New York State is a leading agricultural producer in the nation & producers in New York have access to one of the largest markets in the world. There is significant opportunity to expand and improve the Organic regional foodshed within NYS. With support from project partners including Amy’s Kitchen, GrowNYC, The Center for Agricultural Development and Entrepreneurship, the Northeast Grainshed, & Glynwood, NOFA-NY has produced this feasibility study which identifies key actionable opportunities that will close the gaps in our local processing infrastructure, build regional food security, and ensure the economic vitality of our agricultural regions.

Over a two-year period, NOFA-NY has worked with its broad collective of partners to conduct deep research, survey key stakeholders across the value chain, and host focus groups and interviews with key individuals in order to identify strategic actions that will yield a more equitable and sustainable regional food system.

A special thank you to principal researcher, Sarah Ficken and USDA Agriculture Marketing Service for supporting this research.
Key Recommendations

Over the course of NOFA-NY’s research, key actionable recommendations emerged that united the three commodity types studied.

These recommendations are:
- the need for more accessible regionalized processing,
- policy support, and
- additional aggregation capacity.

Accessible regionalized processing capacity emerged as the highest rated need across our research. Producers and processors repeatedly identified lack of access to processing facilities as a bottleneck to growth and innovation. Access to processing facilities allows produces and processors to innovate without having to make substantial investments without sufficient proof of concept. Accessing to processing capacity allows for greater flexibility when processors yank contracts. Innovation centers and a vibrant co-packing industry allow businesses to launch new enterprises and help remove the barriers that consolidated commodity markets create.

Additional aggregation capacity was also identified by all commodity groups as a need. For smaller producers or for producers looking to enter new markets, aggregation represents a significant opportunity. For larger buyers, aggregation allows them to source more locally and potentially from smaller producers while still receiving consistent product in quantity.

While aggregation and regionalized processing capacity were referenced as the opportunities, the need for policy that actively fostered a sustainable and diverse regional food system was nearly unanimously cited among survey respondents, focus group participants, and interviewees. Efforts like Nourish NY have provided successful proof of concept in how policy can actively and positively shape and strengthen our regional foodshed. Continuing to advocate for programs that encourage institutions to buy local food or that foster innovation within the sustainable food realm are critical to building a vibrant regional food ecosystem.
This section provides a snapshot of the current conditions of the Organic food system in New York State. This section draws on a variety of sources including USDA Agriculture Census and Organic Survey data and NYS Department of Transportation data as well as data from our partners at the Center for Agricultural Development and Entrepreneurship and the Cornell Institute for Climate Smart Solutions.

### State of New York Agriculture

Every 5 years, the United States Department of Agriculture conducts an Agricultural Census. The data collected in the Agricultural Census is crucial to identifying state and regional trends, challenges, and priorities. While there have been some changes to census methodology, results from the census allow for the identification of key trends over time at the national, state, and county level. A few key, noteworthy trends have emerged in New York State over the last few years: an increase in very large and very small farms; a decrease in medium sized farms; a decrease in the amount of land farmed; and an increase in government subsidies as a portion of farm income.

The two big themes that emerged from the Agricultural Census are the primacy of transportation for farmers to get their perishable goods to market and the opportunity that exists to expand Organic production at wholesale scale in New York State. Nationwide, nearly 93% of organic food products are accessed through traditional food stores (USDA ERS), which means that there remains a significant opportunity for organic farms in New York to grow into the wholesale marketplace in addition to direct to consumer endeavors.

As a follow up to the Ag Census, the USDA conducts a Survey of Organic Agriculture. The purpose of this survey, most recently conducted in 2019, is to capture additional data from all farms who indicated in the 2017 Ag Census that they were currently certified Organic or transitioning to Organic production. The Survey has been conducted in 2008, 2014, and 2019 and allows us to identify and analyze trends in Organic production over the past decade.

According to the survey, there are 1,321 certified organic farms in New York State, accounting for 323,081 acres of total production.
About half of the certified acres are owned and half are rented. In general, rented acres are more susceptible to development pressure and more likely to pass out of agricultural use than owned acres. Sales from the 1,321 certified Organic Farms account for 298 Million dollars of sales with the majority of farms selling more than $50,000 of product each year.

Of the 1,321 Certified Organic Farms, 851 farms realized 100% of their sales from Organic products. Of the remaining farms, 349 realized at least 50% of sales from Organic products. This demonstrates that most Certified Organic Farms in New York State earn the majority of their income through Organic production. There are not very many farms that include a Certified Organic component where that component makes up the minority of their income. Further survey data indicates that many of the farms that indicated most of the income from conventional production were in the process of transitioning and were not yet able to sell products as Organic. This data supports the idea that Organic production is lucrative for farms and may indicate that once the initial barrier to Organic certification is hurtled, continued, and expanded organic production is financially beneficial.

The survey also indicated that Organic farms participate in federal farm programs at a rate lower than that of their conventional counterparts (page 150). In 2019, fewer than half of all Organic farms in New York State were enrolled in the National Organic Certification Cost Share program. This program is designed to lower the financial barrier for farms to attain Organic certification. Addressing this low rate of participation in the National Organic Certification Cost Share program may provide an opportunity to grow the number of certified Organic farms in New York State.

Furthermore, less than 10% of Organic farms in New York State participated in federally subsidized crop insurance programs. While most of the farms that did not participate in crop insurance indicated that they did not feel the need for coverage, nearly 20% indicated that cost and lack of information around the program were the primary barriers to participation. Participation or lack thereof in federally subsidized crop insurance programs may be worth exploring more, although the drivers behind the low level of participation are multifaceted.

The Survey paints a positive picture for the capacity of New York State’s Organic producers to increase production. The results indicate favorable growing conditions, a positive regulatory environment, adequate human capital to meet growing management needs, and adequate access to market. The Survey queries Organic farmers about crop loss to pesticide or GMO contamination. Of the over 1,300 certified Organic farms, only 17 farms identified losses. Less than 2% of Organic farms in New York state identified losses, which was significantly lower than the rate of contamination in other big agricultural states like California, Texas, or Wisconsin. The ability of Organic producers to safely and successfully grow their crops indicates that New York State is friendly for Organic production.
The Survey also queries Organic farmers about different barriers or challenges that their farms faced. These barriers include things like market access, regulatory hurdles, price paid for product, and production and management challenges. Organic Farmers in New York State generally identified fewer challenges than average when compared to producers across the United States. The national average for regulatory issues was 54%, but only 50% of New York farmers identified regulatory issues as a challenge. Only 33% of New York farmers identified production challenges, whereas the national average for 39%, with big organic production states like California and Florida at 44% and 52% respectively. This demonstrates that the growing conditions in New York state are more conducive to growing the types of organic crops that New York farmers grow. New York state also ranked at or below the national average for market access and management.

Climate and Topography

Climate change poses the single largest stressor to agriculture across the United States. Increasing frequencies of droughts, fire, and extreme weather events all pose significant challenges to producers. While New York State, like every other state, will be impacted by climate change, the impacts will be generally more manageable and may even provide unique opportunities. The key impacts of climate change in New York State include increased total precipitation, increased temperature, extended periods without precipitation, and a longer growing season (CICSS).

New York is expected to receive more precipitation in the future than it currently does right now (IPCC). The increased precipitation will come in the form of more extreme rainfall events – defined as greater than 1” of rain per hour. While managing extreme rainfall events can be a challenge to producers, aggregators, and transporters, actions can be taken to directly mitigate these risks. On farms, these actions may include active conservation measures to conserve both water and soils and technological investments to protect against higher temperatures and short periods of drought. For aggregators and haulers, risk mitigation efforts may include increased storage capacity, flood management plans, and multiple hauling routes.

New York State has experienced a general warming of nearly 1 degree Celsius over the past 30 years. This warming trend is projected to increase and poses some unique benefits and challenges to Organic production. The temperature increase is expected to occur primarily at night, with higher daily low temperatures. Raising the nighttime temperature increases the speed at which growing degree days are accumulated. While increasing temperature can improve crop production, this increase in temperature does pose a challenge to livestock producers who will have to manage pasture and mitigate heat stress more actively. Increasing temperatures during the winter can pose a challenge to Organically managing pests and diseases as a decreased frequency of extreme cold weather events means that pests and pathogens can more easily overwinter.
Finally, the frost-free growing season has expanded by approximately 15 days over the last 30 years. This increase in growing season length makes it possible for farmers to grow a greater diversity of crop varieties and to double and triple crop their fields. As the growing season lengthens, instances of frost during the active growing season increases and producers will have to actively manage around this risk. Management is crop specific, but may include cultural practices like sprinkler systems, controlled fires, and row cover.

Climate change also poses challenges to processors as extreme weather events can cause power disruptions, transportation and logistics challenges, and stress processing equipment. For instance, the extreme heat in July 2021 resulted in a significant scorching of powdered milk products in the Northeast. Both producers and processors will have to actively incorporate risk mitigation strategies to handle climate related challenges.

Organic production practices frequently align with both climate change mitigation and climate change adaptation strategies. Organic practices that center soil health can help producers adapt to some of the weather extremes of climate change. Through focusing on soil health, organic producers are better able to conserve soil moisture during extended dry periods and minimize top soil erosion during heavy rain events. Furthermore, these practices also create long-term storage for carbon, which mitigates the rate at which the climate is changing.

**Key Markets & Transportation**

According to the Ag Census, the counties with the greatest amount of farmland are located primarily in the Western and Northern regions of New York State. While the Hudson Valley includes a noteworthy quantity of farms, these farms are disproportionately smaller and direct to consumer. The farms in the Western and Northern parts of the state tend to be larger, commodity or wholesale operations. These larger farms are in areas with flat land and large fields where more mechanization can be used.

These larger farms in the hinterlands of New York State rely on transportation networks to get their products from the farm to processors and end users. The primary method of transportation for product is via truck (COJ). Interstate 81, 86, 87, 690 are the primary truck routes across the state, with well-maintained State and County highways moving goods from the farms to the major Interstates. Over the past decade, New York State has been expanding State Route 17 to transition it to Interstate 86 (NYS). Improvements to this route have resulted in faster rates of travel, reduced pressure on the toll road, and improved access to the population heavy Southern and Eastern parts of New York State (NYS).
In addition to Interstates, there is an active rail system that parallels the New York State Thruway. This railway has major sidings at key junctures including the Inland Port of Syracuse. The Inland Port of Syracuse is a proof-of-concept inland port with the capacity to handle 30,000 containers per year (JOC). In addition to providing additional storage capacity for the Port Authority of New York & New Jersey, the Inland Port of Syracuse also reduces the amount of empty back hauls, is centrally located as an aggregation and distribution point, and reduces the number of trucks on the highway through dense population corridors.

According to the Central New York Inland Port Feasibility Study commissioned by the State of New York, the port creates a 150-mile catchment basin around Dewitt where it becomes more financially attractive to ship commodities by rail than by truck (NYS). With the addition of another Inland Port in Buffalo, NY, this creates two large areas for rail import from the New York State hinterlands to the population centers. All of the commodity scale agricultural land is located within a 150 mi radius of these two Inland Port locations or the Port of Albany or the Port of New York.

The railway parallels the NYS Thruway and the Erie canal. While the Erie Canal is more frequently used for leisure, it does provide a water connection between the Great Lakes & the St. Lawrence Seaway and the Port of New York & New Jersey that could be redeveloped to meet future needs. (JOC).

**Processing Capacity**

New York State has significant processing capacity and has the capacity to increase its processing capacity. New York is currently home to over 100 unique dairy processing facilities, 80 meat plants, 200 vegetable packing houses, and 15 vegetable canning facilities, in addition to a many food hubs, aggregators, and co-packing facilities.

Regional processing capacity is critical to New York State agriculture because processing transforms usually perishable farm product into more stable forms for use directly by consumers or by further processors. Regional processing capacity has changed radically over the past half century, with increasing scale and consolidation. This poses both opportunities and challenges for producers that will be discussed later in this paper.

Our appendix includes a list of all the processing facilities in New York State. Many thanks to CADE and Walden for collaborative information sharing.
Before beginning this project, we worked with partners throughout the food system to identify synergistic efforts and create a literature review. This literature review provided the basis for the creation of survey questions and long form interview questions and helped to guide the flow of inquiry during the focus groups.

Two-thirds of New York State’s Organic producers indicated that they had active plans to maintain or increase their production over the next five years and less than 5% of producers indicated that they planned to cease farming in the next five years (163). This trend is amplified by the nearly 9,500 acres of cropland and pastureland actively in transition to organic production (165). Organic producers clearly feel optimistic about the future of Organic production in New York State.

**Methodology**

The scope of this project is vast, so we used a variety of research methods to gather information across the value chain. This section includes the methods we used for research, including information gathering, focus groups, surveys, long form interviews, gap analysis, and SWOT analysis. Taken together, this research paints a robust picture of the Organic value chain in New York State.

### Information Gathering

Before beginning this project, we worked with partners throughout the food system to identify synergistic efforts and create a literature review. This literature review provided the basis for the creation of survey questions and long form interview questions and helped to guide the flow of inquiry during the focus groups.

### Focus Groups

We completed focus groups with members of each of the commodity types that this feasibility study covers. These focus group meeting included key producers, processors, and allied industry who had a nuanced understanding of the industry in New York State.
The grain focus group was held in conjunction with Glynwood on July 13 and included grain producers, processors, and marketers were involved with the GrowNYC Grainshed effort. The focus group lasted for two hours and included guided conversation around the future of local grains with an emphasis on the New York City metro area market.

The dairy focus group was held on October 12 and included producers who sell their milk to eight different milk buyers, producers who process their own milk, dairy cooperatives, milk haulers, and allied industry. The conversation was facilitated by New York State Ag Mediation and included guided conversation and breakout sessions to discuss the challenges unique to the Organic dairy industry in New York State. The meeting was held after the significant upheaval caused by cancelled contracts. The conversation was focused on identifying solutions and opportunities that could mitigate the risk of future contract cancellations and how to rebuild a more robust Organic dairy industry in NYS.

The vegetable focus group was held on November 9 and included vegetable producers of various scales, extension professionals, and allied industry. The conversation focused on challenges unique to Organic Vegetable Production with an emphasis on solutions-based outcomes.

3 Long Form Interviews

A series of open-ended long form interviews were conducted with producers, processors, and allied industry members to better understand the opportunities and challenges in growing the mid-tier value chain in New York. These long form interviews were conducted via zoom or by phone. Interviewees were asked a predetermined set of questions, but the conversation was allowed to flow. Conversations were not recorded, but detailed notes were kept on each interview. The long form interviews were conducted throughout the course of the study.
Survey Data

Data was collected through a series of surveys. A commodity specific survey was distributed among those involved with grain, dairy, and vegetables. An additional survey was distributed to the general population to understand the feelings of a broader audience. These surveys included both multiple choice and long form questions. The answers to the long form questions were coded for data analysis.

SWOT Analysis

A SWOT analysis is an organizational tool used to analyze the Strengths, Weaknesses, Opportunities, and Threats of a situation. Strengths (the top left quadrant) are positive, intrinsic attributes that can be leveraged to realize opportunities. Weaknesses (the top right quadrant) are negative, intrinsic attributes that must be actively managed to reduce catastrophe. Opportunities (bottom left quadrant) are extrinsic forces that can create positive change if they are effectively harnessed. Threats (bottom right quadrant) are extrinsic forces that exert negative pressure and can result in poor outcomes.

Taken as a whole, a SWOT analysis is a useful tool for identifying growth areas, catapulting new ideas, and actively mitigating risk. Our SWOT analysis was guided by a series of focus groups, advisory meetings, long form interviews, and survey responses. The final SWOT Analysis is included in Appendix 3.

General Overview

A few key themes that crossed commodity types emerged during the course of the research. The need for more and more accessible regionalized processing, the need for policy that actively encourages farm and food entrepreneurship, and the need for more aggregation capacity.

While each commodity type also had needs specific to their production, these three key themes emerged again and again as key drivers that could thrust New York State Organic agriculture into the future.
The SWOT analysis identified a few key trends that crossed commodity types and were broadly applicable to the entire food system in New York. These trends are included in the figure below. Of special note is that common themes transcended the categories and frequently appeared in more than one, often contradictory, category.
STRENGTHS

For this exercise, strengths are defined as intrinsic positive characteristics that provide a unique position for development and growth. Our analysis identified five key strengths: proximity to population centers, transportation infrastructure, growing conditions, strong grower organizations and cooperatives, and an effective regulatory framework.

Proximity to Population Centers

New York State is centrally located in the Northeast Megalopolis. This stretch from Boston to Washington, D.C. contains nearly 40% of the United States Population and includes important ports like Baltimore and New York City. Organic producers in New York state have exceptional access to a significant percentage of the U.S. population and relatively easy access to export markets.

Transportation Infrastructure

New York has a strong over road transportation system, with well-maintained state and county roads feeding a robust Interstate system. A railroad system that connects the Port of New York and New Jersey with Inland Ports in Syracuse and Buffalo adds additional transportation capacity.

Growing Conditions

New York State is well adapted to growing many crops and is not projected to be impacted as negatively by climate change as other regions of the country. A longer growing season and earlier onset of the growing season may provide opportunities for producers to experiment with new crops or cropping rotations and achieve higher yields.

Regulatory Framework

According to the Survey of Organic Producers conducted by NASS, the regulatory framework in New York State was viewed as slightly more positive than average for the country. Additionally, New York has created programs like Nourish NY and the Taste NY program which foster farm and food innovation.
Grower organizations and cooperatives

New York State has a long tradition of strong grower organizations and cooperatives. These commodity and interest focused organization provide a natural means for information distribution and can be leveraged for aggregation and opportunity. Mission driven organizations, like NOFA-NY, bring together a diverse group of producers, professionals, and consumers around the common vision of a just and resilient agricultural system in New York State through formal and informal education events, a strong farmer-to-farmer network, and values based outreach. Affinity organizations, like NY Farm Bureau, are able to offer their members discounts on insurance and other services, lobby in support of policies that reflect the organizations values, and provide social outlets for members. Commodity specific grower groups are frequently smaller than mission driven or affinity organizations, but can provide growers with critical information, sponsor needed research, and leverage additional resources. Commodity specific grower groups include the NY Corn and Soybean Grower Association, the NY Hop Growers Association, the Northeast Organic Dairy Producers Association, NY Apple Association, NY Wine and Grape Foundation, and many others. New York State has a strong history of all three types of organizations within the agricultural space.

OPPORTUNITIES

For this exercise, opportunities are defined as extrinsic positive forces that have the potential to be captured for transformational change. Opportunities were not something that individual businesses could harness through sheer force of will, but, if the right conditions were incubated, the opportunities could come to pass. Opportunities included in this study are: consumer awareness of supply chain, shifting generational values, consumer interest in local/regional food, improved shelf stable technologies, and increased money available for food purchases.

Consumer Awareness of Supply Chain

The Covid-19 pandemic has fundamentally reshaped consumer habits and accelerated a generational shift in purchasing priorities. Once nearly invisible, consumers are very aware of the supply chain and have at least a basic understand of scarcity. Furthermore, the Covid-19 pandemic showcased the relative strength and adaptability of the local and regional economies compared to the global economy. Research is still emerging, but early efforts indicate that consumers have become increasingly aware of the existence of the food supply chain and have a greater degree of familiarity with how to access it. (CALS white paper)
Shifting Generational Values
As purchasing power shifts from the Baby Boomer Generation towards the Millennial Generation and Generation Z, values are shifting. Millennials are more likely to buy items that are local, that align with their values, or that are experiential. Generation Z follows these trends to a greater degree. This is a significant deviation from Baby Boomer buying practices that tend to be driven by price.

Consumer Interest in Local/Regional Food Systems
A combination of factors have resulted in increased consumer interest and focus on the local and regional foods. The Covid-19 pandemic illuminated the previously invisible supply chain, highlighted the perils of last minute logistics, showcased the reliability of local food, provided opportunity for a subset of the population to be more thoughtful about their food eating and purchasing habits, and accelerated inflationary pressures. Individually, each of these factors may have increased interest in the local/regional food system, but taken together and coupled with the periodic visual shock of empty grocery shelves, have added focus to the regional food system.

Improved Shelf Stable Technologies
Improving technology in the food processing space is making it more possible to address the mismatch between the growing season and the eating season. Ultra-High Temperature pasteurization of milk, for instance, allows milk that is produced during Spring flush to remain highly palatable in a shelf stable format for months. Individual Quick Freeze technology continues to advance and become more affordable, making it possible for vegetable producers, cooperatives, and processors to solve for the mismatch between demand and growing season.

Increase money available for food purchased
Inflation continues to pose a significant challenge, but consumer spending is at an all time high and consumers are more willing to spend money to purchase food that aligns with their values. As pandemic related aid falls grows more distant and inflationary pressures continue, the increased money available for food purchase may not prove to be the opportunity hoped for; however, consumer buying patterns habits are durable and changes wrought by the pandemic -- like an increased affinity for CSA subscriptions and direct to door farm delivery -- may persist.
WEAKNESSES

For the purpose of this exercise, weaknesses are defined as intrinsic attributes that pose a challenge to the regional food system. Weaknesses are something that a business has – at least theoretically – at least some control over and can be directly mitigated through changes to business practices. We have included distance from population centers, institutionalized barriers to entry, nascent hubs and aggregators, and limited cold storage capacity as weaknesses.

Distance from Farmland to Population Centers

While New York is strategically positioned midway through the Northeast Megalopolis – the region of interconnected cities and hinterlands stretching from Boston, MA to Baltimore, MD -- the majority of the farmland in New York State is not located near the population centers. Distance to processing and market creates transportation and logistical challenges, even with a sufficient transportation network. As inflationary pressures and diesel prices continue to rise, farms that are further away from their markets will face increasing challenges. The mismatch between locations is not an issue that can be directly solved for, but solutions like improved logistics and transportation infrastructure, and increased reliance on low cost transportation, and can lessen the barrier that this causes.

Barriers to Entry – New Businesses and New Crops

The barriers to entering production agriculture and food processing are both very high. Barriers include access to capital, access to land, regulatory burdens, access to commodity markets, institutional barriers, development pressure, and knowledge gaps. This yields a highly competitive, tight margin marketplace that is dominated by relatively few, established names. Without new startups, the rate of progress and technological adoption is slowed. Startup competitions like GrowNY have the potential to spur innovation. Policy changes at both the state and federal levels can also help overcome the barriers around access to land and capital, can encourage research to fill knowledge gaps, and lower the risk associated with trying new practices, crop varieties, or products. These barriers are well documented and not the focus on this study, but additional references on the barriers to entering farming and food processing can be found in Appendix X.
Nascent Hubs and Aggregators

While commodity aggregation has existed within New York State for over a century, medium scale aggregation is still in the early stages. Because of size and scale of farms in New York, the lack of moderate sized aggregation infrastructure exacerbates supply chain issues within the regional foodshed. Moderate sized aggregation facilities provide an important conduit between smaller farms and larger buyers. Through aggregating uniform product from a number of producers, aggregation facilities are able to fill larger wholesale contracts that an individual small farm would be able to do by themselves.

Cold Storage Capacity

Cold Storage is crucial to extending the life of food products. Whether refrigerated or frozen, cold storage extends the life of perishables products by days to year. As a state with strong seasonality, cold storage allows for seasonal products to be preserved and available year round. This consistency in availability is important, especially to institutional buyers who have less flexibility and significant out-of-season needs. Cold storage space is currently incredibly tight and very expensive to rent or to build, which makes it difficult for producers and processors to expand in scale or scope from current offerings.

THREATS

For the purpose of this study, threats are defined at extrinsic factor that can negatively impact the regional food system. Threats are not something that an individual business can control, but are generally something that the business should be aware of and have mitigation strategies in place for. We have included supply/demand mismatch, cheaper production costs elsewhere, improved shelf stable technology, and labor costs as threats in this study.

Cheaper Production Costs Elsewhere

Production costs remain cheaper outside of the Northeast due to a more favorable topography for large scale agriculture, more affordable land prices, and fewer labor regulations. Shelf stable, extended life food, increases the threat from perishable products moving in from out of state/out of region.
**Supply/Demand Mismatch**

The mismatch between the growing season and the greatest demand from institutional buyers is also a threat to the regional food system. For instance, the seasonality of produce creates challenges for Farm to School programs because abundant, fresh, local fruits and vegetables are available during the summer months when school children are on summer break and less available during late Autumn, Winter, and Spring while school children are at school. To be viable, the regional food system needs to provide buyers with product year-round and not just for the short growing season in New York State. Dealing with the supply/demand mismatch either requires significant investment in processing and storage infrastructure or education around the seasonality with institutional buyers.

**Improved Shelf Stable Technology**

Improved shelf stable technology allows for products with a naturally short shelf life, like milk or fruit, to be converted into long-lived, easily transportable products that can be imported into the Northeast from other regions of the country. Improvements in shelf stable technology are potentially a huge boon for storage of highly seasonal products; however, the technology also makes it feasible to import highly perishable products from different parts of the country and world.

**Labor Costs**

New York State has a higher minimum wage and more stringent labor laws than many other parts of the country. Labor costs may make it challenging for companies to expand their operations in New York State. The stepped up minimum wage in NYS can pose a barrier to food processors; however, there are benefits to processing food in NYS that can mitigate this perceived disadvantage. New York is also following states like Washington and California with phasing in a stepped down overtime threshold for farmworkers. As other large agricultural states implement more stringent labor laws, the labor laws in NY may not put NYS producers at a competitive disadvantage.
Dairy production is the largest segment of agricultural production in NYS. There are approximately 3,500 dairy farms in NYS. NYS is the largest producer of yogurt and cottage cheese in the United States and ranks 5th for overall milk production. There are currently 650 Certified Organic Dairies in New York, or approximately 19% of the dairy farms. Organic milk buyers include Byrne Dairy, Upstate Niagara, Organic Valley, Danone (Horizon), & Maple Hill Creamery.

There has been significant movement within the Organic dairy industry since 2021 when nearly 100 producers lost their contracts with Danone and Maple Hill Creamery. CROPP Cooperative (Organic Valley) has provided Letters of intent to 90 of the producers that Danone dropped and Maple Hill Creamery extended by 6 months the contract that had previously been set to terminate at the end of June 2022.

According to New York State Department of Agriculture and Markets, in 2019 there were 27 Fluid plants and 80 manufacturing plants (NYSDAM). The majority of plants (13 fluid plants and 41 manufacturing plants were located in the Eastern portion of New York or close to New York City. While most milk is produced in the Western and Northern portions of the state, these processing facilities are located near the bulk of the consumer market. This makes distributing the finished product to market easier but results in higher transportation costs from the farm to the plant. Transportation costs emerged as a key challenge to the dairy industry throughout the course of this study. Even though the milk is purchased at the “farmgate”, dairy producers have historically borne the costs of transporting their milk to the plant.

The number of certified Organic processing facilities and the capacities of these plants is unclear as many facilities process both Conventional and Organic Milk, some Organic milk enters the conventional milkshed, and some Organic milk is shipped out of state. Despite the lack of clarity, we know that the five big Organic milk buyers in NY are Organic Valley, Byrne Dairy, Horizon (Danone), Upstate Niagara, and Maple Hill Creamery.
Dairy producers and folks working in allied industry completed an open-ended survey about their thoughts on the biggest opportunities for growth. Once the survey closed, their responses were coded to reveal trends.

For the purposes of this study access to funding was defined as the ability to access capital to make improvements to infrastructure or equipment, diversify the enterprise, or purchase new land.

Collaboration was defined as the ability to work together with others to improve their market; the others could be members of their local/regional community or people sharing common values. Control was defined as the ability of dairy producers to make decisions about where and how to sell their milk. Entrepreneurship was defined as efforts that support entrepreneurial success, be it technical or marketing support, market access, or capital investment. Diversity was defined as efforts that actively seek to build a more diverse and equitable dairy system through addressing systemic racism, land access, labor practices, and other issues. Regionalization was defined as ideas that supported the creation of small, regional milksheds. Of the survey respondents 48% identified a need for greater collaboration or regionalization of the milkshed and 47% identified needs related to increased opportunities for entrepreneurship and control of their milk. Of note, 5% of respondents identified increasing diversity in the milk supply chain as an opportunity for growth.

When broken into their component pieces, the respondents who felt that regionalization was the biggest opportunity saw two distinct ways to implement this. The first was greater collaboration in the organic dairy industry to advocate for beneficial policies. NOFA-NY currently represents more than 50% of the organic producers in New York State. The organization has been successful in consensus building around key topics and continues to lead with ambitious initiatives that help maintain the integrity of Organic dairy farming in NYS. The second was regionalization of the milkshed through working collaboratively with neighbors to process regionally branded milk for the local community. The two strategies are not mutually exclusive and speak to the importance of bringing multiple stakeholders with varying ideas to the table.

Entrepreneurship also emerged as a key theme. 14% of survey respondents felt that increased control of the raw commodity at the farm level would result in better financial impacts for producers. Increased control at the farm level meant different things for different respondents. For some, it meant a lower regulatory threshold for raw milk sales, while, for others, it meant ...
more options for milk buyers/milk coops or more flexibility with either on farm processing or access to co-packing facilities. These respondents generally felt that current NYS legislation is too difficult to navigate for producers, although they disagreed about how to overcome this barrier.

Allowing producers greater control of their raw commodity would not only directly benefit the producers but would spur innovation as the barrier to entering the dairy products marketplace would be lower. Similarly, 19% of respondents felt that fostering entrepreneurship would help to build a more robust system. Ways to foster entrepreneurship included assistance with collaborative marketing efforts, technical support & facility access to trial value added products, and viable access to co-packing facilities. Survey respondents noted that the only place for growth in an increasingly consolidating dairy supply chain is through direct to consumer sales that allow for active differentiation.

As farmers continue to age, bringing in a next generation becomes increasingly important. Access to capital to buy into existing operations or begin new operations remains a significant barrier, especially as access to viable markets becomes increasingly restricted. While not specific to dairy, the focus group conversation highlighted the key role that farms play in creating vibrant rural communities and healthy ecosystems and that facilitating generational transfer is of critical importance to the future of Upstate New York.

Of note, only 5% of survey respondents indicated diversity as a growth area. While there are many reasons as to why diversity was not highlighted as an opportunity, it is important to note that fostering an environment of inclusive innovation has historically led to the creation of novel enterprises and products that have reshaped saturated marketplaces.

**Focus Group**

The focus group meeting included milk processors, producers, and allied industry – including NY Farm Net consultants and NOFA-NY staff. The conversations mimicked the survey results and provided more depth and context. The focus group format also allowed for more detailed responses around challenges that beset the entire Organic dairy industry. Many producers spoke about the instability and unsustainability of organic milk pricing and the challenge of maintaining organic standards on low margins.

Producers and allied industry also spoke about the challenges and regional inequity as a result of not having a Final Origin of Livestock rule in place. The Origin of Livestock rule provides clarification on how and when conventional animals can be transitioned over to Organic. Due to regional discrepancies in how organic certifiers implement the rule, exceptionally large Organic dairies in the west were able to exploit a loophole whereby calves were born and immediately sent to be raised at conventional calf raising operations. A year before the animal was to join the Organic milking herd, the animal starts the transition process back to Organic.
This continuous transition loophole puts producers who follow the intent of the law at a significant competitive disadvantage. The Original of Livestock rule was finalized on DATE, which clarified and provided more equitable guidance to Organic dairy producers. The focus group discussions highlighted the importance of collaboration between producers, the need for regionalization of the milkshed, the barriers that producers face in trying to control their product, and the need for someone to actively advocate for policy that is supportive to Organic dairy producers.

While focus group members identified different methods for collaboration and cooperation between Organic dairy producers, there was nearly unanimous agreement that long term cooperation was key to the future of the Organic dairy industry. Focus group participants saw regionalization, cooperative marketing, and cooperative hauling agreements as attractive solutions to addressing many of the challenges currently facing Organic dairy. Focus group participants viewed regionalization of the milkshed as an attractive solution to many of the problems that beset Organic dairy and rural communities. From transportation logistics and costs to product development and social equity, regionalizing the milkshed was seen as an opportunity to solve many problems.

The focus group also noted the difficulty that dairy producers have in controlling their product. Producers especially felt that the regulations around raw milk and on farm processing were onerous and confusing and costly to navigate. They felt that lack of control of the final product created a significant barrier to farm profitability through removing or significantly curtailing their ability to access direct sale channels. Producers also felt that navigating on farm processing requirements was confusing and that more assistance was needed to navigate the regulatory hurdles.

Long Form Interview

The survey data was striking in how the survey questions, focus groups, and long form interviews all surfaced the same three key themes: the need for additional regional processing capacity, the need to work together, and the need for dairy producers to be more able to control their product.

The format of the long form interviews also created space for producers and dairy professionals to share additional concerns. Labor, access to health insurance, and depressed rural economies were the focus on many of the long form interviews.

New York State is currently undergoing a labor law reset including a phased in minimum wage increase and a phased in of a decreased overtime threshold for agricultural workers. Long form interview participants were almost evenly split it terms of how they felt about the labor regulations. On the one hand, many felt as if increase minimum wage thresholds and decreased overtime thresholds put hired help out of reach.
Larger producers, especially, felt as if the new labor laws would force them to make decisions that were not best for their business. Other dairy producers felt that through adequately valuing labor in the form of increase minimum wage and decreased overtime threshold would help the Organic dairy marketplace by making it more difficult to flood the market with cheap milk. They also felt that the laws would help to increase the value of family labor.

The longform interviews also surfaced access to health insurance as a key challenge for many Organic Dairy producers. Many farmers reflected on the necessity of a spouse working “in town” in order to provide health insurance for the family, but the time the spouse spent away from the farm in order to obtain health insurance was not necessarily offset by the wages brought home. Many farmers found themselves feeling overwhelmed and not able to make forward progress because of the necessity of an off farm job. Access to health insurance is not a agriculture specific challenge, but it is worth noting because of the impact on productivity and mental health that it does have.

A few of the longform interview participants were either actively producing a value added product or were actively developing a value added product. These participants spoke about the premium nature of the product that they were producing, the costs involved in producing the product, and the value of the product and the inability of their local communities to afford their product. This schism between value and ability to pay highlights two key challenges that could be turned into opportunities.

The first barrier is the quantity of regulations that producers must hurdle in order to sell milk directly from their farm. New York State has stringent raw milk laws that are designed protect consumers from milkborne pathogens. If a dairy producer wants to manufacture and sell a pasteurized dairy product, they have to navigate significant regulations without a lot of support. Many interviewees spoke about the willingness of their State Inspector to provide guidance critical to their success. Creating a formal system whereby individuals were supported in the transition to creating value added dairy products would strengthen the Organic dairy industry. The second challenge that direct to consumer dairy sales highlight is the ability of rural communities to be able to afford and/or prioritize the additional cost of local products. This is a really interesting challenge and one that has wide reaching implications across production models. The Food and Health Network of South Central New York has pioneered programs like the Produce Prescription Program and the Rural Food Retail Program. The Produce Prescription Program recognizes that food insecurity is inextricably linked with chronic diseases and allows health care providers to write prescriptions for fresh fruits and vegetables. These prescriptions are vouchers that patients can use to purchase fresh fruits and vegetables at farmers markets, farm stands, and other participating retailers. While not dairy related, this program provides a blueprint for successfully encouraging local purchasing of locally grown products.
The Rural Food Retail program is an engaged learning community consisting of key participants in the local, rural food systems that explores different topics with the goal of identifying policy opportunities that increase the viability of local food retail. There are solutions to this challenge, but the scope of this problem is beyond what this feasibility study can address. Future work should focus on the intersection between rural communities, access to quality food and healthcare, and agriculture.

The longform interviews provided depth to the ideas generated through the survey and the focus group. By going in depth with producers and allied industry professionals in a confidential environment, we were able to better access the nuance of the conversation. Danone’s decision to drop nearly 100 Organic dairy producers in the Northeast occurred while we were conducting long form interviews and it was interesting to note the shift in tone of the interviews once Danone announced the cancellation. Danone’s decision to drop the illustrated the impact that can shake an entire consolidated food system when there aren’t readily available alternate options for producers.

**Recommendations**

**Increase access to product development and co-packing resources**

Increase access to product development and co-packing resources. The dairy industry is changing rapidly and needs solutions that keep pace. Increased access to product development resources would allow dairy entrepreneurs to conduct meaningful market testing on novel products. Additionally, increased co-packing capacity would allow dairy producers to scale up production of novel products without having become processors as well. Increasing access to product development & co-packing resources will foster meaningful innovation that will reduce the negative impacts of consolidation on the dairy industry in NYS.

**Encourage regionalization of the milkshed**

Milk frequently travels significant distances from the farm to the processing facility. In some case, this is necessitated by the mismatch between where milk is produced and where milk is consumed, but frequently it is due to inefficiencies in the current system. An increased focus on regionalizing the milkshed, with an emphasis on ensuring adequate processing capacity exists within a reasonable distance of farms can mitigate current challenges around milk hauling. Additionally, thinking about milksheds in more regional terms could help to foster innovation and ensure that the communities that produce milk are also able to consume it.

**Policy Support for dairy**

Aligning policy so that it supports sustainable agriculture is key to maintaining a thriving dairy economy.
Grains

New York was once the Breadbasket of the country. While grain production largely followed the pioneers West, there has been a recent resurgence in locally milled, locally grown grains. This grain renaissance includes ancient grains, artisanal grains, and more familiar grains. The Northeast grainshed is currently in the midst of a revival, with farmers, millers, maltsters, trade organizations & guilds, and bakers all raising the profile of local grains. Grain production in New York State has increased.

According to GrowNYC, over 650,000lbs of locally grown and locally milled flour are consumed by artisan bakers each month. While artisan bakers represent important early adopters, long term plans must include widespread interest by institutional buyers in order to support a meaningful grain economy in NYS.

Survey

Survey results identified a few key unique advantages for grain production in New York State. The single biggest advantage that growers and processors identified were the proximity to large population centers and access to markets. Survey results also noted that the agricultural climate, transportation infrastructure, and processing infrastructure provided advantages in New York State. These results were corroborated in the focus group meeting and through long form interviews.

Advantages for Grain Production in NYS

- Population
- Market Access
- Infrastructure (Roads)
- Agricultural Climate
- Infrastructure (Processing)
- Other

Nearly 45% of survey participants indicated that access to processing and storage infrastructure were the biggest barrier to expansion of a regional grain shed. Processing and storage infrastructure are a significant financial investment, which can be difficult for new or diversifying entities to make. Companies that were able to pivot existing facilities for local grain processing and storage were best positioned to make the change because the investment was smaller and more incremental. This sentiment was echoed by both focus group participants and long form survey respondents.

Market access was another significant barrier to market growth and participants noted that this broke down into two key subcategories – last mile transportation logistics and institutional education around local grains. Focus group participants, especially, felt that there was significant opportunity for direct education around local grains to institutional buyers like schools, prisons, and medical facilities.
87% of survey respondents identified growing processing capacity and increasing marketing/institutional relationships as the biggest opportunities to support growth. This was echoed in both the focus group and the long form interviews.

**Focus Group**

A major theme that emerged from our focus group, survey, and long form interviews was the need for increased education and outreach around local grains to institutional buyers. These buyers – including schools, elder care facilities, hospitals, prisons, the State University System – play a pivotal role in expanding the scale of production and the accessibility of local products. There are a variety of barrier to the widespread acceptance of local grains in institutional settings. The primary barrier is price, which is a significant issue that can be addressed through policy that rewards the purchasing of New York grains. Secondary barriers include consistency of supply and unique baking properties. Focused education and outreach to food buyers and head preparers responsible for institutions can overcome frustration at supply irregularities, provide insight into the unique baking properties and give grain producers in the Northeast an opportunity to scale up production with a guaranteed market.

The NourishNY program is an example of a policy that has had a significantly accelerated the adoption of NY grains. The program provides an extra stipend to schools who use a specific percentage of local products. This policy provides financial incentive for the institutional buyers to use local grains which helps improve the accessibility of the grain and to cushion the risk that the buyers feel. Continued support and expansion of programs like NourishNY will help buyers overcome many of their initial trepidations.

**Recommendations**

While the interest in local grains has increased, local grains are still viewed as somewhat boutique. Through survey work, focus group, longform interviews, and collaborative work with Glynwood & the Northeast Grainshed, we have identified three actionable items that would radically improve the local grain economy. These actions are: increased processing / storage / aggregation capacity, expanded education to institutional buyers, and regulatory support.
Increased processing and storage capacity

Limited processing and storage capacity present a significant roadblock to growing the local grain economy. Increased processing capacity – either at a few large facilities or at many small facilities – would have the impact of increasing the total amount of grain that could be processed in state as well as fostering innovation. Storage capacity poses another significant bottleneck as grains – both the raw commodity and the finished product -- must be kept under very specific conditions. There is not consensus as to whether dispersed on-farm processing and storage is more or less advantageous to more consolidated, aggregation type processing and storage. As the local grain movement continues to develop, it will be important to continuously revisit this question to understand how to best meet grower, processor, and buyer needs.

Expanded education and marketing

A theme that emerged from the focus group, long form interviews, and survey data was the need for expanded marketing and education to institutional buyers. Institutional buyers are less well positioned to accommodate the seasonality and unique attributes of local grains. Education efforts should focus on skill building around using local grains for cooking and understanding the nuance of the flavor profile of local grains. Focus group members reflected on the success of the GrowNYC Grains initiative in creating demand for local grains with boutique & home bakers. A similar effort that focused on industrial scale could increase.

Policy support

Continuing to support policies that facilitate the use of local grains will help continue to build the local grain economy. Whether it is the continuation or expansion of programs like NourishNY or the creation of new initiatives, there is an opportunity for policy to drive the continued growth of the local grain economy. An industry member suggested a policy modeled after the NYS Farm Brewery Law. The NY Farm Brewery Law incentivized the growth of the NYS hops industry through tiered use incentives that lowered the regulatory burden for breweries using NYS ingredients. There is an opportunity to apply a similar policy to grains whereby bakeries that use NY grown and milled grains receive a series of regulatory incentives that put them at a competitive advantage and change the risk/reward threshold for using local grains.
Vegetables

New York State is a leading vegetable producer, ranking 2nd in the country for cabbage and snap bean production, 3rd in the country for cauliflower production, fourth in the country for squash production, fifth in the country for onion and sweet corn production, sixth in the country for pumpkin production, and eighth in the country for cucumber production. Vegetable operations range from quarter acre, diversified, direct to consumer farms to thousand acre, limited crop, commodity production. The diversity of scale and type of operation adds layers of complexity and opportunity to Organic vegetable production in New York State.

While vegetable production occurs throughout the state, production is focused in the muck soils and in areas with more moderate climates. Vegetable producers feel generally optimistic about vegetable production with many actively seeking to expand their operations and their markets. Vegetable production is a bright spot in New York agriculture.

Survey Results

Survey results identified a few key unique advantages for vegetable production in New York State. The single biggest advantage that growers and processors identified were the proximity to large population centers and access to markets. Survey results also noted that the agricultural climate and land affordability were key benefits. Focus group and Long Form Interview participants corroborated the survey responses and added depth. Three of the longform interview respondents noted that the key reason they chose to farm in the region they did was because it was family land and they wanted to be able to raise their kids the same way that they were raised. Two of the vegetable producers noted that they had originally grown up in livestock or dairy operations, but switching to vegetable production was a better fit for their farm.

Survey respondents noted a variety of barriers to growth of Organic Vegetable production in New York State. Access to land and navigating regulation – be it food safety regulations or NYS regulations – were the most common barriers cited by producers. Land access was challenging for both established and beginning farmers.
Both established and beginning farmers who relied on rented ground for parts of their operation felt that their tenure on the land was unstable which made it difficult to justify infrastructure investment or longer term nutrient management. Beginning farmers also found it especially challenging to access capital with which to purchase land.

Both food safety regulations and NYS regulations were cited as significant barriers to expanding or continuing with vegetable production. Many of the larger operations have a dedicated individual or team of individuals who work specifically with regulatory issues. For small and medium sized farms or farms transitioning through different sizes, it can pose a significant labor bottleneck to have to dedicated one person to managing regulatory paperwork and processes.

Survey respondents also noted that climate change, changing consumer preferences, and seasonal tourism offered both opportunities and barriers to growth. Many focus group participants noted that the fickleness of climate change, seasonal tourism, and consumer demands made it very challenging to make business decisions that effectively capture the opportunity with proper risk mitigation strategies.

When asked to identify the biggest opportunities for growth, nearly 2/3 of survey respondents identified either increase collaboration, better education/communication between producers and wholesalers, access to value added opportunities, and better affordability for local communities as key opportunities moving forward. These results echo the sentiments of both the dairy and the grain producers.

Access to facilities where producers can process their perishable products into more shelf stable versions has a variety of benefits including increasing the types of products sold and extending the timeframe for deriving income from the product.

In addition to tradition value added processing, Individual Quick Freezing (IQF) is attractive because the process allows the food to retain the taste, texture, color, and nutrient value through the freezing and eventual defrosting process. IQF is the processing of quickly freezing produce that prevents large ice crystals from forming and prevents the produce from blocking together. Once the product is frozen, it is packaged and stored. The biggest barrier towards widespread adoption of IQF technology is the cost of both the processing facility and the cold storage. While not a traditional value-added process, IQF does add value to vegetables because it makes them shelf stable.

Vegetable producers also identified other opportunities, like paying for ecosystem services and providing better support for GAPS and FSMA.
Focus Group

Like the dairy focus group, a few vegetable focus group participants spoke of a spouse working an off-farm job in order to obtain health insurance. This time away from the farm meant that the primary operator had more production responsibilities which meant less time for regulatory responsibilities. Many of the vegetable producers said that they would benefit from having easily accessible policy and regulatory related resources.

Recommendations

Three key actionable recommendations came out of the survey data, focus group, and long form interviews. These recommendations taken either individually or collectively have the capacity to help boost growth in the vegetable industry in New York State.

Improved aggregation

Aggregation capacity would allow multiple small and medium farms to work collaboratively to provide produce to larger buyers. Aggregation would require cooperation on a regional level and include a centralized receiving/distribution facility and logistics network; food hubs are potential positioned to fill this role with some requiring additional infrastructure investment and staffing. Aggregation of a sufficient scale could also be used to positively leverage IQF technology. There are many challenges around aggregation, but the potential for aggregation to reshape the small and medium sized vegetable industry in New York state is huge.

Education and navigation for regulations and certifications

The farmers who participated in the focus group identified navigating GAPS certification and FSMA regulations as the single largest barrier to scaling up direct market production and accessing wholesale opportunities. They felt that current educational programming did not adequately address their needs and that more thorough, farm level support was needed. While survey, long form interview, and focus group participants all identified varying needs around education, it did emerge as a significant trend. Needs included the creation of decision trees, individualized assistance, and hardcopy resources.

A breadth of educational resources currently exist for produces in NYS; however, there is not a single, updated clearinghouse for resources and the quality of technical assistance available can vary widely across the state.

Regional processing capacity for value-add on multiple scales

Small and medium scale vegetable producers identified the need for occasional access to food processing facilities so that they could turn excess produce into value added product. The ability to process small batches of value added product has two distinct advantages for small and medium sized producers. The first advantage is that producers are able to add significant value to product that might otherwise go to waste. The second advantage is that the producers are able to prolong the season during which their product is available through creating shelf stable products.
While aggregation and regionalized processing capacity were referenced as the opportunities, the need for policy that actively fostered a sustainable and diverse regional food system was nearly unanimously cited among survey respondents, focus group participants, and interviewees. Efforts like NourishNY have provided successful proof of concept in how policy can actively and positively shape and strengthen our regional foodshed. Continuing to advocate for programs that encourage institutions to buy local food or that foster innovation within the sustainable food realm are critical to building a vibrant regional food ecosystem.

Additional aggregation capacity was also identified by all commodity groups as a need. For smaller producers or for producers looking to enter new markets, aggregation represents a significant opportunity. For larger buyers, aggregation allows them to source more locally and potentially from smaller producers while still receiving consistent product in quantity.

Over the course of NOFA-NY’s research, key actionable recommendations emerged that united the three commodity types studied.

**Recommendations:**

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Accessible regionalized processing capacity emerged as the highest rated need across our research. Producers and processors repeatedly identified lack of access to processing facilities as a bottleneck to growth and innovation. Access to processing facilities allows produces and processors to innovate without having to make substantial investments without sufficient proof of concept. Accessing to processing capacity allows for greater flexibility when processors yank contracts. Innovation centers and a vibrant co-packing industry allow businesses to launch new enterprises and help remove the barriers that consolidated commodity markets create.

To view a full appendix email us at info@nofany.org