased transparency in the foods they are choosing, and to know more about agriculture and food manufacturing practices.⁸

Consumers feel strongly that companies should help improve the environment, and half of global respondents say they're inclined to pay higher-than-average prices for products with high quality standards, which consumers often associate with strong sustainability practices. Just behind safety and function, consumers are willing to open their wallets for products that are organic, made with sustainable materials, or deliver on socially responsible claims.⁹ As the concept of "sustainability" matures, consumers are getting more specific in their demands, seeking bundled benefits (e.g., high-protein organic milk) and product innovations (e.g., plant-based proteins).¹⁰

The organic market is maturing and mainstreaming, leading to declining price points for producers, while the marketplace is seeking large-scale solutions to meet price and volume demands. GMOs continue to rank high in the list of consumer concerns, with almost universal consumer awareness of GMOs, and an estimated half of shoppers avoiding them.¹¹ Concerns about animal welfare may have increasing impact on Vermont's food producers, especially as consumers are turning to plant-based beverages and meat substitutes. Plant-based proteins are a good example of a market trend that is meeting the consumer demand for perceived benefits to the environment, health, and animal welfare.

Percent of Global Consumers Willing to Pay Higher-than-Average Prices For Products with Select Attributes (2018)





Bottlenecks & Gaps

- Growth of markets like local and organic can pose a variety of challenges for Vermont’s niche producers as they lack the scale to compete against larger companies with better economies of scale and larger marketing budgets.
- Maintaining price premiums is more difficult and nuanced as the local food category becomes more mainstream and mature.
- Meeting consumer demand for more information and products that meet their personalized needs requires robust, sophisticated, emotionally compelling, and multi-faceted storytelling that also fits into the soundbite nature of modern communications and connectivity. Vermont’s businesses often lack the resources to invest in packaging updates, “content creation” (e.g., videos, blog posts, social media posts), and social media curation to stay in relationship with target consumers.
- The diversification of consumer demand creates opportunities for success via careful market segmentation; however, segmentation is a nuanced marketing skill that many small businesses lack, and/or lack funds to execute.
- While relevant data at the business level is not publicly available, anecdotal evidence supports the conclusion that Vermont food and farm businesses tend to be under-resourced in executing sophisticated marketing strategies.

Opportunities

- Vermont food products align with current trends for authenticity, purity, and trusted relationships, and consumers seeking highly personal and custom experiences.
- Existing, publically available market research can be used by the state and individual businesses in segmenting markets and developing targeted content.
- The growth of Vermont’s digital marketing sector provides valuable marketing infrastructure to support Vermont’s food businesses.
- Vermont producers benefit from proximity to major urban markets and a robust tourist economy.
- Vermont producers may benefit from adding attributes to their products such as enhanced nutritional value (e.g., high-protein organic milk), animal welfare benefits (e.g., grass-fed), or other social benefits (e.g., authentic connection back to the farm).
- Vermont food businesses have the authentic experiences and values well suited for behind-the-scenes online and social media storytelling that is attractive to consumers.
- Online platforms designed to enhance marketing through digital content created and shared by consumers offer a means for small farms and food businesses to affordably promote their products and create a community of “brand ambassadors.”
- Vermont is well-positioned for statewide coordination around conducting, interpreting, and collaboratively implementing marketing strategies based on shared understanding of consumer trends specifically focused on Vermont-produced foods.

Summary

Vermont has been successful in cultivating a reputation for high quality food, authentic and trustworthy businesses, and a natural environment that is clean and pure. This reputation has helped to shape the broader brand identity of Vermont food and farm products. Vermont has been a leader in the local, organic and sustainable food marketplace. As those markets go mainstream, we must be cautious not to lose our competitive edge. The food marketplace is becoming more crowded and nuanced. While there are growing opportunities to tap into consumer trends, we should not underestimate the competitive pressure and expense of maintaining a visible presence in a multiplicity of media channels and market outlets. If we want to see Vermont's food and farm economy thrive, we cannot afford continued reliance on fragmented, product-specific marketing messages. Rather, now is the time to invest in coordinated, robust marketing strategies across the state.

Recommendations

- Provide a \$100,000 annual appropriation to the Vermont Agency of Agriculture, Food and Markets for the marketing of Vermont food and farm products.
- Develop a shared communications and graphic design “content creation” position to be co-located between the Agricultural Development Division at VAAFM and the Vermont Department of Tourism and Marketing (VDTM) at ACCD to further support outreach to Vermont producers, increase the presence of Vermont food producers on social media and at trade shows, and to strengthen the existing marketing team and coordination with VDTM and the Chief Marketing Office. Initial research recommends \$100,000 per year to support the position, with tactical funds being generated through grant support.
- Provide \$24,000 in funding support to the Vermont Farm to Plate Network to host, in partnership with VDTM and VAAFM, quarterly collaborative marketing summits for food and farm businesses to improve marketing skills and understanding of consumer demand (e.g., market research, social media strategies, developing marketing assets, etc.), and identify partnership opportunities.
- Launch a Vermont Brand and Marketing Collaborative to leverage improved marketing strategies and collateral. Include representatives from VDTM, VAAFM, and independent businesses in tourism, food, and outdoor recreation.
- Create three Vermont marketing broker positions to develop the regional market for a strategic catalog of Vermont products. Explore developing a three-year pilot program that explores broker logistics for identifying and developing top market channel opportunities within three target urban centers in the Northeast. Cost: \$600,000 over 3 years.



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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE:

Farmland Conservation

What's At Stake?

Over the past 40 years, Vermont made substantial investment and progress in farmland conservation, permanently conserving 15-20% of the state's farmland.¹ Farmers have greatly benefited from ongoing, coordinated conservation efforts, yet threats to farm viability in the state continue to loom large. At least 3,000 Vermont farms and many more acres of high-quality agricultural soils are not conserved.² Over the next five years, as many as 300 Vermont farms (conserved and not-conserved) may change hands as existing farmers retire. If managed strategically, these transfers could lead to the next generation of vital farms and strengthen Vermont's rural economies. If not, land farmed for generations could sit fallow, become less productive, or be lost to development. The COVID-19 pandemic has shed light on the urgency of securing our agricultural land base in order to support a more localized food supply.

Current Conditions

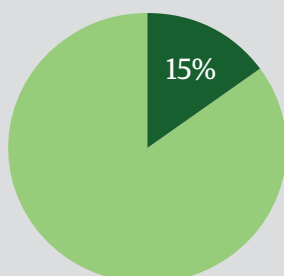
Farmland conservation is one of the best ways to protect Vermont farmland from development, keep it in production, ensure localized food production capacity in case of emergencies, and maintain an economically viable agricultural sector.

Land is conserved with a legal document called a conservation easement (typically held by a land trust) which permanently limits development, restricts subdivision, and protects natural resources. This is also known as "sale of development rights," as landowners are usually compensated for the loss of the potential income from development (though some donate or partially donate this value). Conservation easements generally reduce the land's appraised value and can impact a future sale price. In Vermont, the Option to Purchase at Agricultural Value (OPAV) tool is typically part of the conservation easement, to keep land affordable for farmers with commercial agricultural operations and discourage conversion of good farmland into estate-type properties.

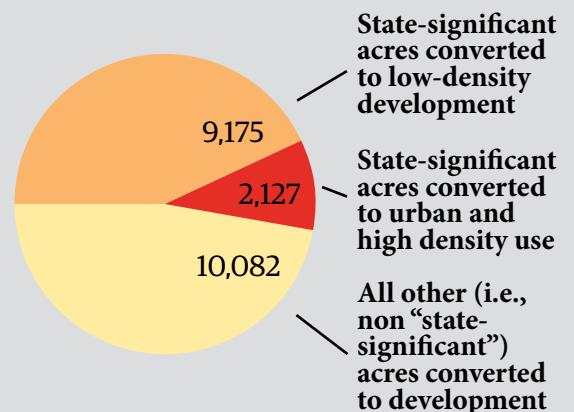
Selling development rights is a critical economic tool for Vermont farmers, allowing them to sell a legal asset while still retaining ownership of the land, and use sale proceeds to expand, diversify, invest in new infrastructure, buy more land, and/or facilitate a family transfer. Despite its social, agricultural, and economic benefits, land conservation is also challenging. Not all farmers want or are able to conserve their land. The demand for funding to purchase development rights far exceeds the supply, despite years of relatively stable federal and state funding for farm easements.

Permanent farmland protection plays a critical role in the economic transformation and ownership transitions that Vermont agriculture is facing, but conservation alone will not ensure the survival of Vermont's agriculture sector. Fortunately, Vermont's farmers, land trusts, agricultural lenders, and service providers are well-coordinated, and share key goals around the successful transition of Vermont's agricultural economy to the next generation, responsible land stewardship, and the importance of farm viability.

Approximately 15% of Vermont's agricultural land is currently protected.



From 2001-2016, approximately 21,400 acres of agricultural land in Vermont were compromised by development. 52.9% of these acres had statewide significance in terms of calculated productivity, versatility, and resiliency.



Conservation of Farmland

Current Conditions

Funders and land trusts use established criteria to assess a land parcel's resources (e.g., soils, water, special ecological attributes), development threat, and proximity to other conserved parcels, as well as the plans for the farm operation. The land is appraised to determine the current value with full development rights and the value after conservation with limited development rights. The easement value, and financial compensation to the landowner, is the difference between the two.

- For the past several years, the Vermont Housing & Conservation Board (Vermont's primary funder of farm easements) has typically funded **20 to 22** farm projects each year, protecting about **3,000 acres**.
- **\$2.7 million** in state funding each year (on average) leverages **\$3 million** in federal dollars through the Natural Resources Conservation Service (NRCS) and **\$1 million** per year in philanthropic and local funds, as well as landowner bargain sales.
- VHCB's current conservation pipeline has **40** projects waiting to be funded with a value of over **\$9 million** of easement funding.

Bottlenecks & Gaps

- An easement's value may not offer sufficient financial return for certain landowners.
- Criteria from funders does not always match the available land.
- Easement restrictions may not accommodate a landowner's plans.
- The volume of land that could transfer over the next five years will create bottlenecks for scarce resources and staff capacity at Vermont Housing and Conservation Board (VHCB), land trusts, and agricultural service providers.

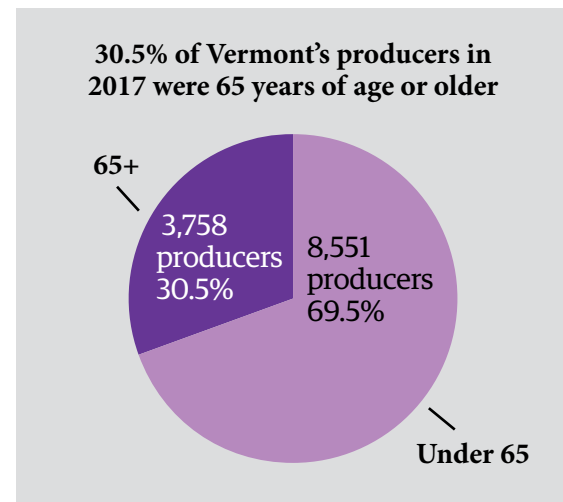
Opportunities

- Securing more land for food production through farmland conservation can be an effective strategy to address threats posed by climate change and global pandemics.
- The Vermont conservation community is coordinated and skilled at working together (see [Business and Technical Assistance](#) brief).
- Vermont farmers continue to have a strong interest in selling development rights, and understand the importance of securing their land base.

Conservation and Land Transfers

Current Conditions

The amount of farmland expected to transfer creates a tremendous opportunity to conserve more acres, add ecological protections and affordability options to already-conserved land, help new or beginning farmers gain access to the transferring land, or expand existing businesses. Conservation during a sale process can be a powerful tool to make land more affordable for a new owner, and if the property is already conserved, it may be more affordable than non-conserved parcels.



Bottlenecks & Gaps

- New tools are needed to make already-conserved land affordable for potential buyers, who cannot use the sale of development rights to finance their purchase.
- When farmland goes up for sale, all parties must act quickly to ensure that it does not get sold for development.
- Matching buyers with sellers at the right time is a challenge, and the process of sale and transfer can be lengthy.

Opportunities

- Easement holders have ongoing relationships with landowners and can provide timely assistance and resources during transitions.
- Creative financing and land-access tools such as land banks, affordable housing models, conserving different land assets, and upgrading easement provisions, have promise (see [Alternative Ownership Models](#) brief).
- Low-cost, flexible, and patient capital sources can help the owner and buyer weather the wait time to complete the transaction (see [Access to Capital](#) brief).

Conservation and Farm Viability

Current Conditions

Conservation alone does not ensure land will remain actively farmed and productive. Farmland needs to be able to transfer viably from one owner to another in order to stay productive. Keeping Vermont's conserved (and non-conserved) farmland in active, economically viable operation requires a healthy agricultural economy with robust market opportunities, technical and business support, and policies that incentivize active farming (e.g., the Use Value Appraisal program).

Percent of Farms with a New or Beginning Principal Producer, by Economic Class (i.e., Market Value of Agricultural Sales)



Bottlenecks & Gaps

- Sale of development rights can provide a vital infusion of capital to a business, but only once.
- Limited access to markets, competition, and low price points can make it difficult to sustain a viable new agricultural operation (see [Supporting Future Farmers](#) brief).
- The cost of farmland is high compared to the low margins farm operations typically deliver.
- Vermont's transferring dairy farm parcels and infrastructure may not match the needs of incoming non-dairy farm businesses (see [Succession](#) brief).

Opportunities

- Conservation groups are developing creative tools, legal instruments, and funding streams to assist farm businesses.
- Collaborative ownership, long-term leasing, and other business models can provide equitable access to farmland without fee simple ownership, and address affordability issues (see [Alternative Land Ownership and Access Models](#) brief).
- Vermont has a strong network of farm viability and farmland access organizations that can provide services to farmers at all stages of business.

Summary

Vermont has a long and successful track record of protecting farmland. Although Vermont ranks in the top 25% of American Farmland Trust's Agricultural Land Protection Scorecard of States,³ more resources and new tools are needed to keep up with the current and anticipated demand, and to ensure that conserved farms stay in active agriculture and remain economically viable. As the pace of farm transitions intensifies, new opportunities and tools are emerging to help farmers access land. Vermont needs well-funded, coordinated programs, including land conservation, to support the transition of farmland and farm businesses in Vermont. Ultimately, successful farmland conservation strengthens both community vitality and farm viability.

Recommendations

- Support the development of additional tools that can be applied to already-conserved properties to ensure affordability and access for the next generation. Some examples include performance mortgages, shared equity models, ground leases, and more. To support this, create a lending vehicle specifically set up to provide low-cost capital to alternative ownership models that may be challenging to finance through traditional farm loan programs.
- Fully fund the Vermont Housing and Conservation Board through the Property Transfer Tax Fund. This funding is essential in order to capture the opportunity to protect farmland now as successions accelerate and the risk of losing farmland increases.
- Allocate \$3 million annually to VHCB's Farm & Forest Viability program in order to expand their capacity to provide critical business and technical assistance services to farms and forest products businesses of all types across Vermont. (see *Business and Technical Assistance* brief)
- Appropriate \$3 million of flexible, low-cost financing to a Community Development Financial Institution or other lender, to support new farmers in purchasing farmland. This could be leveraged by VLT's \$15 million Farmland Futures Fund. These funds would be used in coordination with VHCB's Farm and Forest Viability Program as well as the Working Lands Enterprise Fund.
- Enhance equitable access to farmland, as VLT has done with the Pine Island Community Farm in Colchester. Partner with and support organizations that assist Black, Indigenous, and People of Color farmers gain access to viable farmland.



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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE:

Food Access and Farm Viability

What's At Stake?

All Vermont residents should have access to nutritious local foods they can afford, and Vermont farms should all be profitable. However, many people in our state struggle with the rising cost of living, high housing and utility costs, transportation barriers, health issues, and underemployment, all of which can make it challenging to afford food. Today, 74,520 Vermonters are food insecure, including 18,760 children. To build a robust and equitable food system, we must address both food access and farm viability simultaneously. For the health and wellbeing of all eaters, food access cannot be addressed by the charitable food system alone but rather must be considered in relation to all the major market channels: retail, direct markets, and institutions. By increasing the ability of all eaters to access and use local food, we also benefit our farm businesses and the entire Vermont economy.

Current Conditions

Although Vermont's local food economy grew from \$7.5 billion in 2007 to \$11.3 billion in 2017, access to Vermont-grown foods by all residents continues to remain inequitable. Programs which increase accessibility to locally produced foods for low-income and at-risk populations have grown and diversified in an attempt to address this inequity. At the same time, efforts to improve Vermont farm viability through expanding markets for locally produced foods have often focused on value-added, specialty, and export markets which do not inherently increase access within local communities where Vermont residents shop.

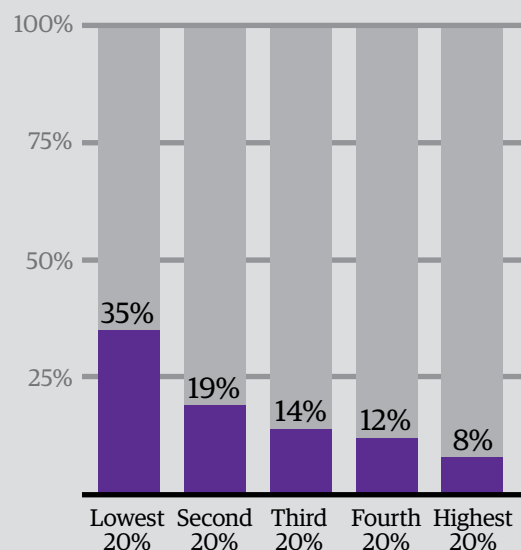
Vermont residents shop for and obtain food through a wide variety of outlets, or "market channels," with the majority of food purchased at supermarkets. Some Vermont communities may have multiple food outlets, others are "food deserts" without sufficient access to fresh, nutritious foods within a reasonable distance.¹ Some Vermonters rely on meals provided by state, municipal, or nonprofit institutions like schools, prisons, and hospitals. Food from any outlet may be supplemented by additional food received from charitable programs, including food shelves and free meal sites. Most market channels are limited in their ability to secure locally produced foods due to a variety of reasons, the most predominant including price points, ease of ordering, availability, and transportation logistics. Additional barriers exist within the operational mindset of some of these outlets, including a reluctance to adapt to different size packaging, varying appearance, consistency, and flavor, and/or a set of priorities that don't include sourcing locally grown and produced food to support the local economy (see *Grocers brief*, *School Food Procurement brief*, *College and Hospital Procurement brief*).

Many of Vermont's residents cannot afford to increase their spending on food. Food expenditures are often the

most flexible of basic needs, that is, in the short term, it is easier to purchase less or cheaper food than to lower housing or transportation costs. Local food is often more expensive than that produced out-of-state at the industrial scale. However, Vermont farmers are unable to reduce the cost of the foods they produce and net farm incomes are often below livable wage themselves. Vermont's effort to increase access to local food by all its residents must do so with an understanding of production costs and attention to providing a livable net income for farmers.

Percent of Income After Taxes Spent on Food, by Income Quintile (National, 2018)

Americans' food expenditures as percent of income varies significantly, with the lowest income quintiles spending a significant portion on food.



Closing the Economic Gap

Current Conditions

Barriers to increasing access to local foods are reinforced by the cheap cost of industrial, nationally and internationally sourced foods with which Vermont farms must compete. Even when retail and wholesale buyers and consumers understand and support the social and environmental benefits of local agriculture, price is often the bottom line.

Bottlenecks & Gaps

- Fixed costs of production limit farmers' ability to reduce prices while maintaining economically viable businesses.
- Barriers in the supply chain affect the availability and affordability of local foods and reduce the income farmers receive. More aggregators, processors, and distributors are needed to help bring local food to markets but this also requires increased product volume.
- Many Vermont residents have limited resources, not only in money and transportation but also in time for food preparation and familiarity with utilizing different ingredients.

- In 2018 the Vermont Livable Wage was a yearly income of **\$27,754**, compared to a yearly income of **\$21,840** working full-time at the Vermont minimum wage.
- In 2017, the average net income for Vermont farms was **\$26,215**, and only **42%** of farms had a net gain.

Opportunities

- Efforts to keep farmland in production and to increase the viability of farms can have a positive effect on local food access.
- New models and growing support for socially responsible businesses can help farms meet the social need of food access without sacrificing business viability.
- Efforts to increase consumer purchasing power are key to growing the number of Vermont residents who can afford local food. This includes expanding programs such as **3SquaresVT**, and encouraging policies that help people meet basic needs like health care and housing.

Programs

Current Conditions

A number of Vermont programs across market channels increase the purchasing power of people and food outlets and enable them to purchase locally produced food. For example, many Vermont food co-ops offer members who qualify for food assistance additional discounts on purchases. Several local food incentive programs are underwritten by federal and philanthropic grant funding. Examples include vouchers for fresh local food; "Crop Cash" through which **3SquaresVT** users can double their dollars at most Vermont farmers markets and some farmstands; and reduced-price or free Community Supported Agriculture (CSA) farm shares available to low-income individuals and families. In addition, both charitable programs and institutional meal programs purchase some of the food they distribute from local farms.

- In 2019, the Department of Children and Families' Farm to Family program issued a total of **\$140,280** in coupons to **4,676 customers**. **\$91,020** of these coupons (**65%**) were redeemed.
- In the May 2018-April 2019 market season, **\$62,538** in Crop Cash were redeemed at Vermont farmers markets, a redemption rate of **90%**.
- **37%** of farmers markets in towns with high **3SquaresVT** eligibility levels do not accept **3SquaresVT** payment.

Bottlenecks & Gaps

- Many of these programs have limited budgets reliant on philanthropic and governmental funding, which can lead to caps on the services or number of recipients. Availability of funding may also change and it is often difficult to fund a program long-term through these sources.
- Participation can be hampered by a lack of consumer understanding about how the programs operate, the burden participants face in learning about and applying for multiple programs, the stigmatization of receiving charity, and a perception that local food is exclusive and elitist.
- Participation in these programs can be burdensome to the farmers, who need to understand different programs available to them and acquire and manage infrastructure such as EBT machines.

Opportunities

- For some farms, participation in these programs supports their existing business plan.
- Many market outlets and social service providers, including healthcare entities, are interested in supporting these programs.
- 3SquaresVT benefits can be applied to food-producing items (trees, seeds, etc.) as well as food itself, providing a way for recipients to produce their own food over a span of time and potentially freeing up additional funds for purchases from local farms.
- Program providers do coordinate to a certain extent and are interested in increasing alignment of outreach and evaluation to more effectively and efficiently serve participants.

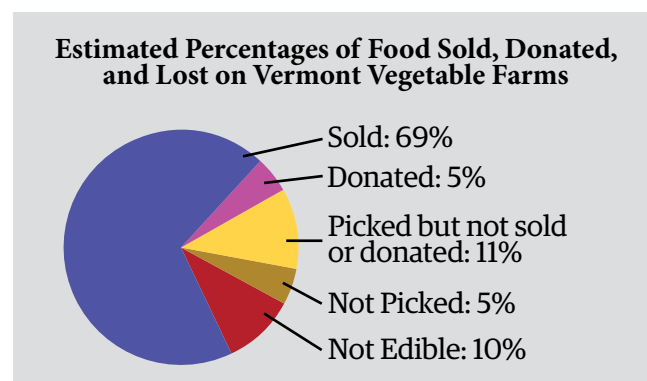
Gleaning

Current Conditions

“Gleaning” means gathering food left behind after harvest, an activity historically performed by food insecure people themselves. Modern gleaning is a service provided to farms by coordinating agencies that engage volunteers to harvest edible crops or collect already-harvested crops and facilitate distribution to charitable food outlets. These gleanings are donated by the farm. Federal charitable tax deductions are sometimes available but are often not utilized by the farm.

Bottlenecks & Gaps

- Not all areas of Vermont are served by gleaning programs with adequate staff and infrastructure.
- The charitable food system experiences market saturation during peak harvest times and cannot fully utilize all the surplus food that is available.
- The availability of gleaning (and potential tax deductions) as an option to manage surplus food can disincentivize the development of other markets for this surplus.



Opportunities

- Data, information, and trends observed in gleaning programs can inform other food system development opportunities.
- On-farm surplus presents an opportunity to increase in-state paying markets for surplus or seconds in addition to serving the charitable food system.
- Gleaning is a community-building, educational activity that furthers community members' connections with their local farms and increases opportunities for people to try local foods, leading to increased consumer comfort and purchasing by individuals and meal programs.

Summary

Though Vermont has a strong reputation for its local food system, many Vermonters struggle to put food on the table and aren't able to fully participate in that local food system. It is critical for the legislature to support programs that help lift people out of poverty and provide access to local food for all Vermonters. Strengthening the programs that work at the intersection of food access and farm viability will feed people today while supporting our local agricultural economy. These programs have a lasting impact on the individuals and communities who are given opportunities to engage directly with Vermont farms and the food they raise, building familiarity and comfort with using local foods and instilling a sense that local food is for everyone. Beyond these programs, however, long-term farm viability and food access require efforts to strengthen the economic stability of both farmers and consumers.

Recommendations

- Fund a pilot aggregation and sales system that effectively serves both the charitable food system and institutional and other market channels, through a structured partnership among established processors, aggregators, and gleaners. The pilot would include data collection on specific marketable surplus food products. Potential partners include Center for an Agricultural Economy, Deep Root Organic Cooperative, Salvation Farms, and the Vermont Department of Corrections. Estimated cost: \$100,000 per year for four years.
- The Vermont Legislature should fund an appropriation of \$500,000 a year to enable organizations in the charitable food system to source food directly from Vermont farmers (e.g., [Vermonters Feeding Vermonters](#)).
- The Vermont Legislature should create a Local Food Access Funding Program, with an appropriation of at least \$250,000 a year, available to multiple organizations to support program needs including:
 - maintaining or increasing benefits that increase consumer purchasing power for local food at farmers markets or other retail outlets, and outreach around these services.
 - making wireless EBT machines available at no cost to producers and farmers markets. Estimated cost: \$43,000 annually to support equipment and fees for 45 farmers markets and 20 farms.
- The Vermont Legislature should fund an appropriation of at least \$100,000 a year to enable the hiring of a shared full-time staff person to support coordination across gleaning programs in the state.
- Social service providers and those who are delivering food access programs should each understand the many different program options that are available and work cooperatively to market them to reach full utilization with less administrative burden on participants. State agencies should explore ways to coordinate or otherwise support this effort in partnership with key nonprofit partners.



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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE: Food Security

What's At Stake?

“Food security exists when all people, at all times, have physical, social, and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”¹ All Vermonters have a right to healthy, affordable food, not only today but in times of crisis, regardless of their life circumstances. The COVID-19 pandemic revealed the benefit of a thriving agricultural economy in buffering national food supply chain disruptions, particularly for those already struggling to obtain adequate food. In order to reduce climate and pandemic-related risks to our food security, and to protect the most vulnerable, we need to reorient a significant part of our food production to the regional level. Coordinated, statewide action is needed to ensure food security across Vermont, in times of crisis and times of calm, for every Vermonter.

Current Conditions

Household food insecurity is a result of structural socioeconomic factors often beyond the control of individual households, and eliminating it will require a system-level approach to ending poverty and other barriers to healthy food in Vermont. Food insecurity encompasses not only lack of food but the nutritional quality and accessibility of available food. It is one of several important social determinants of physical and mental health, along with housing instability, household energy insecurity, transportation difficulties, and problems accessing affordable healthcare.² Vermont’s agricultural economy positions us well to take advantage of local and regional food production as a means of mitigating food insecurity in the present and to feed us during future social disruptions related to climate change, disease outbreaks, and other disasters. However, even where a reliable local and regional food supply exists, it is often unaffordable for many Vermonters, even those who are not counted by the USDA as being food insecure.

During the pandemic, rising need for food assistance, anticipated long-term disruption to food supply chains, and the impact on agricultural and food-related business viability, all illustrated where short and longer-term planning could increase food system resilience. The public food assistance system, which includes programs such as 3SquaresVT, WIC, school meals, and meal programs for older adults, is effective but not adequate to eliminate food insecurity. Tools do exist to help planners and towns with food supply and access planning, but these are newly available, and more training, dissemination, and promotion of food security planning tools are needed. Vermont should ensure that municipal, state and regional plans address the risk of food supply chain disruptions and prepare for emergencies which may arise.

Percent of Vermont Population Experiencing Food Insecurity

Food security rates can change rapidly. A UVM study reported a 33% increase in food insecurity in the COVID-19 pandemic, after years of the rate holding steady. The resulting rate of approximately 1-in-4 Vermonters facing food insecurity was higher than any time during the Great Recession.

In the 12 Months Prior to March 2020

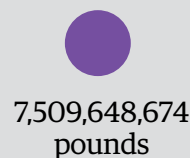


In March 2020

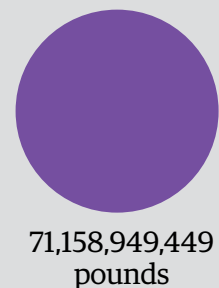


New England Food Production and Imports

Estimate of New England Food Production, 2018



Estimate of Food Flow Into New England, 2018



Bottlenecks & Gaps

- Political and corporate narratives which ascribe food insecurity to individual responsibility rather than socioeconomic factors have been misleading, and this can lead to limited solutions.
- Wages, the cost of living, skills in and time for preparing foods, an aging population, and racial, ethnic, and gender inequities are among the socioeconomic structural factors limiting increased food security in Vermont.
- Due in part to federal agricultural policies and subsidies, low-cost, unhealthy, processed foodstuffs are widely available, while nutritious, whole foods are higher-cost and harder to access. This imbalance impacts both consumers and farmers.
- There is no coordinated or comprehensive effort underway to plan for the impacts of climate and pandemic-induced emergencies on Vermont's food supply and shared food security.
- State-wide efforts to increase Vermont farm business viability are not necessarily able to also consider ensuring a diversity of food production for Vermont's dietary needs (see *Food Access and Farm Viability brief*).

Opportunities

- The COVID-19 pandemic drew attention to the national and local food supply chain's strengths and weaknesses, including the important role of Vermont's farms. This new understanding, and creative community responses, can guide future plans, policies, and emergency preparedness.
- State, regional, and municipal planning, including emergency and hazard mitigation planning, are potential ways to ensure food access and security.
- Efforts are underway in Vermont and New England to increase regional agricultural self-reliance and disaster resiliency, and need additional funding support.³
- Federal supplemental nutrition programs such as school meals, 3SquaresVT, and WIC, and the (relatively much smaller) charitable food system, are proven assistance to households where money is a major barrier to healthy food, and utilization can be increased through outreach, funding, and normalizing participation.
- Models from other states where all food assistance programs are housed under a single agency could provide administrative efficiency and more effectively tie food access to local food production.

Recommendations

- Fund a research project to fully understand household food insecurity in Vermont and how to invest in its elimination. The design and implementation of the research project should engage academics, advocacy groups, and impacted individuals, and include research on geographic spread, root causes, and costs to the health care, educational, and emergency response systems.⁴ Hunger Free Vermont, Vermont Foodbank, and others have begun planning such a study. Estimated cost: \$150,000.⁵
- Make a Vermont food security plan, centered around a thriving food system and inspired by community-based responses to food insecurity and disruptive events. Involve food insecure individuals as well as farmers in the planning, and investigate questions including, but not limited to, affordable housing, health care, transportation, siting of retail grocery stores, food distribution, and ensuring the continued production of food in Vermont. Develop an action plan to coordinate investment and implementation, alongside the Vermont Agriculture and Food Strategic Plan.
- Integrate food security into existing planning systems, with transparency and public involvement. Work to adopt state and regional -level policies, procedures, and plans to ensure that the Vermont food supply is sufficient to withstand global or national food supply chain disruptions caused by climate change and other disasters.
- Invest in existing solutions for food insecurity which have proven to be effective in assisting vulnerable Vermonters. Provide universal breakfast and lunch programs for every Vermont student, and establish local food-chain relationships within each school cafeteria. Increase investment and utilization of public food assistance programs, including efforts to connect these programs with local farmers, and support the charitable food system in its efforts to partner with farms through direct purchasing. (See *Food Access and Farm Viability brief* and *School Food Procurement brief*.)

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE: Health Care

What's At Stake?

Access to physical and mental health care is directly connected to farm viability and quality of life. Health care costs and the cost of living have far outpaced gains in farm-based income (and other forms of income) in Vermont. This affects farmers, farmworkers, and consumers, with ramifications from food access to farm operations. Farm families and farmworkers have difficulties accessing health insurance and health care due to the high cost of insurance (including deductibles, copays, and policy costs), lack of (or inadequate) insurance coverage, and limited access to rural providers.¹ Lack of access to affordable health care can impact farm productivity, hiring of farmworkers, farm risk-management strategies, farm transition, land access, and the need for off-farm income.² In a national study, a majority of farmers reported that they couldn't withstand a major health crisis without going into debt or selling off their farm assets.³

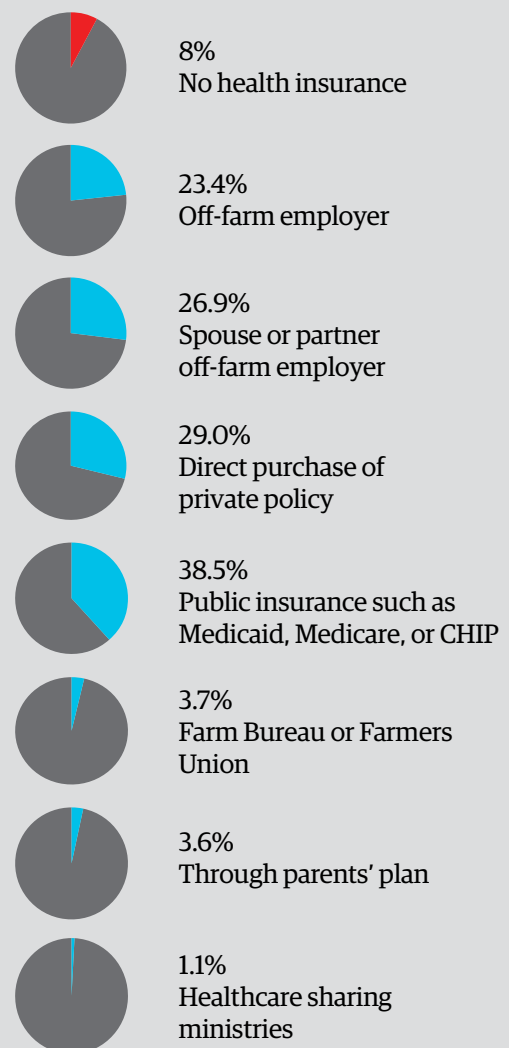
Current Conditions

Vermont farmers report the cost of health insurance as a major barrier to farming full-time, farming long-term, or hiring non-family employees.^{4,5} Long, laborious work hours can put farmers and farmworkers at increased risk of poor health, fatigue, and injury.⁶ Nationally, almost 60% of farm households include an individual with a pre-existing health condition, and one third report at least one family member with health issues that make farming difficult. Vermont farmers, whose average age is 57.3, will need more health and elder care as they age, and Medicare and limited retirement savings may not provide sufficient coverage.^{7,8}

Nationally, 41% of farmers access health insurance through off-farm work, and half of these cite insurance as the main reason for off-farm employment.⁹ Off-farm employment decreases the time and energy available for farming, and isn't an option for full-time farmworkers. Farmers and farmworkers relying on Medicaid must ensure their income remains low enough to continue to qualify for benefits. Underinsurance is an issue among farm families, as is medical debt: 20% of farmers nationally are reported to have outstanding debt from medical bills.¹⁰ Premiums for farmers tend to be higher than for the general population due to the risks of agricultural work, an older population, and fewer rural health insurers.¹¹

Of the approximately 1,500 Latinx employees on Vermont farms, 99% are ineligible for health insurance. The 450-500 farmworkers in Vermont on H-2A visas are not eligible for Medicaid and face numerous barriers applying for subsidized insurance on Vermont Health Connect (VHC).¹² High turnover in VHC employees and inconsistent training has led to confusion and lack of trust on the part of individuals seeking health insurance and health care support.¹³

Farmers' Sources of Health Insurance (Nationwide, 2016)



Bottlenecks & Gaps

- Health insurance is expensive and the system is hard to navigate, particularly for the self-employed, who may have multiple copays, deductibles, and provider networks within one farm family.¹⁴ Farm and health care service providers lack farm-specific health care literacy.¹⁵
- Barriers preventing a Vermont farmworker's access to health care may include lack of visa or citizenship, language, transportation, complexity, cost, and fear. Lack of insurance makes it difficult to farm long-term and contributes to labor shortages. Workers on H-2A visas often struggle to provide income calculations or proof of legal status, and application processes take too long relative to their visa period.
- Rising costs of health care and insurance are exacerbated in rural communities, with fewer VHC plans and many providers struggling financially.¹⁶

Opportunities

- Agricultural service providers could be trained to provide support around farm-specific health care, bridging the gap between farmers and insurance providers, VHC, and the Office of the Health Care Advocate.¹⁷
- Increasing affordable health care options through VHC and/or Medicaid would decrease the need for off-farm work, allowing farmers to invest more in their operations, and allowing more farmworkers to access health care, leading to lower turnover and more skilled labor.^{18,19,20,21}
- Affordable and accessible health care could incentivize farmers to move to Vermont, strengthening the state's food sovereignty and security.²²
- The Farm Bill could potentially integrate health, access to health care, health-care costs, and health insurance into the Risk Management Agency and Rural Development initiatives that promote farm vibrancy and resilience.²³
- Universal health care systems are more affordable, cover more people, and have better outcomes than the current system in the U.S.²⁴

Recommendations

- The Governor and the Vermont Legislature should prioritize a publicly financed, universal health care system for all Vermont residents. The Vermont Agency of Agriculture, Food and Markets (VAAFAM) should engage with the Legislature and agricultural stakeholders on this issue. Building cross-sector and regional coalitions is imperative in this effort.
- Increase farmer health care literacy by providing resources. Offer agricultural, public health, and health care service providers opportunities for professional development in agricultural health care literacy.²⁵ Consider creating and training a branch of Vermont Health Connect (VHC) employees to work directly with farmers.
- Devote resources to working with migrant and immigrant farmworkers, and their advocates, to address individual and structural challenges, barriers, and disparities in access to health care, and improve effectiveness, safety, and efficiency of health care services for these farmworkers.
- Agricultural groups including VAAFAM, farmers, and farmworkers should work to influence the Green Mountain Care Board in deliberations concerning health insurance rate hikes and hospital budgets by submitting comments and testifying at hearings.
- The Department of Financial Regulation should create stronger network adequacy requirements and enforce these requirements. VHC should provide additional and more consistent training to VHC employees and Maximus (the VHC customer service contractor), to improve accuracy in assessment of claims and relationships with health care recipients.
- Work with Vermont's federal delegation to provide stronger regulations on the cost of drugs and urge national health care reform and transparency. Advocate for USDA to represent farmers in national health insurance policy discussions.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE: *Labor and Workforce*

What's At Stake?

Vermont's farm and food economy gained 742 net new businesses between 2010-2017¹, and economic output expanded 48% from \$7.5 billion to \$11.3 billion between 2007-2017.² Despite this growth, these businesses are affected by the workforce shortage impacting all sectors in Vermont, and many report that a lack of employees with the required skills is holding back their production and planned growth. In order to sustain the expansion of Vermont's agricultural economy, existing workforce solutions must be adapted for the unique needs of farms and food system businesses. Simultaneously, despite the overall workforce shortage in the state, individuals living in Vermont often have difficulty finding careers that provide a livable wage, and need greater access to training and employment resources. Preserving the local food system as a viable economic driver requires workforce solutions that benefit both employees and employers.

NOTE: This brief reflects conditions before the economic crisis brought on by the COVID-19 pandemic.

Current Conditions

Vermont's declining population and low unemployment rate result in heightened competition for available workers, especially those with mid-level management experience or specific high-demand technical skills. At the same time, potential employees may be interested in certain jobs but unable to accept them if the wages are too low relative to Vermont's cost of living and/or their debt burden from student loans.

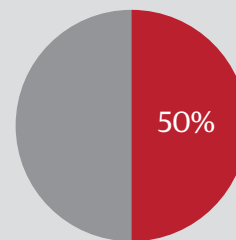
Vermont's workforce shortage severely limits the viability and growth of businesses of all sizes. Many food system businesses report that a lack of employees is holding their businesses back.³ In some cases, businesses are able to find employees, but high turnover rates increase training expenses and reduce productivity.

Food system businesses compete with businesses in other sectors for their workforce needs and are often at a disadvantage. Farms, and many other food system businesses, typically have at least some seasonal positions, which present a disadvantage in attracting employees compared to year-round work. Most farms are located away from population centers, creating a serious barrier for jobseekers who cannot afford their own vehicle, and a deterrent even for those who can. Where public transportation does exist, it is often based on the nine-to-five workday and does not operate during hours appropriate for food system workplaces such as farms, bakeries, and restaurants.

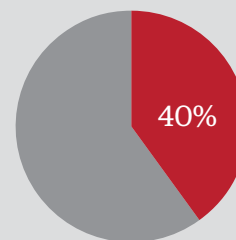
Employers and educators report a mismatch between food system job duties and prevailing cultural beliefs about what makes a good career. Many job seekers are inexperienced or unenthusiastic about the manual labor required on farms and in many other food system

workplaces. There is also a shortage of basic work readiness skills in the Vermont workforce, impacting employers in all sectors. And many food system positions require technical skills that few potential employees possess (e.g., food safety quality assurance) or that potential employees do not associate with food system careers (e.g., commercial driver's license).

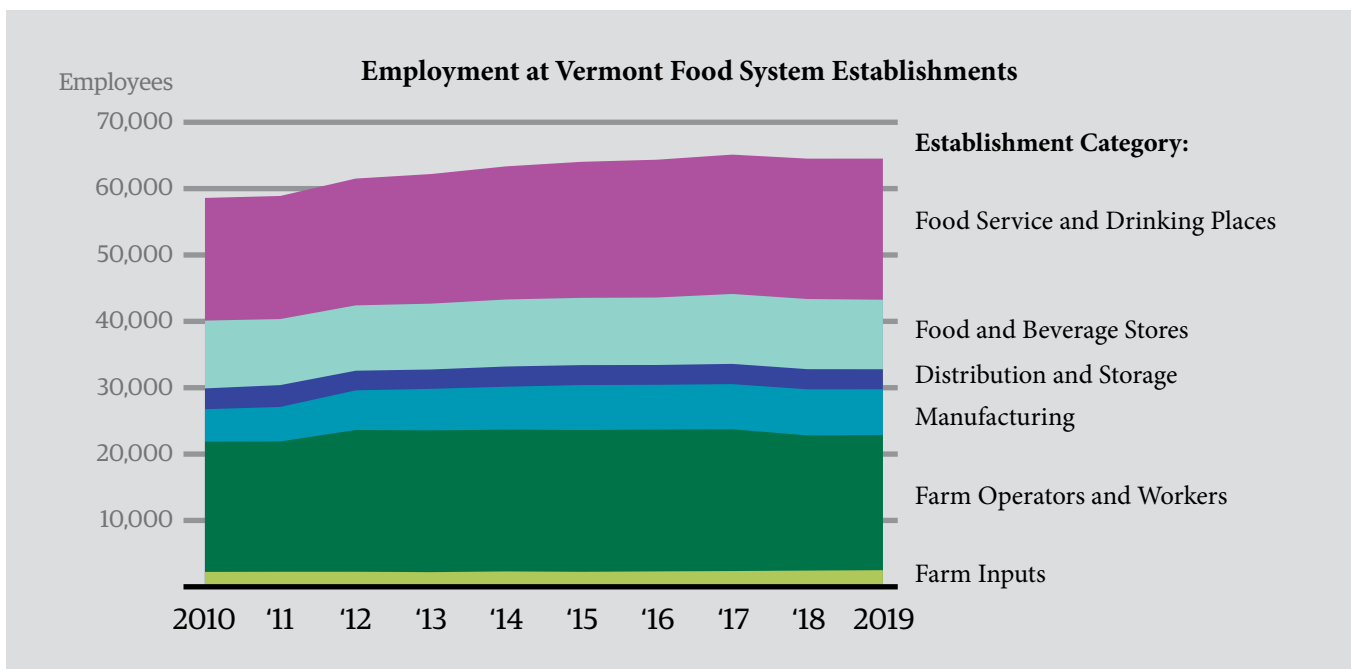
Labor Shortages in the Vermont Food System



50% of food system employers with over 20 full time employees say hiring challenges hold back their businesses (2013).



40% of food system employers with fewer than 20 full time employees say hiring challenges hold back their businesses (2013).



Meeting Employer Needs

Current Conditions

While many businesses are engaged in long-term workforce development efforts, they also need immediate solutions. Short-term approaches include competing against other businesses more effectively, addressing the logistical barriers that prevent potential employees from accepting employment, and accessing a variety of labor pools, including immigrant labor. An estimated 1,000-1,200 immigrants (documented and undocumented) and 425 people on H-2A visas (which can only be issued if the employer is unable to find local workers) currently perform a significant portion of agricultural work in the state, both seasonally and year-round.⁴

Bottlenecks & Gaps

- Food system businesses are often unable to compete against the wages and benefits offered in other sectors.
- Many of the existing logistical solutions available to Vermont employers are difficult or inefficient with a small number of employees (e.g., company vanpools).
- There is increasing in-state and national competition for established H-2A farm workers, who are also aging out of the workforce and not being replaced by younger applicants.
- Workforce-sharing with businesses with opposite seasonality holds promise (e.g., ski resorts), but some seasonal sectors overlap with agricultural needs in the spring and fall (e.g., education).
- Vermont has a large and active workforce-development service provider network, but many of these professionals are not fully aware of the specific concerns and solutions applicable to food system businesses, especially farms.

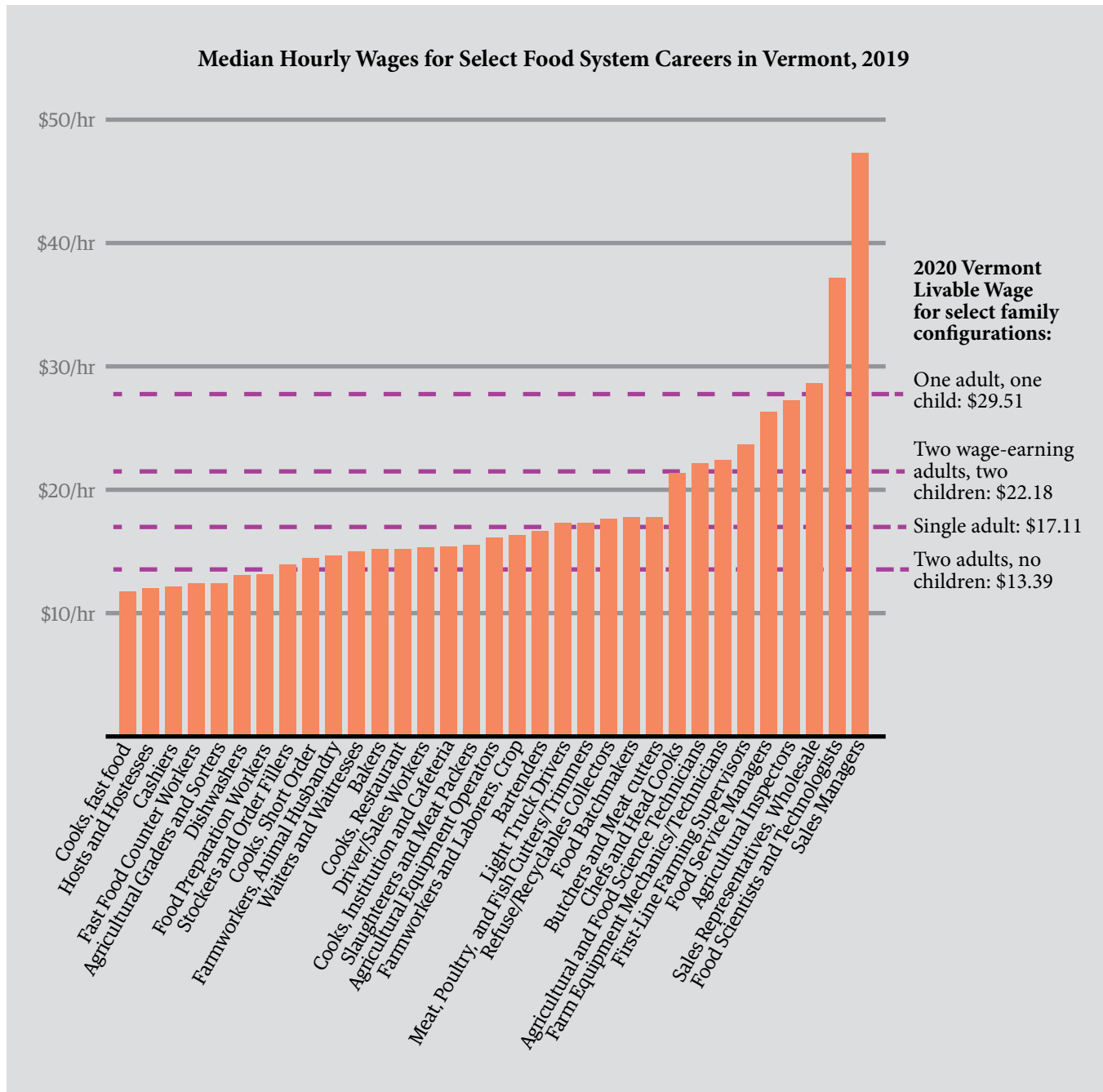
Opportunities

- Food system businesses have a tradition of collaboration, which they are already leveraging to address workforce challenges. Trade associations could play a role in increasing awareness of food system careers as well as implementing logistical solutions.
- Many food system jobs require technical skills that are not food-specific (e.g., HVAC installation). Strategic outreach to workers in related sectors could reach new pools of employees, and it may be feasible to collaborate or seasonally job-share with businesses in other sectors.
- Employers may be able to help when potential employees face logistical barriers to work, for example by providing vanpools or creating work shifts which consider school schedules.
- There are promising state and local efforts to reach marginalized and overlooked local labor pools, including formerly incarcerated Vermont residents, individuals with disabilities, and retirees interested in returning to work.

Wages and Workplace Conditions

Current Conditions

Offering competitive wages, benefits, and/or “quality-of-life benefits” are the most effective ways food sector businesses can attract and retain employees. Like all businesses in a tight labor market, in order to successfully compete for employees they cannot rely on offering the legal minimum wage but must instead offer the “prevailing minimum wage,” matching the wages offered by national chains and by other comparable sectors. As in any sector, intangible workplace conditions like a welcoming atmosphere can be a selling point or a breaking point; employers with poor interpersonal skills may be especially hard-pressed to find employees. Farm and food businesses also operate under specific labor laws which in some ways are beneficial to the business but in other ways restrict their flexibility or negatively impact their employees (see [Poultry brief](#), [Meat Slaughter, Processing, and Products brief](#).)



Bottlenecks & Gaps

- Low wages and unhealthy or unpleasant workplace conditions are frequently identified as a severe problem in the restaurant industry and in agriculture. These may be especially experienced by disadvantaged groups including racial minorities (see *Racial Equity in the Vermont Food System* brief), undocumented immigrants, individuals with disabilities, and women.
- The high costs of housing, transportation, health care, and child care, and the prevalence of student debt, increase the “livable wage” that a potential employee needs to receive.
- Many food system businesses have a slim profit margin and cannot raise prices while remaining competitive. This hinders their ability to raise wages and attract employees.
- Enforcing fair labor standards in U.S. agriculture, in particular, is complicated by the exemptions from labor law that farms receive, because undocumented immigrant workers have less social support, resources, and legal recourse than documented workers, and by structural racism.

Opportunities

- There are Vermont businesses which factor the cost of employee turnover into their financial planning and are thus able to provide higher wages and/or benefits (e.g., paid sick days).
- There are Vermont farms which attract and retain workers by offering creative benefits, including free or discounted food, access to training and career development, or allowing employees to have an independent enterprise of their own on the farm property.
- Farm and food business viability assistance could include coaching on ways to increase wages and become much more competitive as an employer. This in turn could lead to less turnover and reduced training costs, providing additional financial benefit to the farm in the long term.
- Voluntary certification programs like Milk with Dignity and the Caring Dairy Program, which provide producers with a premium in exchange for fair labor standards, can help farms provide a fair wage and dignified working conditions.

Pathways for Employees

Current Conditions

Wages and logistics often determine whether a jobseeker can accept a particular job opportunity. However, workforce development begins long before the job offer, when people become aware of particular careers and develop an interest in pursuing them. An interested person must then be able to identify necessary skills for that career—both basic work-readiness skills and specific technical skills—and affordably acquire them.

Vermont organizations offer a growing number of opportunities to learn about food system careers and gain the skills necessary to succeed in them. Programs like 4-H and Future Farmers of America and educational initiatives such as Proficiency Based Learning, Personalized Learning Plans, and Flexible Pathways allow agricultural learning within the traditional high school system. Vermont’s 16 Career and Technical Education (CTE) schools remain one of the best ways for teenagers to access agricultural education. Opportunities after high school are also increasing, both within colleges and continuing education/short courses.

- **61%** of all Vermont K-12 schools have Farm to School curriculum integration and provide hands-on learning activities.
- UVM Extension youth programming reaches over **7,300** youth, including **1,400** youth in Vermont 4-H programs.
- Of Vermont Technical College graduates in Agriculture, Plant and Animal Science, **74%** are employed, and **24%** are enrolled in continuing education.



Bottlenecks & Gaps

- Efforts to increase interest among young people are often hampered by exclusion of agricultural careers from career guidance resources, an educational culture that prioritizes desk careers, and parental concerns about the viability of agricultural careers for their children.
- Many food-system employers are interested in working directly with students (in the classroom or through on-site experiential opportunities) but do not have the time and resources to do so.
- Vermont's educational funding model ties funding to each individual student. This disincentivizes high schools from encouraging their students who might be interested in agricultural education to enroll in a CTE school (see *Agricultural Literacy: K-12* brief).
- Innovative experiential programs may not be accessible to low-income or otherwise disadvantaged young people. For example, participating in worksite placements for credit requires access to transportation, and post-high school opportunities require the financial resources for program fees and living expenses while the student is un- or under-employed.

Opportunities

- Millennials and Generation Z value meaningful work, and many are drawn to agriculture, caring for animals, feeding their neighbors, working outdoors, or some other aspect of food system work.
- There are national models for alternative credentials and programs that allow an employee to earn an income while developing skills, or to engage with higher education in a more flexible way. These models include apprenticeships, “stackable” credentials (credentials that build towards a degree but have value individually and can be completed at a flexible pace), and workplace training programs.
- Many farms and food system businesses work closely with educators in their community to increase agricultural literacy, through Farm to School programming and other efforts which can be expanded.

Recommendations

- Workforce support organizations and trade associations should develop a model for sharing services between food system businesses of different sizes. This could improve the efficacy of short-term strategies for filling immediate labor needs (e.g., transportation assistance and seasonal workforce matching) and provide collective employment benefits (e.g., paid sick leave) as well as shared services (e.g., human resources).
- Develop additional affordable and accessible training programs such as apprenticeships, certificates, stackable credentials, and concurrent degrees. Much of this work can be done by individual educational institutions, for example by Vermont Technical College.
- Train farm and food business advisors to assist their clients with evaluating the cost of turnover and labor shortages and budgeting for the level of compensation needed to attract and retain workers.
- Vermont Agency of Transportation, Regional Planning Commissions, Regional Development Corporations, regional transportation providers, and food system business representatives (e.g., trade associations) should convene annually to identify appropriate solutions for overcoming transportation barriers specific to the food system workforce.
- Farm to Plate Network members, Vermont food system employers, and the Vermont congressional delegation should collaborate to identify adjustments to labor and immigration law that would improve both employers' ability to hire immigrants as well as workplace conditions and wages for those workers.
- Support efforts by Vermont's Career and Technical Education community to redesign the state educational funding model so that CTEs have independent funding streams and budgets and are not in competition with sending schools.



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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE: Land Use Planning

What's At Stake?

Land use planning is an important tool for aligning settlement patterns and natural resource management with Vermont residents' values. Community-level plans and policies affect many concrete land management and development decisions in Vermont. It is difficult to support farm viability without intentional local and regional land use policies that preserve agricultural land, and without a culture that values the services and economic opportunities provided by the natural resource. Land use policies are living documents, and economic, demographic, and geographic shifts call for a thorough updating of existing plans and policies. Communities empowered to directly engage with the food and agriculture community, and to proactively plan for transitions happening beyond municipal borders, will both protect our existing agricultural land base and increase economic opportunity throughout the whole food system, including processing and distribution, market development, and food access.

Current Conditions

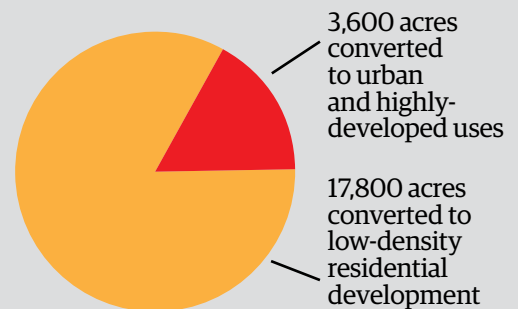
Vermont is divided among 11 regional planning commissions (RPCs), each with a regional land use plan, and as of 2017, 84% of Vermont municipalities had also adopted a municipal plan.¹ State planning statutes require regional and municipal plans to include a land-use map and policies for preservation of natural and scenic resources, as well as sections on other topics related to the food system such as economic development, flood resilience, housing, and transportation. RPC staff also encourage municipalities to include food access considerations in their plans.

Land use planning is a highly effective (and cost-efficient) form of farmland preservation, and includes an array of regulatory tools such as zoning, conservation subdivision design, and overlay districts. State-level review of proposed development under Act 250 requires conformance with local and regional plans, which gives these plans additional legal weight when Act 250 is triggered. However, Act 250 is not itself a statewide land use plan, and many developments are designed to avoid triggering Act 250 jurisdiction, leaving local policies as the only regulatory oversight.

A tendency in traditional planning to characterize farmland as "open space" can diminish the understanding of farms as businesses and downplay the importance of supporting farms through economic development initiatives as well as land preservation. However, there are mechanisms by which planning can support the agricultural economy. For example, a local food economy depends on adequate aggregation and processing infrastructure, which depends upon not only development regulations but also utilities such as water and wastewater processing, all within the purview of planning.

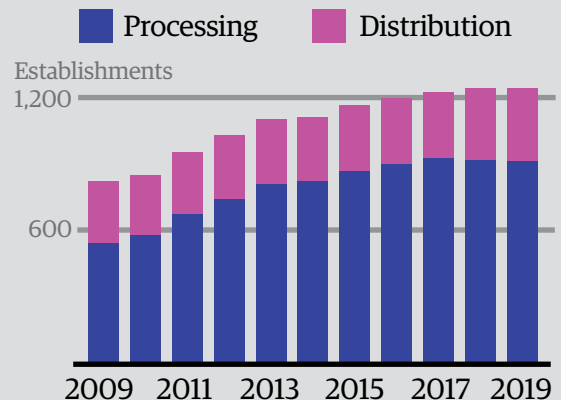
Planning is also an important and increasingly utilized tool for improving food access at several points in the supply chain. For example, food access is dependent upon food retailers. The location of these retailers can be influenced by zoning regulations or development incentives, or location challenges can be mitigated through better transportation planning (see *Food Security* brief.)

From 2001-2016, approximately 21,400 acres of Vermont farmland were compromised by development.



Vermont Food Manufacturing, Storage, and Wholesale Distribution Establishments

The growth in Vermont's food system over the past decade has required an increase in processing and distribution infrastructure, and additional capacity will be needed if this growth is to continue.



Bottlenecks & Gaps

- Most existing zoning relies on minimum lot size requirements, which do not preserve farmland from low-density residential development and can actually lead to greater loss of farmland as housing units are forced to spread out over a larger acreage.
- Much of the farmland currently protected by planning and conservation efforts is located along waterways. Additional land must be protected to provide an adequate land base in the face of increased erosion and flooding and other impacts of climate change ([see Climate Change brief](#)).
- The regulatory framework for accessory on-farm businesses (e.g., paid farm stays) is confusing; these are often essential for maintaining farm viability and can be regulated by municipalities.
- Land use tools for protecting farmland can overly restrict development of agricultural workforce housing, processing and distribution infrastructure, and retail venues.
- Volunteer planners may feel disempowered or lack information on how to support the local food system.

Opportunities

- Criterion 9(B) of Act 250 is a strong tool in Vermont law that ensures that development within its jurisdiction maintains the agricultural potential of Vermont's important farmland and which can be leveraged in conjunction with local plans.
- RPCs and other planning entities can provide resources — including expertise and funding — to municipalities for strategic planning around the food system.
- Many Vermonters value the aesthetic, economic, environmental, cultural, and culinary contributions of farm businesses, and most local planning commissions are supportive of preserving the working landscape.
- Land use planning frameworks that incorporate economic development principles, such as “smart growth” and “placemaking” frameworks, can be leveraged to support food system considerations.
- Existing geographic research data, if aggregated and made widely available, would enable local land use planning to incorporate a greater understanding of both local conditions and the wider food system (e.g., mapping of geographic barriers to food retail stores).

Recommendations

- Create a new position at the Agency of Agriculture, Food and Markets or Agency of Commerce and Community Development (ACCD), to develop and disseminate resources and trainings on agricultural economic development and its role in farmland conservation, best practices for municipal support of agricultural facilities (e.g., slaughterhouses), and best practices for creating housing within agricultural districts. Cost: 1 FTE \$125,000 per year; \$50,000 for resources development and training.
- Map Vermont's agricultural land base and production capacity, including geographic data about predicted climate change impacts, aggregation and distribution infrastructure, and regional dietary needs. Disseminate this information to communities to help inform land use decisions and prioritize use of state funding and incentives. Potential partners include UVM, the Vermont Center for Geographic Information, and the Natural Resources Conservation Service. Cost: \$250,000 over 2 years.
- Create a permit specialist or ombudsperson position to assist farm businesses in navigating municipal and state land use permitting requirements, especially regarding on-farm accessory businesses and farm employee housing. Cost: 1 FTE: \$100,000 per year (potentially as part-time positions in multiple regions).
- Provide trainings for local and regional planners to educate landowners about climate change mitigation and adaptation strategies that minimize land loss. As a first step, the Vermont Association of Planning Districts and Development Agencies and the Vermont State Conservation Districts should convene to assess what is already being done and how to increase this capacity within the planning community.
- Fund ACCD to include agricultural stakeholders in its smart growth and downtown development programs (e.g., the Better Places program). Cost: \$25,000 per year minimum.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE: Marketing

What's At Stake?

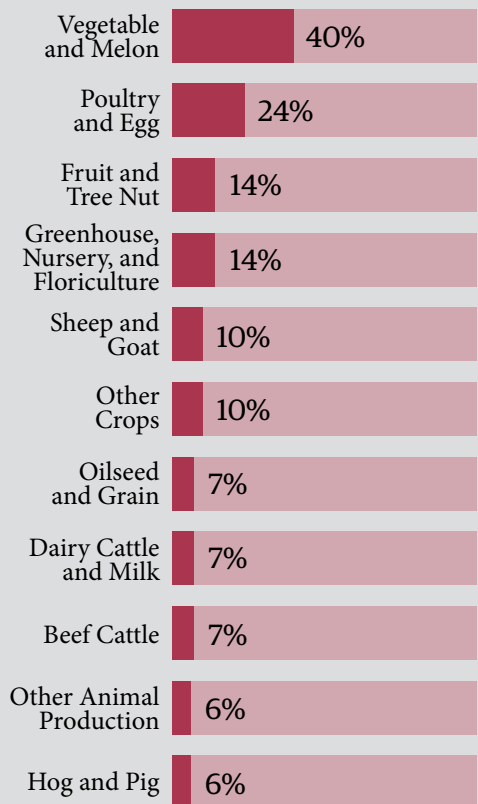
Over the past 20 years, the local food category evolved from an emerging to a maturing market. In a mature market, the rate of growth for the category slows, and while the overall size of the category is larger, increased competition threatens individual market share. This requires enterprises, in this case Vermont farms and food producers, to invest in more strategic, responsive marketing or be left behind. To address these challenges, local food producers must become proficient in leveraging their “marketing mix” to drive sales. A “marketing mix” is defined by marketing professionals as the seven P’s: product, price, place, promotion, people, processes, and physical evidence.¹

Current Conditions

Over the past 20 years, with the exception of fluid milk and a few value-added products, Vermont-produced food has been shifting from primarily direct-to-consumer sales (e.g., farmers markets and community supported agriculture) to direct-to-retail sales (e.g., self-delivery to stores and restaurants) and distributor-serviced wholesale. As demand for “local” food has grown, so has the number of producers striving to fulfill this need. This has led to reduced market share for many, the outright demise of several, and expansion and consolidation for a few. To succeed in this environment producers need to be nimble and business-savvy, and invest in marketing.

In a direct-to-consumer setting, producers are often interacting with the consumer and can “sell” the product, tell their story, and develop a personal relationship. This direct relationship is a powerful marketing tool and can simplify the marketing mix, requiring primarily an investment in human capital. In retail and distribution sales, the producer and end user become distanced from one another. This distance requires the producer to augment relational marketing with marketing mix tactics that support the product’s ability to sell itself (e.g., an eye-catching label, price, and packaging), as well as promotion to build brand awareness (e.g., paid advertising and a strong online presence).

Percent of Farms in 2017 with Sales Direct to Retail Markets, Institutions, and Food Hubs, by Farm Type



“We aren’t looking for new vendors so much as expanding the volume from current vendors. If you want to come knocking on my door what’s your niche – what’s your in? I’ve already got all these other growers. What do you bring that they don’t have?” - Nathan Daniels, Produce Purchaser New England, Albert’s.²

A “marketing mix” is defined by marketing professionals as the Seven P’s:

- Product: product design, recipe, ingredients, packaging, production practices.
- Price: suggested retail price, price to distributor or wholesaler, margins.
- Placement: market channel, geography, shelf placement.
- Promotion: paid advertising, merchandising, events, social media, public relations, point of sale.
- People: sales representatives, customer service representatives, brokers, delivery staff, office staff, warehouse staff.
- Processes: production, sales, order fulfillment, distribution, inventory management.
- Physical Evidence: tangible goods received or services rendered, physical invoices, physical places of business, retail locations, internet presence.



Product, Price, and Promotion

Current Conditions

“Local” is a product feature. As this feature becomes ubiquitous, its value decreases. Local food producers increasingly need to innovate, be it expanding product lines or adding value with new production methods (e.g., “gluten-free”), to extend premium, product, and brand life cycle. Producers can also become more efficient to absorb downward price pressure. However, the cost of production in Vermont remains higher than in many parts of the country even as many Vermont producers strive for optimal efficiency.

Bottlenecks & Gaps

- Investing in promotion and branding is essential to building brand loyalty and price resiliency, but adds time and expense.
- Regional aggregators, distributors, and retail chains may each have different standard specifications for products and producers.
- Retail product placement will impact sales velocity and may increase marketing costs.
- Promotion and branding costs can compound the price discrepancy for Vermont producers competing in price-driven wholesale environments.

Opportunities

- Brand audits can help producers identify opportunities to refine their message, product, promotion, and packaging to better achieve their sales goals.
- Guerilla marketing tactics (i.e., using surprise and/or unconventional interactions) can be an affordable way to establish direct contact with customers.
- Producers who do not have the time, inclination, or interest in doing their own marketing to achieve their sales goals can hire marketing professionals.³

Placement

Current Conditions

Whether it be attending a sufficiently populated farmers market, gaining placement into a particular retail store or distributor catalog, or getting placed at eye level on a shelf, placement can be a determining factor in a product or brand's longevity because placement directly correlates to market access and sales velocity. Increasingly, producers, retailers, and distributors are expressing market saturation and recommend a producer have something new, unique, or different to offer, or be able to succinctly express why they are better than the buyer's current supplier.

Bottlenecks & Gaps

- Direct sales locations may be self-limiting regardless of costly marketing investments (e.g, a roadside stand on a remote dirt road).
- Producers may need to invest in a broker to gain a retail buyer's attention. Brokers can be expensive and may limit who they work with.
- Direct-to-retail and distributor-to-retail sales add distribution costs and logistics, which can be complex and require new skills and knowledge (see [*Distribution brief*](#)).

Opportunities

- In a direct-to-consumer channel, incorporating entertainment and recreation can be a successful placement improvement.
- Creative point-of-sale and packaging materials can attract attention to a product even if placement is poor.
- Marketing that explains what makes a product truly unique can assist with placement barriers.
- Being first to market with opportunities or filling gaps that exist in the market has been a successful tactic for Vermont producers.

People, Processes, and Physical Evidence

Current Conditions

Having the people, processes, and physical evidence in place to support sales helps establish a competitive edge. People include everyone from production to sales and marketing, office staff, management, and supply chain partners. Processes include standard operating procedures, safety protocols, training manuals, and a written business, sales, and marketing plan. The people and processes ensure an efficient, well managed operation which leads to repeatable customer experiences. Physical evidence such as the curb appeal of a front office or production facility, the presence of a website, or the tactile nature of a printed invoice lend credibility. These all build consumer and/or buyer confidence.

Bottlenecks & Gaps

- Investing in adequate people and processes to support the needs of the business and meet the needs of the customers can often be cost prohibitive, exceeding the producers' profitability during growth periods and even at scale.
- Often producers do not tie marketing strategies and budget to measurable goals and objectives, measure performance regularly to assess impact, or update the plan as needed following review and analysis.

Opportunities

- Certifications such as Good Agricultural Practices (GAP), Good Manufacturing Practices (GMP), and Hazard Analysis Critical Control Point (HACCP) may help producers access new markets.
- When businesses create and adhere to written standard operating procedures, it can improve employee retention, employee training, production efficiency, product quality, owner stress, and customer relations.
- The Farm to Plate Producer-Distributor Database is a process-driven tool that can introduce local producers to retailers and distributors.

Summary

With market saturation at every level from farmers markets to retail settings, local producers must increasingly invest in their marketing mix—product, price, promotion, place, people, process, and physical evidence—to survive and thrive.

Recommendations

- Provide annual funding for marketing and graphic design consultants to assist Vermont producers with messaging, branding, packaging, point of sale, and social media. Cost: \$50,000 per year, 10 producers annually.
- Provide \$500,000 in annual state funding for a collaborative statewide marketing and consumer messaging campaign focusing on buy local, direct-to-consumer sales, and reinforcing the value in the premium paid for local products. “Get Cultured in Vermont” (a collaboration between the Vermont Department of Tourism and Cabot Cheese) is an example.
- Provide grants for local food producers and service providers to attend national sales and marketing industry events, such as the Natural and Specialty Foods Sales Manager seminar. This will increase exposure to industry norms and trends, and help attendees engage with regional and national buyers, distributors, brokers, senior management, and industry professionals. Cost: \$5,000 per year.
- Develop a technical assistance and mentorship program focused on the seven P’s of marketing: Product, Price, Promotion, Placement, People, Processes, and Physical Evidence. Content should include cost of production, margins, market channels, distribution, brokers and contract sales, branding, push and pull marketing, customer service, customer retention, and consumer confidence. Program should be a cohort model, to foster peer-to-peer engagement. An existing Vermont technical assistance provider could adopt such a program, with additional funding from the Working Lands Enterprise Initiative or other state funding opportunity. Estimated cost: \$25,000 per year, 15 producers annually.
- Create three Vermont marketing broker positions to develop the regional market for a strategic catalog of Vermont products. The brokers would pilot a three-year program, identifying and developing top market channel opportunities within three target urban centers in the Northeast. Cost: \$600,000 over three years.



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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE:

Payment for Ecosystem Services

What's At Stake?

Ecosystem services are the “ecosystem functions that are useful to humans.”¹ Agricultural landscapes in Vermont can be managed to enhance ecosystem services such as nutrient cycling, climate regulation, biodiversity, and cultural identity. Compensating farmers for providing these additional benefits to society beyond food production via a payment for ecosystem services (PES) program would financially recognize farmers’ contributions to meeting pressing environmental goals such as the Lake Champlain Basin Total Maximum Daily Load plan, greenhouse gas emissions reductions, and flood resilience, and also enhance the viability of farms committed to environmental stewardship. However, creating a viable PES program to make transformative change will require policy and regulatory changes and new sources of capital, as well as technological, programmatic, and market developments that do not currently exist.

Current Conditions

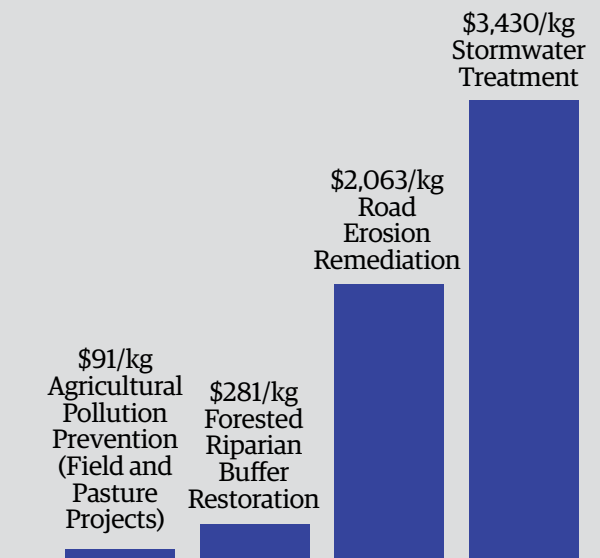
A payment for ecosystem services program is premised on the idea that actions to improve or sustain ecosystem services should be economically quantified and rewarded. Farmers and conservationists in Vermont see PES as an innovative tool to enhance ecological stewardship and complement existing conservation incentive programs available to farmers. Current conservation programs typically solve environmental concerns by paying farmers for the implementation cost of discrete, prescriptive practices, as do most U.S. PES programs (e.g., the Conservation Reserve Program).² Farmers in Vermont are interested in developing a PES program which instead pays for performance, as an opportunity to receive payment for services provided, learn more about the specific ecological impacts of management changes on their farmland, and recognize and reward the initiative, ingenuity, and know-how of farmers who have already invested in conservation practices.³ A PES program in Vermont would make payment contingent on the steady provision of services such as water purification, flood mitigation, aquifer recharge, erosion control, and biodiversity.

Due to the initiative of farmer-led Watershed Coalitions and UVM Extension, in 2019 the Vermont Legislature established a Soil Conservation Practices and Payment for Ecosystem Services Working Group, which focused on soil health as the foundation to multiple ecosystem services. Designing a PES program which balances the goals and needs of all stakeholders is challenging. Multiple efforts are underway to determine what to measure, how to measure, how to structure payments, and how to balance efficiency with fairness, while allowing farmers the flexibility to innovate and adapt.

Adoption of agricultural best management practices across the state of Vermont could sequester 50,000 metric tons of CO₂ per year.

Vermont’s agricultural conservation programs are the most cost-effective effort to reduce phosphorus in state water bodies.

Median Cost to State per kg of Phosphorus Reduced by Various Water Quality Project Types



Bottlenecks & Gaps

- Scientific research has established strong and reliable links between soil health and many ecosystem services, but the relationship between soil health and water-nutrient pathways requires more research.
- Farmers, researchers, and technical advisors need to build consensus on how to quantify performance of ecosystem service provisioning.
- It is unclear what payment scheme will best achieve balance between rewarding farmers already invested in conservation, and making greater environmental gains.
- Reliable and long-term private and/or public funding sources need to be identified.
- The costs, logistics, and best entity to administer a PES program are all unclear, and stakeholders may not agree on the path forward.

Opportunities

- There are existing and emerging technologies that can be modified or utilized to measure performance and outcomes.
- Improving ecosystem services can reduce future costs for individuals, municipalities, and the state, through reducing the severity of flood risk, reducing nutrient loading into surface waters, and slowing the pace of climatic change. These avoided costs can be estimated, and it is often more economical to invest in ecosystem services preemptively.
- Existing public funding could support a pilot PES effort in Vermont. Strong interest across the country in PES may lead to private markets and funding for ecosystem services more broadly.
- The Vermont Environmental Stewardship Program (VESP) has enrolled several farmers and can be used to educate, engage, and prepare farmers for a future PES approach.

Recommendations

(These recommendations are based on the multi-stakeholder PES Working Group report.)

- Continue to support the Payment for Ecosystem Services Working Group, which is poised to be a central point of coordination and connection among the many needed research and design efforts. These efforts should focus on PES approaches that regrow or sustain Vermont's natural resource base so that it provides at least three ecosystem services: water quality, flood resilience, and climate stability. Estimated cost: \$90,000.
- Undertake an evidence-based review of existing research on soil health, to advance understanding of soil health and the services it provides. Research by what metrics soil health should be measured, and identify the ecosystem services that arise from those metrics. To be led by UVM. Estimated cost: \$30,000.
- Fund independent research to review, evaluate, and compare existing tools for PES monitoring and modeling which could be used in Vermont. Then, identify, describe, and provide an initial evaluation of new and emerging technologies and programs for measuring and monitoring ecosystem services. Potentially performed by UVM. Estimated cost: \$30,000.
- Based on the research reviews noted above, prepare a Request for Proposals for the development of a specific tool to quantify multiple ecosystem services from Vermont farms, which draws on real-time data and monitoring to pay farmers for producing clear, measurable outputs. Estimated cost: \$250,000.
- Expand the Vermont Environmental Stewardship Program (VESP) to provide farmer participation stipends for benchmarking and education. Estimated cost \$50,000.
- Sustain funding for existing programs which enable farmers to invest in the management changes that lead to increased ecosystem services. This includes cost sharing, grants, technical assistance, education, easements, and the Current Use tax incentive.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE:

Racial Equity in the Vermont Food System

What's At Stake?

Vermont must work towards racial equity in its food system in order to make the food system truly sustainable for everyone. Equity is “the condition that would be achieved when a person’s race... is no longer predictive of that person’s life outcomes.”¹ While food and agriculture can be a source of justice and equity for Black, Indigenous, People of Color (BIPOC) communities, the Vermont food system is built on hundreds of years of marginalization and inequity. As a result, BIPOC communities experience entrenched and varied challenges throughout the food system. Vermont must build racial equity into all areas of its food system, including processes, structures, initiatives, and practices. Creating a truly sustainable local food system requires more equitable solutions developed by and for BIPOC communities.

Current Conditions

Inequities exist throughout Vermont’s food system, from land and farming to food security, the workforce, and beyond. Some of these inequities are rooted in the history and policies that shaped the US food system, which was built on land taken from Indigenous people and further developed with the forced labor of enslaved Black people. Indigenous people, primarily Abenaki, are the original land stewards here and have grown crops, hunted, gathered, and fished across present-day Vermont for over 10,000 years. Europeans brought foreign diseases, waged war, took land, and led the eugenics movement, leading to a significantly reduced and marginalized Abenaki population with little access to their unceded ancestral lands.

Vermont is heralded as the first state to abolish slavery (1777), but the ban only applied to Black individuals over age 21, allowing enslavement of Black youth for another 30 years. Today, many Black people in Vermont—both multi-generation Vermonters and newer community members—still experience marginalization in access to farmland, capital, services, fair wages, food, and other areas of the food system.

Since the 1990s, Latinx farmworkers have supported Vermont’s dairy industry and agricultural economy, but some individuals work under unsafe conditions, with low wages, and/or without full payment. Some Latinx farmworkers lack access to basic human needs like safe housing, health care, and culturally relevant foods.²

The retention and recruitment of BIPOC living, working, and thriving in the state is critical for Vermont’s future.³ It is also crucial that Vermont’s food system acknowledge the significant economic impact of BIPOC in the state—through farming, food, labor, entrepreneurship, innovation, and more. This brief focuses on racial equity in three areas of the Vermont food system: farming

success, food security, and the workforce. There are many other fundamental areas of the food system that must be addressed. Ultimately, more focus, financial support, and effort is necessary to conduct a thorough evaluation of the state of racial equity in the Vermont food system and to develop an equitable path forward.

Glossary of Terms

It is important to note that language and terminology are constantly evolving. Being adaptable and using language preferred by communities of different identities is vital to being inclusive and more equitable.

- **BIPOC:** an acronym for Black, Indigenous, People of Color, used both as an adjective and a proper noun. This term is considered more inclusive than People of Color alone, and reflects our varied experiences of oppression and marginalization.
- **Food sovereignty:** “Food sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems.”⁴
- **Latinx:** a gender-neutral term for individuals from Latin America or of Latin American descent.
- **Structural racism:** the normalization and legitimization of an array of dynamics—historical, cultural, institutional and interpersonal—that routinely advantage white people while producing cumulative and chronic adverse outcomes for BIPOC communities. See *Report of the Vermont Racial Equity Task Force* definition.
- **Unceded lands:** land that was never willingly handed over or legally signed away.

Farming Success

Current Conditions

Supporting BIPOC farmers is a key part of achieving racial equity in the Vermont food system, because viable farms are the foundation of a robust and resilient agricultural economy. To establish and grow a farm business requires affordable farmland, access to business networks (e.g., service providers and purchasing managers), flexible capital, and more (see *Supporting Future Farmers* brief). BIPOC farmers may face challenges accessing these resources due to bias, language and cultural barriers, loan refusals, and other aspects of structural racism.

Characteristics of Vermont Producers and Farms by Ethnicity and Race, 2017

	Hispanic	American Indian or Alaska Native	Asian	Black	Native Hawaiian or Pacific Islander	White
Producers						
Number	124	90	32	36	15	12,245
Average Age	50.2	55.3	42.8	47.1	48.1	55.9
Farms						
Number	108	73	29	36	13	6,797
Average Size (acres)	168	144	62	183	110	175
Average Total Value of Production	\$142,806	\$58,260	Not Available	Not Available	\$13,538	\$114,872

Vermont producers are overwhelmingly white (97.7%) and operate approximately 99% of the land in farms according to the 2017 US Census of Agriculture. Only 2.3% of producers on Vermont farms identified as BIPOC.⁵ This is below the 6% of BIPOC farmers in New England as a whole, and the 4.87% nationally.

Bottlenecks & Gaps

- Many BIPOC farmers are young, beginning farmers renting small parcels and do not own farmland or have a farming background.⁶
- BIPOC may not have access to personal savings, conventional agricultural credit, or alternative capital.
- The diverse aspirations, needs, and strengths of BIPOC farmers may not be well understood by service providers and policymakers.
- Farm services and support do not always reach BIPOC farmers and may not be well-matched to their needs.

Opportunities

- Farm service provider position(s) focused on BIPOC and located at BIPOC-run Vermont food system organizations would go far toward supporting BIPOC farmers.
- Farm viability programs can diversify their workforce, deepen competencies and relationships, and better align with and leverage the goals and strengths of BIPOC farmers and BIPOC-led groups.
- Alternative farmland access methods and farm financing mechanisms exist that may further support BIPOC farming opportunities and success.

Food Security

Current Conditions

Minimal data currently exists about food insecurity rates by race in Vermont. Federal nutrition assistance programs have immigration status requirements that may limit access to nutrition assistance for many new Americans. Black and Indigenous communities in Vermont are more likely to have higher rates of overweight/obesity than other races, and may face higher rates of other chronic diseases, in alignment with national data.⁷ Latinx migrant farmworkers experience higher rates of food insecurity than the state average.⁸

Bottlenecks & Gaps

- Limited outreach and support, stigmatization, and language barriers can restrict BIPOC access to nutrition assistance programs.
- A one-size-fits-all approach to increasing food security does not effectively reach all under-resourced BIPOC communities.
- Abenaki food sovereignty initiatives face land access barriers and limited funding support.
- Latinx farmworkers' access to food may be constrained by transportation barriers, hypervisibility yet isolation, and fear of border patrol agents.⁹

Opportunities

- Indigenous food sovereignty projects which advocate for hunting and fishing rights, and partner with institutions to grow ancestral crops, can be built upon with funding and staffing resources.
- Training, education, and a more racially diverse workforce could help service providers serve BIPOC constituents.
- Programs that distribute culturally relevant food and ensure good wages and living conditions for Latinx farmworkers can be expanded and better funded.

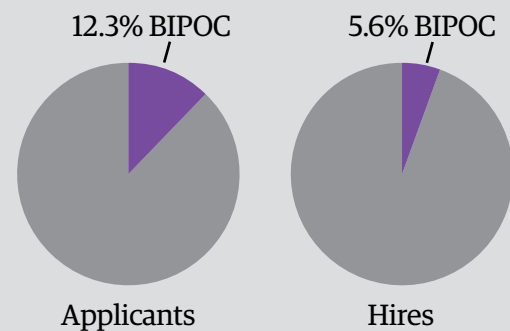
BIPOC in the Workforce

Current Conditions

A precise picture of the current conditions for the BIPOC labor force in Vermont is not evident at this time. A recently released report reveals some data on race for employees of the State of Vermont (Vermont's largest employer).¹⁰ A similar effort is needed to collect employment data across Vermont and thoroughly evaluate racial equity in the workplace. Vermont must act on the current workforce crisis (see [Labor and Workforce brief](#)) and navigate the opportunity to welcome racially diverse people into Vermont.

Nationally, the U.S. grew by **19.5 million** people between 2010-2019, a growth rate of **6.3%**. While the white population declined by a fraction of a percent, Latinx/Hispanic, Asian American, and Black populations grew by rates of **20%**, **29%**, and **8.5%** respectively.

State of Vermont Applicants and Hires
In FY 2019, BIPOC comprised 12.3% of State of Vermont job applicants, but only made up 5.6% of hires.



Bottlenecks & Gaps

- BIPOC are seldom involved in Vermont food-system decision-making opportunities and leadership roles related to program development, funding, and legislation.
- In light of the national climate around racial (in)equity, many BIPOC fear local adverse safety repercussions.
- Attempts to address racial equity in the Vermont workforce are often met with the mythology that there are not enough BIPOC in Vermont to be favorably impacted.

Opportunities

- Programs can be created to support cooperative or sole-proprietor economic development opportunities for BIPOC business ownership, especially small farms, resulting in sustainable economic impacts on Vermont's working landscape.
- Remote Worker Grant Program outreach can be broadened to BIPOC farm and food businesses in the state and those considering moving to Vermont.
- BIPOC should be included in the State of Vermont's economic development planning efforts.

Summary

Deep rooted, structural racism in the food system has perpetuated racial inequity within farming and food production, to food access and food security, to the workforce, and beyond. Building an equitable food system, and the onus of better supporting, serving, and partnering with BIPOC communities in Vermont, cannot solely fall on BIPOC. White stakeholders can and must do more to support a more racially equitable food system, in consultation with and following the leadership of BIPOC to make equitable and just transformations.

Recommendations

- Develop a scope of work for—and raise sufficient funding to support—in-depth research, data collection, and a thorough investigation of racial equity in the Vermont food system, leading to a comprehensive plan of action. It is crucial that this work and any resulting initiatives include BIPOC leaders who are compensated for their contributions.
- Organizations and stakeholders across all components of the food system should prioritize racial equity and the leadership, participation, and representation of BIPOC. It is imperative that initiatives focused on BIPOC be developed with paid partnership and input from the BIPOC community. All organizations in the food system should undertake guided, systematic internal processes to make racial equity a core principle of their work.
- Funders should improve funding opportunities for BIPOC organizations and BIPOC-owned businesses through such tools as developing multi-year, unrestricted BIPOC-centered grants and loan programs, removing barriers such as unnecessarily long grant application processes, and combatting explicit and implicit bias against BIPOC communities.
- The Vermont Agency of Agriculture, Food and Markets should expeditiously operationalize the National Association of State Departments of Agriculture (NASDA) principle on racial equity that was ratified by NASDA and supported by all the members of the Northeastern Association of State Departments of Agriculture.
- The Vermont Farm to Plate Network should commit to a plan of action to promote equity within the Network, help dismantle white supremacy culture, and eradicate the structural racism that continues to disenfranchise Black, Indigenous, and other communities, farmers, and food system workers of color.

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Farm to Plate is Vermont’s food system plan being implemented statewide to increase economic development and jobs in the farm and food sector and improve access to healthy local food for all Vermonters.

The Vermont Agency of Agriculture, Food & Markets (VAAF) facilitates, supports, and encourages the growth and viability of agriculture in Vermont while protecting the working landscape, human health, animal health, plant health, consumers, and the environment.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE: Succession

What's At Stake?

At a time when Vermont farms are facing downturns in prices and markets — and most are challenged to be profitable — farms are also set to transfer to new ownership at an unprecedented rate. The majority of Vermont farmers do not have a succession plan in place, and many do not have an identified successor. Of Vermont farmers 65 and older, 92% have no one under 45 working under them, and relatively few incoming farmers are interested in or prepared to assume responsibility for large-scale operations. This may lead to a change in the agricultural landscape that has not been seen for many generations, including a significant decrease in the amount of land in active agricultural use, land lying fallow for years or developed for other uses, and a setback in the amount of food produced in the state.

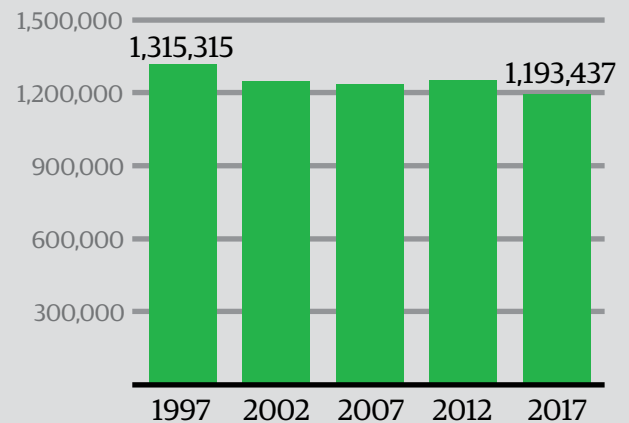
Current Conditions

Vermont farmer retirement and succession are occurring at a rapidly increasing pace year to year. For instance, the Vermont Land Trust estimates that as many as 300 farms could change ownership between 2020-2025. Many soon-to-be retiring farmers are not prepared to make decisions that will keep their land in farming, provide farming opportunities to family or unrelated producers, and maintain their farm business into the future.

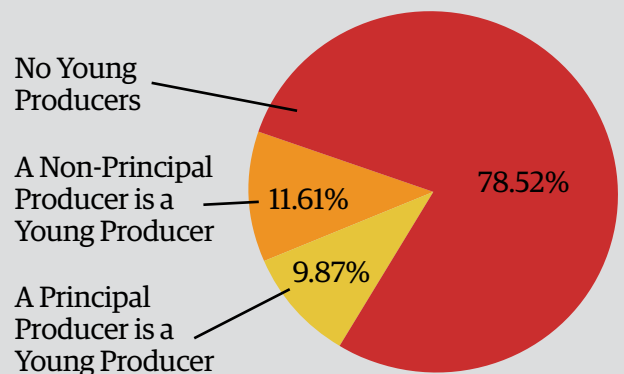
It is much more difficult to successfully transition farmland and farm businesses when the businesses on the land are not currently profitable. In many instances, the retiring generation may profitably operate farmland with low debt, but future owners may not reach profitability because they will be servicing the debt load of the land purchase and/or investing in new farm infrastructure. In addition, new farm businesses tend to be significantly smaller farm operations in terms of acreage in active production than existing farm businesses, and this poses a challenge to successful land transfers to new and beginning farmers.

Vermont and the Northeast have services and tools available to support retirement and succession, as well as finding a buyer or successor, but the current funding, personnel, and promotion of these services do not match the high need (see [Business and Technical Assistance brief](#)). Although 21.6% of Vermont's agricultural land is conserved, we must confront the possibility that much of Vermont's agricultural land may be underutilized or at risk of being lost, potentially permanently, to development or alternative land uses in the near future. Additional human and financial capital are needed to accelerate the rate at which farms move through the succession process.

Acreage in Farms in Vermont



Percent of Vermont farmland in 2017 managed at least in part by young producers (35 years of age or younger)



Bottlenecks & Gaps

- The cost of farmland (for lease or purchase) is high relative to the profitability of business models on that land base given current market conditions.
- Old infrastructure is often a liability for successful farm transition (e.g., run-down barns), as is marginal production land, particularly when those lands or outdated infrastructure have created water quality issues.
- In many cases, there is not enough capital left in farming businesses (e.g., equity, retained earnings, net-positive cash flow) given current market conditions, to enable successful transfers.
- Retiring farmers struggle to have sufficient retirement income and housing options.

Opportunities

- Multi-stakeholder farming opportunities exist for utilizing larger farm parcels.
- Some established farms continue to have the ability to purchase land and grow, and will purchase a farm from retiring owners.
- Retiring farmers without successors are willing to transfer their farms to unrelated farmer-owners.
- Vermont has a strong foundation of existing programs and farmland access tools, such as the sale of development rights, to enable initial access to affordable farmland for farmers at all stages of their business development.
- Developing new market opportunities in Vermont and the Northeast metropolitan region could be a way to create predictable, scaled-up markets for existing and beginning farms.

Recommendations

- Increase state resources for conservation efforts that support farmland access and succession planning (*see [Supporting Future Farmers](#) brief*).
- Consider options to encourage multiple tenants/owners on larger conserved farms, including policy incentives. Public funds and/or easement permissions may be critical to repurpose, remove, or add infrastructure to support new businesses and new business models.
- Increase availability of business assistance for farmers looking at options for farm transfer and succession, as well as legal and tax capacity and support. In particular, increase the number of service providers of succession assistance (*see [Business and Technical Assistance](#) brief*). Cost: \$600,000 per year for six additional FTE.
- Invest in sample business plans, market analyses, and financial benchmarking tools for emerging business models such as grass-fed beef, hemp/CBD, pork, and value-added dairy products. Cost: \$250,000 over three years.
- Develop additional low-cost and flexible financing programs for farm buyers. The Vermont Land Trust (VLT) is currently raising \$15 million for their Farmland Future Fund that will enable them to provide low-cost financing for farm buyers to make infrastructure changes and improvements.
- Vermont Agency of Agriculture, Food and Markets, VLT, and members of the Clean Water Partnership should assess and quantify the funding gap and identify sources of funding needed for farmland conservation. Then make public funds available to resolve older infrastructure that can have water quality issues.

Farm to Plate is Vermont's food system plan being implemented statewide to increase economic development and jobs in the farm and food sector and improve access to healthy local food for all Vermonters.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE: Supporting Future Farmers

What's At Stake?

Vermont is facing a dramatic shift in the agricultural sector due to economic and demographic changes. The key to the maintenance and development of the farms that form the backbone of our rural communities is to support the next generation of farmers. These new and beginning farmers face a number of challenges including shifting markets and production models, increased risk due to climate change, and barriers to accessing land. The types of support that are critical to their success include assistance in identifying and accessing suitable land, development of strong management and production capacity, supportive policies around markets, and access to capital. The new generation of farmers needs this type of support to create viable farm businesses, to keep the Vermont landscape in active agricultural use, and to preserve the character of our rural communities.

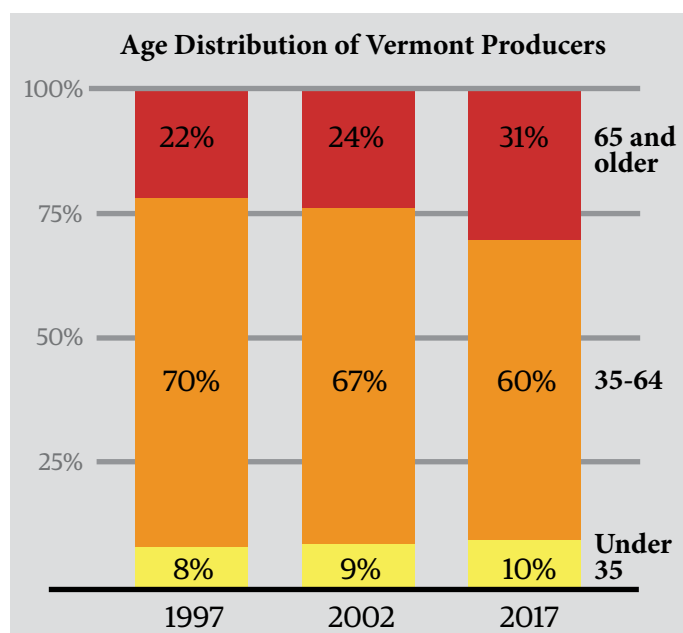
Current Conditions

State and national trends show an aging farmer population, increased land pressure for non-agricultural uses, and a rapidly changing marketplace for agricultural goods. Within Vermont, the conventional dairy sector, which has long been the backbone of the state's agricultural economy, is struggling to maintain viability (see *Dairy* brief).

The current and future generation of Vermont farmers face a number of significant challenges, including limited markets for local products, increasing land values, increasing production uncertainties due to climate change, and evolving agricultural business models. In addition, starting and growing a farm operation has become increasingly capital intensive in terms of both operating expenses and land purchase. All of these factors combine to make for a very challenging environment for farmers to be successful.

As agricultural production practices and markets shift, accessing land remains one of the most important factors in the success of new and beginning farmers. The decline in the number of dairy farms in the state and adoption of diversified farming models is changing the types of farmland and infrastructure that are suitable for viable farm businesses. Land conservation initiatives like the Option to Purchase at Agricultural Value (OPAV) and the [Farmland Access Program](#) at the Vermont Land Trust promote increased affordability and access to farmland to some buyers. These projects are now paired with robust business planning and technical assistance to improve the potential success of the farmer. Although this process improves the potential viability of a new farm, the capacity to support these complex projects is still very limited due to funding constraints.

Despite the challenges faced by new and beginning farmers in Vermont, there are reasons for optimism within the agricultural sector. Vermont's new and beginning farmers are enthusiastic, resilient, and well supported in approaching farming as a business. They are supported by statewide service providers to grow their management and production capacity toward making sustainable business decisions.



New and Beginning Farmers

Current Conditions

While agriculture in Vermont faces a number of significant challenges, there are still large numbers of new and beginning farmers eager to make farming their life-long livelihood. These diverse and enthusiastic agrarians are learning from other farmers in their community and through business and technical assistance from various service providers, but they face many structural challenges to achieving successful, viable businesses. These challenges include access to capital, access to markets, and the decline of the dairy sector and associated agricultural support services (e.g., large animal veterinarians).

- **41.6%** of farmers in Vermont in 2017 were female, a percentage that has been growing over time.
- In 2017 in Vermont, **1,856** producers (15.1%) had been farming for five years or fewer, and **1,898** (15.4%) had been farming for 6-10 years.
- In a 2017 National Young Farmers Coalition poll, **63%** of respondents said they are making or will eventually make sufficient income in farming to meet their life goals.

Bottlenecks & Gaps

- New farmers can face saturation in local markets, insufficient price points, and regional markets that are difficult to access.
- Lenders may not understand new farm models, making it difficult for farmers to access capital.
- New farmers may be impacted by racial prejudice, student loan debt, lack of off-farm jobs for a partner, and unaffordable health insurance, housing, and child-care.
- Some agricultural support services (e.g., feed dealers) may not have enough farm activity to support their businesses, thus impacting other farms.

Opportunities

- Enthusiasm for socially and environmentally conscious investment can be harnessed to develop new and creative financing tools for operations and land purchase.
- Individuals or groups of producers can develop marketing mechanisms for niche or higher-margin product lines.
- Access to regional metropolitan markets through improved distribution and marketing infrastructure remains a potential area of improvement.

Farmland Access

Current Conditions

As farmer demographics change and agricultural business models shift, access to suitable and affordable farmland is a major concern for the next generation of new and beginning farmers. Using services like Vermont Land Link, a farmland-specific listing and linking service, farmers can identify and assess potential land opportunities for lease or purchase. The Vermont Land Trust's [Farmland Access Program](#) is now routinely paired with robust production and financial technical assistance from the Intervale Center, UVM Extension, or other service providers to help new farmers succeed.

- **79%** of farmland in Vermont does not have an operator under age 35 as of 2017.
- **30%** of respondents to a National Young Farmer Coalition survey indicated that land access is preventing them from farming (the most frequently reported barrier).
- The average market value of Vermont farms has increased **13.5%** since 2012 to **\$620,691** in 2017.

Bottlenecks & Gaps

- Vermont land costs are high relative to the potential for income generation from agricultural activities.
- Exiting farmers often stay on their land for financial or sentimental reasons. This can force beginning farmers into non-favorable land agreements or struggles to find suitable housing.
- Current farm business models often require less land or different infrastructure than the parcels that are available.
- Potential farm successors do not always have the skillset or financial position to assume management or ownership of larger existing farm operations.

Opportunities

- Many retiring or exiting farmers do not have identified successors, leading to opportunities for new and beginning farmers to access land.
- There could be better utilization of farmland owned by non-farming landowners through lease or eventual purchase.
- New or novel land use models are being developed, including multiple farm operations co-locating on a single parcel or even shared ownership models.
- The Farmland Access Program and accompanying farm business development technical assistance to accelerate farmland access can be expanded.
- Continue to explore the use of creative land-holding and financing mechanisms to assist farmers in land access and purchase.

Supporting Farm Businesses

Current Conditions

Farming today requires a diverse and refined skill-set. As access to viable commodity markets become more difficult, farmers must focus on business management and marketing. They are supported in developing management capacity by business advisors from the Farm Viability Network and production technical assistance from the University of Vermont and producer networks.

- **83%** of Vermont producers who have been farming for ten years or fewer are operating farms with less than \$50,000 of agricultural products sold annually, compared to **73%** of producers who have been farming for over ten years.

Bottlenecks & Gaps

- New markets and production models require a much higher level of business management skills from farmers to communicate with customers and manage day-to-day operations.
- As production models shift away from established commodity models, there is an increased need for applied research and education around alternative products and markets.
- Farmers with limited capital have difficulty accessing and purchasing land.

Opportunities

- If continued, financial support for, and development of, the Farm Viability Network and increased business assistance for farmers will build their planning, decision-making, and management capacity (*see [Business & Technical Assistance](#) brief*).
- Targeted applied research would improve production and financial knowledge in specific sectors, including grass-fed beef, maple, vegetable, and diversified production.
- Support for producer organizations would increase education and marketing efforts to improve access to markets. Development of informal farmer networks through cohort-based support can strengthen producer communities as they take risks and try new enterprises.

Summary

Supporting new and beginning farmers is essential to the long-term success of Vermont's agricultural sector and the culture of our rural communities. Expanding existing business and technical assistance along with the right match of capital can improve farmers' ability to access suitable, high-quality farmland and ensure they develop successful farm businesses. These efforts can be paired with policy mechanisms, alternative financing mechanisms, and enriched market research opportunities to incentivize farm business development.

Recommendations

- Expand financial support for Vermont Land Trust's land conservation and transition efforts, including buy-lease-sell opportunities, Farmland Access Program, and land conservation.
- Support regional market development efforts, especially entrepreneur-driven aggregation and distribution activities. Develop co-marketing enterprises that allow for local sales associated with a specific farm brand while also providing aggregated regional market access.
- Increase funding support for Vermont Housing and Conservation Board Farm & Forest Viability Program and UVM Extension's production technical assistance for farmers. This should include increasing funding for one-on-one technical assistance, bolstering producer associations, and increasing directed applied research and education.
- Increase the development of non-traditional land access and financing models, including collaborative/co-located farms, local low-cost financing options, and programming for underserved populations.
- Increase education and advocacy efforts to inform state and federal programs about new and emerging business models. Involve farmers and business assistance providers in the development and implementation of state and federal regulatory, conservation, and financing programs.



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The Vermont Agency of Agriculture, Food & Markets (VAAFMM) facilitates, supports, and encourages the growth and viability of agriculture in Vermont while protecting the working landscape, human health, animal health, plant health, consumers, and the environment.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE: Tax and Legal Services

What's At Stake?

The tax and legal issues confronting existing and new farm businesses, new farm-based food enterprises, and farms in transition to the next generation are increasingly complex. Food safety, farm labor laws, business planning for farm transfer, estate planning—even the risks of hemp production— all present novel tax and legal issues that few general tax and legal practitioners in Vermont are prepared to handle. Successful new farm formation, farm diversification, and economic sustainability all depend on access to skilled legal and tax practitioners. There is a growing need for additional farm transfer assistance providers (see *Succession brief*). Sixty percent of Vermont farmers over the age of 55 do not have a legal structure in place to facilitate the gradual transfer of farming assets to the next generation.¹ Building a network of skilled legal, tax, and bookkeeping professionals who specialize in serving farm clients could improve overall farm viability.

Current Conditions

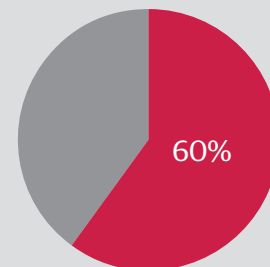
Access to bookkeeping, legal, and tax professionals skilled in issues unique to Vermont farms is limited, and specialized training for farm legal service providers is scant. When an attorney is consulted, too often the result is a high fee for “off the shelf” documents unsuited to a particular farm’s situation. Farmers often can’t afford legal fees. The economics of solo legal practice in rural communities is equally bleak. Vermont attorneys, like farmers, are aging.² New England, generally, is facing a shortage of rural attorneys as lawyers in small towns retire and no one takes their place.³

Farmers most often seek tax counsel from their tax preparers, the majority of whom are uncredentialed and unfamiliar with the specialized tax rules for farms. A short-term focus on a single year’s taxes can overlook important retirement planning or estate and gift tax planning issues. Avoiding this year’s self-employment tax means there will be less in a farmer’s social security check later, for example. Also missing is a focus on creating and maintaining an accurate set of financial records, annual and multi-year budgeting, and integrating tax with business planning. Most tax preparers, like most attorneys, are ill-prepared to deal with the complex issues that can arise in the context of farm transfer or farm legal structure. In many cases, farmers would benefit from hiring a remote bookkeeper with farming-related knowledge to maintain their financial records and provide an accurate set of their books at tax time to the tax preparers.

Farmers have the best outcomes when their attorney, tax preparer/accountant, and bookkeeper work together. This happens to some extent but there should be more opportunities for interaction and knowledge sharing among these professionals.

The farm service providers funded by the Vermont Farm & Forest Viability Program have done an excellent job of providing legal structure and farm transfer planning assistance. In light of the need, however, their resources are too thinly spread.

60% of Vermont farmers over the age of 55 do not have a legal structure in place to facilitate the gradual transfer of farming assets to the next generation.



Bottlenecks & Gaps

- There is insufficient specialized training for providers of bookkeeping, tax, and legal services to farmers.
- There is a lack of affordable legal assistance for farmers.
- There is a growing shortage of rural attorneys.
- There is a lack of coordination between bookkeeping, tax, and legal professionals working collaboratively with their farm client.
- In many cases, farms were set up as sole proprietors rather than an LLC or an LLC with an S Corp election. As a result, many farms cannot take advantage of tax benefits, retirement savings, and farm transfers.

Opportunities

- Continuing Legal Education training for rural practitioners offers an avenue for increasing expertise on farm specific legal needs and issues (e.g., wills, trusts, estates, and real property law).
- Vermont Law School's Center for Agriculture and Food Systems (CAFS) has opened a legal food hub designed to provide pro-bono legal assistance to farmers that meet certain eligibility criteria, as well as training materials and educational programming for participating attorneys. In addition to placing clients with its network of volunteer attorneys, CAFS has the ability to take on a limited number of legal matters through its Food and Agriculture Clinic.

Recommendations

- Create a searchable directory of 'qualified' bookkeepers, accountants, tax preparers, and attorneys who have sufficient specialization to support the needs of working lands businesses. Create a network of these providers who are willing to work more collaboratively, and encourage continuous skill improvements to serve farm-specific needs more effectively.
- Increase funding for the Vermont Farm and Forest Viability Program, to enable an expansion of technical assistance funding for legal and tax service providers for farms.
- Increase capacity of bookkeeping, tax, and legal service providers to provide counsel/services remotely through Zoom, Skype or other online platforms.
- Address the shrinking pool of attorneys in rural areas by funding civil legal aid programs and offering support and encouragement to legal practice incubators, legal food hubs, stipends to assist new attorneys to set up a rural practice, and student loan forgiveness for attorneys willing to practice in rural areas.
- The UVM Tax School is an excellent learning opportunity for Vermont accountants and attorneys. A discreet focus on tax issues surrounding farm legal structure and farm succession planning should be added to their curriculum. Volunteer Income Tax Assistance and Vermont Legal Aid providers should attend.

Farm to Plate is Vermont's food system plan being implemented statewide to increase economic development and jobs in the farm and food sector and improve access to healthy local food for all Vermonters.

The Vermont Agency of Agriculture, Food & Markets (VAAFMM) facilitates, supports, and encourages the growth and viability of agriculture in Vermont while protecting the working landscape, human health, animal health, plant health, consumers, and the environment.

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VERMONT FOOD SYSTEM PLAN ISSUE BRIEF



ISSUE: Water Quality

What's At Stake?

Our challenge is to find a path forward in Vermont agriculture that allows for food production while protecting water quality. Agriculture dominates Vermont's working landscape in many parts of the state and is also important to the state's economy, both directly and indirectly. Similarly, our natural resources, including clean water, are why many people live in Vermont or come to visit, fueling the tax base and the tourism economy. At the present moment, agriculture is experiencing an explosion of momentum around the concept of "soil health," a steep escalation in concerns and investments in water quality, and an intensification of the confounding effects of climate change. We will need to use common sense, the power of community, respect, sound science, and creativity to successfully navigate the dynamic intersection of these tightly interwoven factors.

Current Conditions

The 2016 issuance of a federal Total Maximum Daily Load (TMDL) to limit phosphorus (P) loading to Lake Champlain drew much public attention to the connections between agriculture and water quality in Vermont. Harmful algal blooms in the lake, which are partially attributable to P in the water, have increased in severity since 2016. While there are many sources of P runoff across the landscape (including urban areas, roads, and wastewater treatment plants), models estimate that approximately 41% of the P entering Lake Champlain comes from agricultural lands. State legislation, such as 6 V.S.A. § 4803, has increased regulation and oversight on the agricultural sector.

At the same time, significant state and federal resources for improved farm management and infrastructure have been allocated to the agricultural sector. In general, farmers have stepped up to the challenge, and have significantly increased implementation levels of Best Management Practices (BMPs). BMPs include structural improvements

(e.g., manure storage) and field-based changes related to increasing soil health and minimizing risk of nutrient and soil losses (e.g., cover crops and manure injection). There is clear momentum in the farming community toward improved management, and farmers are now becoming very interested in potential systems that would compensate them for various "ecosystem services" they provide to the state (e.g., carbon sequestration).

Simultaneously, further improvements to water quality may be hindered due to economic turmoil on many farms, combined with an aging farmer population that has a hesitation to invest in infrastructure upgrades. Probably even more impactful is climate change, which has brought more frequent heavy storms, increasing the potential for erosion and nutrient loss from fields. Despite these challenges, farmers, educators, researchers, and other service providers continue to make progress toward environmental goals and economic viability by working collaboratively across multiple agencies and organizations.

State Funding Awarded for Clean Water Projects in State Fiscal Year 2016-2018, by Major Basin and Sector



Soil Management

Current Conditions

There is growing knowledge and appreciation in the farming community of ideas and practices that improve soil health. The concept of soil health is a holistic way of viewing the soil that acknowledges the complex interconnectedness of its various biological, physical, and chemical characteristics, and how important these are to environmentally sustainable agricultural systems. In addition to potentially improving yields by increasing the resilience of crop and pasture systems, building soil health can increase infiltration of rainfall on farmland, potentially decreasing runoff, nutrient loss, and erosion. Management practices that enhance soil health are being promoted by many groups for use on all types of farms (i.e., dairy, livestock, grain, fruit, vegetables, etc.). Some of the more commonly recognized soil health BMPs include cover crops, reduced tillage (including no-till), perennial crops, strategies to increase organic matter, rotational grazing, and crop rotation.

Bottlenecks & Gaps

- Investments in management changes to improve soil health need to be economically sustainable for farmers.
- There is a lack of clear data on the variety of linkages between soil health-related management practices and water quality conditions at the watershed scale.
- Actual soil health data from Vermont farms is sparse due to lack of measurement and monitoring.
- Measuring soil health remains expensive.
- Additional research and program flexibility is necessary for figuring out how to build soil health on a variety of farm types while minimizing risk to yields.

Opportunities

- Vermont has excellent farmer-led organizations (i.e., farmer coalitions) for harnessing the power of peer-to-peer education around soil health practices.
- We have numerous success stories of improving soil health from a variety of farm types and sizes that can be promoted.
- Soil health practices can also provide climate change mitigation (carbon sequestration) and potential community resiliency benefits to surrounding communities.
- Young and beginning farmers have tremendous energy around soil health, which is an opportunity to advance this topic and its related practices.

Management of Manure and Phosphorus

Current Conditions

In some cases, business decisions and management practices based on farm economics have resulted in concentrations of P on farms in excess of what is appropriate for the land base. All farms must now follow state water quality regulations — Required Agricultural Practices (RAPs) — and a nutrient management plan. These regulations direct farmers to manage manure (the primary source of P on farms), in ways that will minimize P runoff. Some newer strategies to improve nutrient utilization and limit runoff — like manure injection — are being used across the state. However, more tools for better distribution and management of manure to minimize overloading of P on cropland are needed.

Bottlenecks & Gaps

- Long winters, extended wet conditions, and more extreme events as a result of climate change remain challenges for managing manure and preventing nutrient runoff.
- The infrastructure cost and time necessary for manure injection can be prohibitive for some farms. Not all farms have liquid manure or land suitable for injection.
- A surplus of P exists in Vermont due to current and historical importation of grain, yet some fields still need P for optimum crop production.
- When manure applications are reduced, or eliminated, due to high soil P and/or high risk of runoff, nitrogen (N) is still necessary for crop production. Purchasing needed N in the form of commercial fertilizer is difficult to justify economically, and nearly impossible on organic farms.
- No viable manure transfer program exists for distribution of manure away from high P soils to where P is needed.

Opportunities

- Manure, and its ability to maintain and increase soil organic matter, is a valuable resource and a key component of increasing soil health and growing crops.
- Newer technologies being trialed may further improve how manure nutrients are managed. These include manure P removal systems, grassland manure injectors, precision application advancements, and solutions being investigated through the [Vermont Phosphorus Innovation Challenge](#).
- The nutrient management planning system offers a framework for the improvement of existing tools and implementation of new tools for improved P management and risk assessment. This could include incentives or market-based approaches to reward farmers for achieving lowered P losses from farms.

Tile Drainage

Current Conditions

Tile drainage is the placement of perforated pipes in agricultural fields beneath the roots of crops in order to lower the water table and more quickly drain excess water after rainfall. It has been shown to dramatically increase crop yields and allow farmers to enter fields with equipment without damaging soil during wet periods. The rate of tile drainage installation has increased in the past several years, along with concerns about its role as a pathway for P runoff from a field. All types of farms (i.e., large, small, dairy, vegetable, livestock) are investing in tile due to its significant production benefits in the face of climate change and increasing rainfall. Farmers indicate that tile drainage is allowing them to be more successful with soil health BMP implementation. Policy makers and researchers are struggling to keep pace and understand the full impact of this complicated situation.

Bottlenecks & Gaps

- Climate change is increasing the demand for tile drainage on farms, but water quality effects are not well understood.
- There is not enough information on tile drainage and its potential impact on water quality in Vermont.
- How tile drainage affects the overall magnitude of P loss from a tiled field vs. an untiled field due to decreased surface runoff is poorly understood.
- We lack information on how to best manage manure in tile-drained fields to minimize potential P runoff.

Opportunities

- There is interest by farmers to be involved in tile drainage research to increase understanding and find ways to reduce P runoff using practical approaches.
- Advancements in tile-outlet treatment systems for high-risk fields are being made in Vermont and elsewhere.
- There is a need to provide additional technical assistance to farmers to install tile in ways that minimize environmental impact.

Summary

The agricultural sector is energetic about increasing soil health and its benefits for water quality in Vermont, however, management changes must be economically justifiable for the farmer and supported by data demonstrating benefits. Improvements in soil health are achievable on many farms, but can potentially be overwhelmed by mismanagement of manure. Manure, high in organic matter, is a resource for soil health improvement and new technologies are emerging to allow for better utilization but manure distribution remains a challenge. Tile drainage is an important tool for farmers given climate change, and is allowing for increased adoption of soil health BMPs, but more information is needed around manure management in tiled fields.

Recommendations

- Dedicate funds to support Vermont Natural Resources Conservation Districts and farmer watershed organizations with the specific objective of allowing them to reach other farmers and do farmer-to-farmer education about improved soil and manure management. We know this to be one of the most effective means of influencing change, so we should facilitate it as much as possible. Cost: \$100,000 per year, per organization; total cost \$300,000 per year.
- Dedicate \$5 million to research that monitors field-scale water quality performance of practices post-installation, and will inform a Payment for Ecosystem Services program that provides incentives to farmers for reducing P losses.
- Dedicate \$1 million to measuring and continuously monitoring soil health across the state of Vermont, building a statewide database, benchmarking specific soil types, and correlating changes with specific BMP implementation.
- Fully fund the Vermont Agency of Agriculture, Food and Markets Farm Agronomic Practices Program and the Capital Equipment Assistance Program to financially assist farmers with improving soil health and lower the economic hurdle of changing management during these challenging economic conditions.
- Continue to fund the Vermont Phosphorus Innovation Challenge to launch current projects and pilot the most promising technologies.



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To read other food system briefs, visit:
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End Notes and Data Citations

For end notes and data citations for all Briefs, see vtfarmtoplate.com/resources/food-system-briefs-end-notes.

Supporting Materials

Vermont Food System Financing Inventory

A listing of capital providers who help to finance farm and food businesses, including debt, equity, and royalty financing, as well as various grant programs, has been developed and is available as a separate document and online at vtfarmtoplate.com/resources/food-system-financing-inventory.

Business Assistance Continuum

A visual representation of business assistance service provider organizations has been developed and included in the Business and Technical Assistance brief. This has also been developed into an online, searchable tool by the Working Lands Enterprise Initiative and can be found here: workinglands.vermont.gov/working-lands-business-development-continuum.

Farm to School Products & Opportunity

The School Food Procurement brief outlines the potential to increase the amount of Vermont agricultural products purchased by school nutrition programs in Vermont, as requested by Act 83. The recommendations in the brief indicate critical actions that will enable schools in increasing local food purchases. For those interested in more details, the Vermont FEED 2018 Vermont Integrated Food, Farm, and Nutrition Programming Data Harvest contains additional data regarding school demand, barriers, and resources schools identify that would assist them in increasing local food purchases. The Data Harvest can be found at vtfeed.org/feed-resource-library.

Metropolitan Markets Map

This map was generated to visually support the Metropolitan Markets brief and depicts grocery stores within a 330 mile radius of Montpelier, Vermont, and can be found at vtfarmtoplate.com/resources/metropolitan-markets-map.



Table of Priority Strategies with Source Reference

The priority strategies are derived from the product, issue, and market brief recommendations. In some cases a priority strategy is a recommendation that appeared multiple times across briefs, signifying its importance to multiple areas of the food system. These may be word-for-word from the briefs, or adjusted according to input from stakeholder input sessions. Other priority strategies are a synthesis of brief recommendations determined to be interrelated or thematically similar. The table provides a bridge from strategies to tactics, helping the reader explore each priority strategy in more depth and detail and identify areas of overlapping and mutual interest which in turn can inform collaboration and collective action.

Priority Strategy	Component Recommendations from Briefs
<p>1. Provide at least \$1.5 million in annual funding to the Working Lands Enterprise Fund. These grant funds are a unique and critical source of capital that accelerate innovation and sustainability in Vermont food system businesses.</p>	<ul style="list-style-type: none"> • <i>Access to Capital</i> Brief: Recommendation #1 • <i>Agriculture and Food Policy</i> Brief: Recommendation #2 • <i>Lightly Processed Vegetables</i> Brief: Recommendation #2 • <i>Specialty Foods</i> Brief: Recommendation #4
<p>2. Establish funding mechanisms (e.g., agricultural loan loss reserve, farm-transfer financing) to address specific food system investment gaps (e.g., for women and BIPOC-owned businesses).</p>	<ul style="list-style-type: none"> • <i>Agroforestry</i> Brief: Recommendation #4 • <i>Access to Capital</i> Brief: Recommendation #2 • <i>Access to Capital</i> Brief: Recommendation #3 • <i>Access to Capital</i> Brief: Recommendation #4 • <i>Access to Capital</i> Brief: Recommendation #6 • <i>Alternative Land Ownership and Access Models</i> Brief: Recommendation #1 • <i>Alternative Land Ownership and Access Models</i> Brief: Recommendation #4 • <i>Alternative Land Ownership and Access Models</i> Brief: Recommendation #5 • <i>Farmland Conservation</i> Brief: Recommendation #1 • <i>Farmland Conservation</i> Brief: Recommendation #4 • <i>Farmland Conservation</i> Brief: Recommendation #5 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #3 • <i>Succession</i> Brief: Recommendation #1 • <i>Succession</i> Brief: Recommendation #2 • <i>Succession</i> Brief: Recommendation #5 • <i>Supporting Future Farmers</i> Brief: Recommendation #1 • <i>Supporting Future Farmers</i> Brief: Recommendation #4 • <i>Supporting Future Farmers</i> Brief: Recommendation #5
<p>3. Improve funding opportunities and create equitable access for BIPOC organizations and BIPOC-owned businesses by developing multi-year, unrestricted BIPOC-centered equitable grants and equitable loan programs, while removing barriers such as unnecessarily long grant application processes, and combating explicit and implicit bias against BIPOC communities.</p>	<ul style="list-style-type: none"> • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #3 • <i>Supporting Future Farmers</i> Brief: Recommendation #4 • <i>Farmland Conservation</i> Brief: Recommendation #5
<p>4. Rebuild Vermont’s restaurant industry with equitable grant programs and business assistance, and provide local purchasing incentives to support the expansion of farm-to-table relationships.</p>	<ul style="list-style-type: none"> • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #3 • <i>Restaurants</i> Brief: Recommendation #1 • <i>Restaurants</i> Brief: Recommendation #2 • <i>Restaurants</i> Brief: Recommendation #4 • <i>Restaurants</i> Brief: Recommendation #5

Priority Strategy	Component Recommendations from Briefs
<p>5. Support stabilization and revitalization of the dairy industry through: (1) a comprehensive dairy products marketing program focused on quality that would assist producers with limited marketing budgets, (2) by expanding opportunities to differentiate the milk supply by supporting farms and processors to increase production capacity for higher-attribute milk, (3) with increased capital investment and funding for dairy processing, storage, and co-packing (particularly for cheese, yogurt, butter, etc.).</p>	<ul style="list-style-type: none"> • <i>Cheese</i> Brief: Recommendation #1 • <i>Cheese</i> Brief: Recommendation #2 • <i>Cheese</i> Brief: Recommendation #4 • <i>Cheese</i> Brief: Recommendation #5 • <i>Cheese</i> Brief: Recommendation #6 • <i>Dairy</i> Brief: Recommendation #4 • <i>Dairy</i> Brief: Recommendation #5 • <i>Dairy</i> Brief: Recommendation #6
<p>6. To increase the availability of local meat, improve productivity and processing capacity at Vermont meat slaughter and processing facilities through investment in plant upgrades, new facilities, technical assistance, and workforce development.</p>	<ul style="list-style-type: none"> • <i>Meat Slaughter, Processing, and Products</i> Brief: Recommendation #1 • <i>Meat Slaughter, Processing, and Products</i> Brief: Recommendation #2 • <i>Meat Slaughter, Processing, and Products</i> Brief: Recommendation #3 • <i>Meat Slaughter, Processing, and Products</i> Brief: Recommendation #4 • <i>Meat Slaughter, Processing, and Products</i> Brief: Recommendation #5
<p>7. Make significant investment in storage, processing, and distribution infrastructure in order to enhance product innovation and quality across all Vermont food products, expand regional market access for businesses, and increase the resilience of local supply chains. This includes investments in new facilities, upgrades and maintenance to existing facilities, and energy efficiency and renewable energy incentives for food system infrastructure.</p>	<ul style="list-style-type: none"> • <i>Agricultural Literacy: K-12</i> Brief: Recommendation #3 • <i>Agroforestry</i> Brief: Recommendation #6 • <i>Beer</i> Brief: Recommendation #2 • <i>Beer</i> Brief: Recommendation #5 • <i>Bread</i> Brief: Recommendation #3 • <i>Compost</i> Brief: Recommendation #2 • <i>Direct Markets</i> Brief: Recommendation #3 • <i>Direct Markets</i> Brief: Recommendation #5 • <i>Distribution</i> Brief: Recommendation #1 • <i>Distribution</i> Brief: Recommendation #3 • <i>Eggs</i> Brief: Recommendation #1 • <i>Eggs</i> Brief: Recommendation #4 • <i>Food Access and Farm Viability</i> Brief: Recommendation #1 • <i>Food-Grade Grains</i> Brief: Recommendation #1 • <i>Food-Grade Grains</i> Brief: Recommendation #2 • <i>Goats</i> Brief: Recommendation #2 • <i>Lightly Processed Vegetables</i> Brief: Recommendation #3 • <i>Lightly Processed Vegetables</i> Brief: Recommendation #4 • <i>Produce</i> Brief: Recommendation #1 • <i>Restaurants</i> Brief: Recommendation #3 • <i>School Food Procurement</i> Brief: Recommendation #2 • <i>Sheep</i> Brief: Recommendation #5 • <i>Specialty Foods</i> Brief: Recommendation #5 • <i>Spirits</i> Brief: Recommendation #1 • <i>Water Quality</i> Brief: Recommendation #4 • <i>Water Quality</i> Brief: Recommendation #5

Priority Strategy	Component Recommendations from Briefs
<p>8. Support product-specific value chain development. Strategies include bringing producers, distributors, and buyers together at matchmaking events, assisting producer-driven aggregation, distribution, and marketing enterprises, and funding the development of market opportunities in the Northeast.</p>	<ul style="list-style-type: none"> • <i>Agritourism</i> Brief: Recommendation #1 • <i>Apples</i> Brief: Recommendation #1 • <i>Apples</i> Brief: Recommendation #2 • <i>Bread</i> Brief: Recommendation #1 • <i>Bread</i> Brief: Recommendation #2 • <i>Cheese</i> Brief: Recommendation #1 • <i>College and Hospital Procurement</i> Brief: Recommendation #3 • <i>College and Hospital Procurement</i> Brief: Recommendation #4 • <i>Compost</i> Brief: Recommendation #1 • <i>Dairy</i> Brief: Recommendation #5 • <i>Distribution</i> Brief: Recommendation #4 • <i>Food-Grade Grains</i> Brief: Recommendation #3 • <i>Food-Grade Grains</i> Brief: Recommendation #4 • <i>Grapes</i> Brief: Recommendation #4 • <i>Grapes</i> Brief: Recommendation #5 • <i>Grass-Fed Beef</i> Brief: Recommendation #1 • <i>Grass-Fed Beef</i> Brief: Recommendation #3 • <i>Grass-Fed Beef</i> Brief: Recommendation #5 • <i>Grocers</i> Brief: Recommendation #1 • <i>Grocers</i> Brief: Recommendation #2 • <i>Hemp</i> Brief: Recommendation #1 • <i>Hemp</i> Brief: Recommendation #3 • <i>Hops</i> Brief: Recommendation #4 • <i>Marketing</i> Brief: Recommendation #3 • <i>Meat Slaughter, Processing, and Products</i> Brief: Recommendation #3 • <i>Lightly Processed Vegetables</i> Brief: Recommendation #1 • <i>Lightly Processed Vegetables</i> Brief: Recommendation #3 • <i>Restaurants</i> Brief: Recommendation #2 • <i>School Food Procurement</i> Brief: Recommendation #5 • <i>Specialty Foods</i> Brief: Recommendation #3 • <i>Spirits</i> Brief: Recommendation #1 • <i>Succession</i> Brief: Recommendation #4 • <i>Supporting Future Farmers</i> Brief: Recommendation #2 • <i>Swine</i> Brief: Recommendation #3
<p>9. Expand funding for existing programs dedicated to farmland access and conservation, and leverage this funding to increase land access through flexible and new ownership financing mechanisms, policies, and models. Examples include performance mortgages, shared equity models, ground leases, appropriation of \$3 million in low-cost capital to a Community Development Financial Institution or other lender, policy incentives to encourage multiple tenants or owners on larger tracts of land, and low-cost and long-term farm leasing on publicly held lands. There must be particular emphasis on the needs of beginning, socially disadvantaged, and BIPOC farmers.</p>	<ul style="list-style-type: none"> • <i>Access to Capital</i> Brief: Recommendation #3 • <i>Alternative Land Ownership and Access Models</i> Brief: Recommendation #1 • <i>Alternative Land Ownership and Access Models</i> Brief: Recommendation #2 • <i>Alternative Land Ownership and Access Models</i> Brief: Recommendation #3 • <i>Alternative Land Ownership and Access Models</i> Brief: Recommendation #4 • <i>Alternative Land Ownership and Access Models</i> Brief: Recommendation #5 • <i>Dairy</i> Brief: Recommendation #2 • <i>Dairy</i> Brief: Recommendation #3 • <i>Farmland Conservation</i> Brief: Recommendation #1 • <i>Farmland Conservation</i> Brief: Recommendation #2 • <i>Farmland Conservation</i> Brief: Recommendation #3 • <i>Farmland Conservation</i> Brief: Recommendation #4 • <i>Farmland Conservation</i> Brief: Recommendation #5 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #3 • <i>Succession</i> Brief: Recommendation #1 • <i>Succession</i> Brief: Recommendation #2 • <i>Succession</i> Brief: Recommendation #3 • <i>Succession</i> Brief: Recommendation #5 • <i>Succession</i> Brief: Recommendation #6 • <i>Supporting Future Farmers</i> Brief: Recommendation #1 • <i>Supporting Future Farmers</i> Brief: Recommendation #4 • <i>Supporting Future Farmers</i> Brief: Recommendation #5

Priority Strategy	Component Recommendations from Briefs
<p>10. Fully fund VHCBC through the Property Transfer Tax Fund, and allocate \$3 million annually to their Farm & Forest Viability program, expanding their capacity to provide critical business and technical assistance services to farms and forest product businesses of all types across Vermont.</p>	<ul style="list-style-type: none"> • <i>Business and Technical Assistance</i> Brief: Recommendation #1 • <i>Farmland Conservation</i> Brief: Recommendation #2 • <i>Farmland Conservation</i> Brief: Recommendation #3 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #2 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #3 • <i>Supporting Future Farmers</i> Brief: Recommendation #3 • <i>Tax and Legal Services</i> Brief: Recommendation #2
<p>11. Fund at least eight FTE additional business assistance provider positions to assist farmers with transfer and succession planning, access to capital, farm management, planning for transition or diversification to other products, and sales and marketing. This estimate includes four FTEs needed to work with dairy farms and two FTEs needed to work with other types of farms, specifically on succession planning.</p>	<ul style="list-style-type: none"> • <i>Agriculture and Food Policy</i> Brief: Recommendation #3 • <i>Business and Technical Assistance</i> Brief: Recommendation #1 • <i>Farmland Conservation</i> Brief: Recommendation #2 • <i>Farmland Conservation</i> Brief: Recommendation #3 • <i>Produce</i> Brief: Recommendation #2 • <i>Succession</i> Brief: Recommendation #1 • <i>Succession</i> Brief: Recommendation #3 • <i>Supporting Future Farmers</i> Brief: Recommendation #3
<p>12. Fund at least 25 FTE additional technical assistance provider positions to assist farmers and other food producers with product-specific needs (e.g., goats, grains) and other forms of technical support (e.g., food safety plans, grazing methods, permitting, marketing, mediation, and crisis management).</p>	<ul style="list-style-type: none"> • <i>Apples</i> Brief: Recommendation #4 • <i>Bees and Honey</i> Brief: Recommendation #1 • <i>Bread</i> Brief: Recommendation #4 • <i>Business and Technical Assistance</i> Brief: Recommendation #1 • <i>Consumer Demand</i> Brief: Recommendation #5 • <i>Eggs</i> Brief: Recommendation #1 • <i>Goats</i> Brief: Recommendation #3 • <i>Grapes</i> Brief: Recommendation #2 • <i>Grass-Fed Beef</i> Brief: Recommendation #4 • <i>Grocers</i> Brief: Recommendation #3 • <i>Food Access and Farm Viability</i> Brief: Recommendation #4 • <i>Food-Grade Grains</i> Brief: Recommendation #5 • <i>Hemp</i> Brief: Recommendation #2 • <i>Hops</i> Brief: Recommendation #1 • <i>Land Use Planning</i> Brief: Recommendation #1 • <i>Land Use Planning</i> Brief: Recommendation #3 • <i>Maple</i> Brief: Recommendation #4 • <i>Meat Processing, Slaughter, and Products</i> Brief: Recommendation #1 • <i>Meat Processing, Slaughter, and Products</i> Brief: Recommendation #5 • <i>Poultry</i> Brief: Recommendation #1 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #2 • <i>Swine</i> Brief: Recommendation #1 • <i>Water Quality</i> Brief: Recommendation #1
<p>13. Increase professional development opportunities for technical and business assistance providers, as well as support service provider organizations, to enable them to better assist clients in addressing issues such as marketing, climate change, racial equity, health care, labor, and accessing capital.</p>	<ul style="list-style-type: none"> • <i>Agritourism</i> Brief: Recommendation #1 • <i>Business and Technical Assistance</i> Brief: Recommendation #2 • <i>Child Care</i> Brief: Recommendation #4 • <i>Climate Change</i> Brief: Recommendation #1 • <i>Health Care</i> Brief: Recommendation #2 • <i>Labor and Workforce</i> Brief: Recommendation #3 • <i>Marketing</i> Brief: Recommendation #3 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #2 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #5
<p>14. Increase usage of and funding for cohort-based training, mentorships, and other forms of farmer-to-farmer/business-to-business education which are proven to be successful, including dairy farmer learning cohorts.</p>	<ul style="list-style-type: none"> • <i>Business and Technical Assistance</i> Brief: Recommendation #4 • <i>Dairy</i> Brief: Recommendation #1 • <i>Dairy</i> Brief: Recommendation #2 • <i>Direct Markets</i> Brief: Recommendation #6 • <i>Distribution</i> Brief: Recommendation #2 • <i>Grass-Fed Beef</i> Brief: Recommendation #2 • <i>Major Metropolitan Markets</i> Brief: Recommendation #6 • <i>Marketing</i> Brief: Recommendation #5 • <i>Produce</i> Brief: Recommendation #3 • <i>Specialty Foods</i> Brief: Recommendation #1 • <i>Swine</i> Brief: Recommendation #5 • <i>Water Quality</i> Brief: Recommendation #1

Priority Strategy	Component Recommendations from Briefs
<p>15. Increase funding and technical support for Vermont producer associations to expand and improve their membership services, and determine how services could be shared across associations. Potential services include marketing technical assistance, collaborative marketing initiatives, product-specific training, and connections to associations in other states.</p>	<ul style="list-style-type: none"> • <i>Beer</i> Brief: Recommendation #4 • <i>Bees and Honey</i> Brief: Recommendation #3 • <i>Bread</i> Brief: Recommendation #2 • <i>Cheese</i> Brief: Recommendation #5 • <i>Direct Markets</i> Brief: Recommendation #2 • <i>Food-Grade Grains</i> Brief: Recommendation #3 • <i>Grapes</i> Brief: Recommendation #3 • <i>Hemp</i> Brief: Recommendation #5 • <i>Labor and Workforce</i> Brief: Recommendation #1 • <i>Major Metropolitan Markets</i> Brief: Recommendation #4 • <i>Major Metropolitan Markets</i> Brief: Recommendation #5 • <i>Poultry</i> Brief: Recommendation #3 • <i>Produce</i> Brief: Recommendation #5 • <i>Specialty Foods</i> Brief: Recommendation #2
<p>16. Fund coordinated marketing efforts, such as a statewide marketing campaign for local agricultural products, marketing support in emerging metropolitan markets, shared marketing broker positions, a shared communications and content creator position between the Vermont Department of Tourism and Marketing and the Vermont Agency of Agriculture, Food and Markets, and/or marketing materials for specific products or associations.</p>	<ul style="list-style-type: none"> • <i>Agricultural and Food Literacy</i> Brief: Recommendation #3 • <i>Apples</i> Brief: Recommendation #3 • <i>College and Hospital Procurement</i> Brief: Recommendation #2 • <i>Compost</i> Brief: Recommendation #5 • <i>Consumer Demand</i> Brief: Recommendation #1 • <i>Consumer Demand</i> Brief: Recommendation #2 • <i>Consumer Demand</i> Brief: Recommendation #4 • <i>Consumer Demand</i> Brief: Recommendation #5 • <i>Direct Markets</i> Brief: Recommendation #1 • <i>Goats</i> Brief: Recommendation #4 • <i>Grocers</i> Brief: Recommendation #3 • <i>Major Metropolitan Markets</i> Brief: Recommendation #2 • <i>Major Metropolitan Markets</i> Brief: Recommendation #5 • <i>Marketing</i> Brief: Recommendation #2 • <i>Marketing</i> Brief: Recommendation #5 • <i>Meat Slaughter, Processing, and Products</i> Brief: Recommendation #5 • <i>Spirits</i> Brief: Recommendation #2 • <i>Supporting Future Farmers</i> Brief: Recommendation #2 • <i>Swine</i> Brief: Recommendation #4
<p>17. Help individual farms and food businesses reach new customers by developing tailored marketing assistance services and programs specific to various market channels. Funding could go to individual farm and food businesses to improve their branding via graphic design consultants, grants to attend national sales and marketing industry events, and creating a marketing technical assistance and mentorship program focused on the seven P's of marketing.</p>	<ul style="list-style-type: none"> • <i>College and Hospital Procurement</i> Brief: Recommendation #2 • <i>College and Hospital Procurement</i> Brief: Recommendation #3 • <i>College and Hospital Procurement</i> Brief: Recommendation #4 • <i>Consumer Demand</i> Brief: Recommendation #3 • <i>Direct Markets</i> Brief: Recommendation #2 • <i>Direct Markets</i> Brief: Recommendation #6 • <i>Grocers</i> Brief: Recommendation #4 • <i>Grocers</i> Brief: Recommendation #5 • <i>Major Metropolitan Markets</i> Brief: Recommendation #1 • <i>Major Metropolitan Markets</i> Brief: Recommendation #6 • <i>Marketing</i> Brief: Recommendation #1 • <i>Marketing</i> Brief: Recommendation #3 • <i>Marketing</i> Brief: Recommendation #4 • <i>Supporting Future Farmers</i> Brief: Recommendation #2 • <i>Swine</i> Brief: Recommendation #4
<p>18. Redesign the state education funding model so that Career and Technical Education centers have independent funding streams and budgets, and create and fund legislation to support other educational programs that strengthen the workforce pipeline, including a range of accessible postsecondary educational models such as apprenticeships, concurrent enrollment, and stackable credentials.</p>	<ul style="list-style-type: none"> • <i>Agricultural Literacy: K-12</i> Brief: Recommendation #4 • <i>Agricultural Literacy: K-12</i> Brief: Recommendation #5 • <i>College and Hospital Procurement</i> Brief: Recommendation #1 • <i>Dairy</i> Brief: Recommendation #3 • <i>Labor and Workforce</i> Brief: Recommendation #1 • <i>Labor and Workforce</i> Brief: Recommendation #2 • <i>Lightly Processed Vegetables</i> Brief: Recommendation #4 • <i>Maple</i> Brief: Recommendation #3 • <i>Spirits</i> Brief: Recommendation #3

Priority Strategy	Component Recommendations from Briefs
<p>19. Support and expand existing farm and food educational programming, and convene partners and conduct research to: identify the distinct audiences and goals for various initiatives; determine what types of programming, experiences, or information result in greater levels of behavioral change for those audiences and initiatives; and strategically coordinate efforts.</p>	<ul style="list-style-type: none"> • <i>Agricultural and Food Literacy</i> Brief: Recommendation #1 • <i>Agricultural and Food Literacy</i> Brief: Recommendation #2 • <i>Agricultural and Food Literacy</i> Brief: Recommendation #4 • <i>Agricultural Literacy: K-12</i> Brief: Recommendation #1 • <i>Agricultural Literacy: K-12</i> Brief: Recommendation #2 • <i>Agricultural Literacy: K-12</i> Brief: Recommendation #3 • <i>School Food Procurement</i> Brief: Recommendation #2
<p>20. Incentivize local purchasing by reimbursing K-12 schools on a per-meal basis for purchasing local products above a certain percentage threshold. For example, New York provides \$0.25 per lunch to schools incorporating at least 30% New York-grown product in their meal program.</p>	<ul style="list-style-type: none"> • <i>School Food Procurement</i> Brief: Recommendation #3
<p>21. Create a Local Food Access Funding Program with an appropriation of at least \$250,000 a year, available for programs that support low-income consumers in purchasing local food. Eligible program activities could include funding benefits which increase consumer purchasing power for local food, making wireless EBT machines available at no cost to producers and farmers markets, and outreach about any of these services.</p>	<ul style="list-style-type: none"> • <i>Direct Markets</i> Brief: Recommendation #5 • <i>Food Access and Farm Viability</i> Brief: Recommendation #3 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #2 • <i>Racial Equity in the Vermont Food System</i> Brief Recommendation #3
<p>22. Increase funding for proven ways to alleviate food insecurity, and support these programs in incorporating more local food. Specific known solutions include providing universal breakfast and lunch programs for every Vermont student and increasing local procurement within each school cafeteria, increasing investment in and utilization of public food assistance programs—including efforts to connect these programs with local farmers—and supporting charitable food system efforts to purchase directly from local farms.</p>	<ul style="list-style-type: none"> • <i>Food Access and Farm Viability</i> Brief: Recommendation #2 • <i>Food Security</i> Brief: Recommendation #4 • <i>School Food Procurement</i> Brief: Recommendation #1 • <i>School Food Procurement</i> Brief: Recommendation #2 • <i>School Food Procurement</i> Brief: Recommendation #3
<p>23. Build cross-sector coalitions to address issues affecting the quality of life and prosperity of employees in all sectors, including livable wages, child care, health care, student loans, immigration law, worker rights, transportation, and housing.</p>	<ul style="list-style-type: none"> • <i>Access to Capital</i> Brief: Recommendation #7 • <i>Child Care</i> Brief: Recommendation #1 • <i>Child Care</i> Brief: Recommendation #2 • <i>Child Care</i> Brief: Recommendation #3 • <i>Child Care</i> Brief: Recommendation #5 • <i>Health Care</i> Brief: Recommendation #1 • <i>Health Care</i> Brief: Recommendation #2 • <i>Health Care</i> Brief: Recommendation #4 • <i>Health Care</i> Brief: Recommendation #5 • <i>Health Care</i> Brief: Recommendation #6 • <i>Labor and Workforce</i> Brief: Recommendation #4 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #2 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #5

Priority Strategy	Component Recommendations from Briefs
<p>24. Develop a Vermont food security plan, centered around a thriving food system and inspired by community-based responses to food insecurity and disruptive events. Involve food insecure individuals as well as farmers in the planning, and investigate questions including, but not limited to, affordable housing, health care, transportation, siting of retail grocery stores, food distribution, and ensuring the continued production of food in Vermont. Work to adopt state and regional level policies, procedures, and plans to ensure that the Vermont food supply is sufficient to withstand global or national food supply chain disruptions caused by climate change and other disasters.</p>	<ul style="list-style-type: none"> • <i>Food Security Brief: Recommendation #2</i> • <i>Food Security Brief: Recommendation #3</i> • <i>Racial Equity in the Vermont Food System Brief: Recommendation #2</i> • <i>Racial Equity in the Vermont Food System Brief: Recommendation #5</i>
<p>25. Map Vermont’s agricultural land base and production capacity, including geographic data about predicted climate change impacts, aggregation and distribution infrastructure, and regional dietary needs. This information will help inform community land use decisions and the use of state funding and incentives.</p>	<ul style="list-style-type: none"> • <i>Land Use Planning Brief: Recommendation #2</i> • <i>Water Quality Brief: Recommendation #3</i>
<p>26. To better prepare and respond to climate change-related events, investigate innovative funding mechanisms for climate change adaptation practices (e.g., cover crops, building organic matter in soil), crop insurance for diversified Vermont-scale farms, and emergency recovery following extreme weather events.</p>	<ul style="list-style-type: none"> • <i>Agroforestry Brief: Recommendation #2</i> • <i>Agroforestry Brief: Recommendation #3</i> • <i>Bees and Honey Brief: Recommendation #5</i> • <i>Climate Change Brief: Recommendation #2</i> • <i>Climate Change Brief: Recommendation #3</i> • <i>Climate Change Brief: Recommendation #4</i> • <i>Maple Brief: Recommendation #6</i> • <i>Payment for Ecosystem Services Brief: Recommendation #6</i> • <i>Water Quality Brief: Recommendation #4</i>
<p>27. Continue to support the Payment for Ecosystem Services (PES) Working Group, which is poised to be a central point of coordination and connection among the many needed PES research and design efforts. These efforts should focus on PES approaches that regrow or sustain Vermont’s natural resource base so that it provides at least three ecosystem services: water quality, flood resilience, and climate stability.</p>	<ul style="list-style-type: none"> • <i>Agriculture and Food Policy Brief: Recommendation #4</i> • <i>Agroforestry Brief: Recommendation #5</i> • <i>Bees and Honey Brief: Recommendation #4</i> • <i>Payment for Ecosystem Services Brief: Recommendation #1</i> • <i>Water Quality Brief: Recommendation #2</i>
<p>28. Fund scientific research into how various agricultural practices affect soil and water quality, and how the impacts of these practices can be measured and valued in a Payment for Ecosystem Services program.</p>	<ul style="list-style-type: none"> • <i>Agroforestry Brief: Recommendation #5</i> • <i>Climate Change Brief: Recommendation #2</i> • <i>Climate Change Brief: Recommendation #4</i> • <i>Compost Brief: Recommendation #4</i> • <i>Payment for Ecosystem Services Brief: Recommendation #2</i> • <i>Payment for Ecosystem Services Brief: Recommendation #3</i> • <i>Payment for Ecosystem Services Brief: Recommendation #4</i> • <i>Water Quality Brief: Recommendation #2</i> • <i>Water Quality Brief: Recommendation #3</i>
<p>29. Assist food and farm businesses with navigation of municipal and state permit requirements and regulations. This will create a more supportive environment for business growth and diversification, especially as it relates to on-farm accessory businesses, farm employee housing, and development of off-farm processing, distribution, and storage infrastructure.</p>	<ul style="list-style-type: none"> • <i>Agritourism Brief: Recommendation #5</i> • <i>Agroforestry Brief: Recommendation #3</i> • <i>Land Use Planning Brief: Recommendation #3</i> • <i>Produce Brief: Recommendation #4</i> • <i>Water Quality Brief: Recommendation #1</i>

Priority Strategy	Component Recommendations from Briefs
<p>30. Build a comprehensive and fully aligned state-level agricultural policy roadmap, with public participation throughout the process. Implementation of the roadmap could include an annual review of existing and proposed policy objectives before each state legislative session to ensure policy requests complement each other, align with strategic priorities, and balance reactive and proactive policy needs.</p>	<ul style="list-style-type: none"> • <i>Agriculture and Food Policy</i> Brief: Recommendation #6 • <i>Agritourism</i> Brief: Recommendation #4 • <i>Agroforestry</i> Brief: Recommendation #2 • <i>Beer</i> Brief: Recommendation #1 • <i>Beer</i> Brief: Recommendation #3 • <i>Beer</i> Brief: Recommendation #4 • <i>Bees and Honey</i> Brief: Recommendation #3 • <i>Bees and Honey</i> Brief: Recommendation #5 • <i>Cheese</i> Brief: Recommendation #2 • <i>Cheese</i> Brief: Recommendation #3 • <i>Grapes</i> Brief: Recommendation #1 • <i>Grapes</i> Brief: Recommendation #5 • <i>Hemp</i> Brief: Recommendation #4 • <i>Maple</i> Brief: Recommendation #4 • <i>Poultry</i> Brief: Recommendation #4 • <i>Produce</i> Brief: Recommendation #4 • <i>Restaurants</i> Brief: Recommendation #4 • <i>Spirits</i> Brief: Recommendation #4 • <i>Spirits</i> Brief: Recommendation #5
<p>31. Provide livable wages and improve workplace conditions for all food system employees, especially BIPOC, by developing policies, shared workforce programs, market incentive programs (e.g., Milk With Dignity), and relevant technical assistance for farm and food businesses.</p>	<ul style="list-style-type: none"> • <i>Child Care</i> Brief: Recommendation #1 • <i>College and Hospital Procurement</i> Brief: Recommendation #1 • <i>Health Care</i> Brief: Recommendation #3 • <i>Labor and Workforce</i> Brief: Recommendation #1 • <i>Labor and Workforce</i> Brief: Recommendation #3 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #2 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #5
<p>32. Work with Vermont’s congressional delegation on reforming U.S. immigration and labor laws and rules.</p>	<ul style="list-style-type: none"> • <i>Apples</i> Brief: Recommendation #5 • <i>Labor and Workforce</i> Brief: Recommendation # 5 • <i>Racial Equity</i> Brief: Recommendation #2
<p>33. Plan, commit to, and prioritize actions—within the Farm to Plate Network and at all food system organizations—to begin eradicating structural racism in the food system, including uplifting and financially compensating the leadership, participation, and representation of BIPOC. It is imperative that initiatives focused on BIPOC be developed with paid partnership and input from the BIPOC community.</p>	<ul style="list-style-type: none"> • <i>Health Care</i> Brief: Recommendation #3 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #2 • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #5
<p>34. Allocate significant resources to support more in-depth research, data collection, and investigation of racial equity in the Vermont food system, leading to a comprehensive plan of action. It is crucial that this work and resulting initiatives include BIPOC leaders who are compensated for their contributions.</p>	<ul style="list-style-type: none"> • <i>Racial Equity in the Vermont Food System</i> Brief: Recommendation #1

Definition of Local, Local to Vermont, and Locally Grown or Made in Vermont

Act 129 (H.656) was signed into law on July 2, 2020. This legislation changed the definition of “local” and equivalent terms like “locally grown,” “local to Vermont,” and “made in Vermont” to better define Vermont food and is an update from the original 2007 definition. The new definition differentiates food by category and clarifies how various types of food qualify as “local” or “Vermont” food products. The new definition also makes “local” synonymous with “Vermont” with respect to food products, offering opportunities to celebrate Vermont’s brand and recognize the value of buying Vermont products.

Under the new definition, a person’s or company’s food is categorized into one of three areas: Raw Agricultural Products, Processed Food, or Unique Food Products. Each category has its own requirements to be considered local, including consideration of ingredients, manufacturing, and company headquarters for processed food items.

The specificity captured in this new definition should allow growers, producers, and processors to know how to produce “local” food and help consumers, distributors, and retailers understand and appreciate what they are buying. Businesses who sell or market food impacted by the change in the “local” food definition are expected to be compliant with the new definition by January 1, 2021.

Sec. 17. 9 V.S.A. § 2465a.

(a) As used in this section:

1. “Eggs” means eggs that are the product of laying birds, including: chickens, turkeys, ducks, geese, or quail, and that are in the shell.
2. “Majority of ingredients” means more than 50 percent of all product ingredients by volume, excluding water.
3. “Processed food” means any food other than a raw agricultural product and includes a raw agricultural product that has been subject to processing, such as canning, cooking, dehydrating, milling, or the addition of other ingredients. Processed food includes dairy, meat, maple products, beverages, fruit, or vegetables that have been subject to processing, baked, or modified into a value-added or unique food product.
4. “Raw agricultural product” means any food in its raw or natural state without added ingredients, including pasteurized or homogenized milk, maple sap or syrup, honey, meat, eggs, apple cider, and fruits or vegetables that may be washed, colored, or otherwise treated in their unpeeled natural form prior to marketing.
5. “Substantial period of its life” means an animal that was harvested in Vermont and lived in Vermont for at least one third of its life or one year.
6. “Unique food product” means food processed in Vermont from ingredients that are not regularly produced in Vermont or not available in sufficient quantities to meet production requirements.

(b) As used in this section: “local,” “local to Vermont,” “locally grown or made in Vermont,” and any substantially similar term shall have the following meaning based on the type of food or food product:

1. For products that are raw agricultural products, “local to Vermont” means the product:
 - (A) was exclusively grown or tapped in Vermont;
 - (B) is not milk and was derived from an animal that was raised for a substantial period of its lifetime in Vermont;
 - (C) is milk where a majority of the milk was produced from Vermont animals; or
 - (D) is honey produced by Vermont colonies located exclusively in Vermont when all nectar was collected.
2. Except as provided in subdivision (3) of this subsection, for products that are processed foods, “local to Vermont” means:
 - (A) the majority of the ingredients are raw agricultural products that are local to Vermont; and
 - (B) the product meets one or both of the following criteria:
 - (i) the product was processed in Vermont; or
 - (ii) the headquarters of the company that manufactures the product is located in Vermont.

3. For bakery products, beverages, or unique food products, the product meets two or more of the following criteria:
 - (A) the majority of the ingredients are raw agricultural products that are local to Vermont;
 - (B) substantial transformation of the ingredients in the product occurred in Vermont; or
 - (C) the headquarters of the company that manufactures the product is located in Vermont.
- (c) For the purposes of this chapter and rules adopted pursuant to subsection 2453(c) of this chapter, when referring to products other than food, “local” and any substantially similar term shall mean that the goods being advertised originated within Vermont.
- (d) For the purposes of this chapter and rules adopted under subsection 2453(c) of this title, “local,” “locally grown or made,” and substantially similar terms may be used in conjunction with a specific geographic location provided that the specific geographic location appears as prominently as the term “local” and the representation of origin is accurate. If a local representation refers to a specific city or town, the product shall have been grown or made in that city or town. If a local representation refers to a region with precisely defined political boundaries, the product shall have been grown or made within those boundaries. If a local representation refers to a region that is not precisely defined by political boundaries, then the region shall be prominently described when the representation is made, or the product shall have been grown or made within 30 miles of the point of sale, measured directly point to point.
- (e) A person or company who sells or markets food or goods impacted by a change in this section shall have until January 1, 2021 to utilize existing product labels or packaging materials and to come into compliance with the requirements of this section.

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Inside Front Cover–Page 1: Champlainside Farm/Cabot Creamery Cooperative

Page 4: Pete’s Greens

Page 5 (top to bottom): Seeds of Renewal Project; Cobb Hill Farmstead; Middlebury Natural Foods Co-op; UVM Medical Center

Page 6: Green Mountain Girls Farm/Vermont Agency of Agriculture, Food and Markets

Page 7: Windy Meadows/Kelly Nottermann, VSJF; Pigasus Meats/Intervale Center

Page 8: Hunt Middle School/Hunger Free Vermont

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Page 10: Erica Houskeeper Communications

Page 11 (top to bottom): Vermont Agency of Agriculture, Food and Markets; Gervais Family Farm/Vermont Agency of Agriculture, Food and Markets; Vermont Community Garden Network; Vermont Farm to Plate/Erica Houskeeper Communications

Page 12: Butternut Mountain Farm

Page 13 (top to bottom): Fairmont Farm/Vermont Agency of Agriculture, Food and Markets; Vermont Agency of Agriculture, Food and Markets; River Berry Farm/Jessica Sipe, Intervale Center; Vermont Agency of Agriculture, Food and Markets

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Page 29 (top to bottom): UVM Extension/Northeast Sustainable Agriculture Research and Education; Rutland Farmers Market/ Vermont Agency of Agriculture, Food and Markets; Over the Hill Farm; Butch + Babes/Montgomery Sheridan

Page 34: Eden Specialty Ciders/Flexible Capital Fund/Erica Houskeeper Communications

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Page 190: Cedar Circle Farm

Back Cover: Land for Good



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