Maine Organic Agriculture from 2007-2022:

Size, Economic Impact, Farmer Goals, and Financial Sustainability

Jed Beach, FarmSmart Business Services,
with much assistance from **Nicolas Lindholm**, MOFGA,
and **Rose Wilson**, Rose Wilson Consulting

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Acknowledgments

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Executive Summary

This report analyzes the state of organic agriculture in Maine from 2007 to 2022, focusing on growth, economic impact, farmer goals, and financial sustainability.

Key findings include:

- Growth followed by decline: Maine's certified organic agriculture sector experienced significant growth in sales and acreage from 2007 to 2017, followed by a decline from 2017 to 2022.
    - Overall, organic product sales grew 110% from 2007-2022, growing from $23,315,000 in 2007 to almost $50 million in 2022.
    - The decline in revenue from 2017-2022 is specific to Maine organic agriculture; organic farming revenue in the United States and in the Northeast grew over the same time period, as did farming revenue in Maine overall (organic plus conventional).
    - The downward trend in Maine organic product sales was experienced across the three largest sectors: dairy, vegetables, and "other crops" (which include hay and maple). Several organic sectors saw increased product sales from 2017 to 2022, including fruit, nursery and flowers, grain, and poultry and other animals.
    - Average revenue per organic farm increased over the 15-year period (2007 to 2022), from $40,060 in 2007 to $115,329 in 2022, a 188% increase.
- Economic Impact: The economic impact of Maine's organic agriculture increased from $65 million in 2007 to $74 million in 2022 (adjusted for inflation), a 14% increase.
- Changing Landscape: The number of certified organic farms has declined, as has the number of young farmers and the number of farmers citing farming as their primary occupation.
- Farmer Goals: Maine organic farmers want to stay farming. They want to improve their incomes and their quality of life. They hope to do so by diversifying their production, by focusing more of their marketing efforts towards on-farm sales, and by investing in infrastructure, season extension, and increased scale.
- Barriers to Farmer Goals: Farmers cited climate change and the availability and affordability of labor as their chief challenges towards attaining their goals.
- Financial Sustainability: This is a major challenge for Maine's organic farmers. Many farms struggle to generate enough revenue to cover expenses, loan payments, and provide sufficient owner's draw.
    - As a benchmark, we determined that, on average, Maine's organic farms experience a 33% labor cost to sales ratio.
- Food Access Programs: Maine's food access programs, such as Maine Harvest Bucks and Mainers Feeding Mainers, are growing and represent potential market opportunities for Maine farmers.

The report recommends that the Maine Organic Farmers and Gardeners Association (MOFGA) build its policy efforts and enhance its programming to directly address the challenges, opportunities, and goals of the farmers expressed herein. It recommends further research to understand the reasons behind the decline in certified organic farms. It also suggests that MOFGA develop the capacity to measure its impact on farms that benefit from its programs but choose not to certify. Lastly, it recommends periodically updating this report to track progress and changes.

Purpose

The purpose of this report is to:

a. Describe the historical growth trajectory of organic agriculture in Maine from 2007-2022; including number of farms, acreage, revenue, and jobs.

b. Estimate the economic impact of agriculture in Maine from 2007-2022, using economic multipliers generated by the IMPLAN software program.

c. Take a deeper dive into these topics by looking at them based on farm type (dairy, vegetables, fruits, etc.), market channel, and by comparing trends observed in Maine's organic agriculture with trends in conventional agriculture within Maine, as well as organic agriculture within the Northeast and the country overall.

d. Estimate the potential size and recent growth trajectory of Maine's food access programs (including SNAP/EBT, Maine Harvest Bucks, WIC, and Mainers Feeding Mainers) as a market opportunity for Maine's organic farms.

e. Understand current goals that Maine's organic farmers have for their farms.

f. Describe challenges Maine organic farmers see themselves currently facing as they work towards these goals.

g. Evaluate the financial sustainability of Maine's organic farmers as of 2022 — overall, by type of farm, and by primary market channel.

It is expected that MOFGA will use this report as an internal document to help guide its programming decisions, as well as an external communication document to be shared with constituents, policymakers, and other stakeholders.

It is important to note that the scope of this report includes certified organic farms in Maine. It does not include certified organic food processors or handlers, nor data specific to farms who follow organic production standards but are not certified, nor other components of the overall food system.

This report is an updated version of a similar report covering the time period from 2007-2021, published by MOFGA in April 2024. This updated report incorporates data from the U.S. Department of Agriculture (USDA) National Agricultural Statistics Service 2022 Census of Agriculture, as well as data specific to Maine's food access programs (including SNAP/EBT, Maine Harvest Bucks, WIC, and Mainers Feeding Mainers), none of which were available when the initial report was published.

Methodology

This report relies on three primary sources of data:

1. **Data compiled by the National Agricultural Statistics Service (NASS).** Specifically, this report uses data from **two types of NASS reports: census data and survey data.** We have utilized a 2007 special tabulation of the NASS census compiled for MOFGA in that year, as well as the organics tabulations published by NASS from their 2017 and 2022 agricultural censuses. We also have utilized data from the NASS organic surveys from 2011, 2015, and 2021. Each of these NASS data reports were aggregated into a single spreadsheet and then used to produce many of the charts and graphs in this report that show changes over time.

   NASS data is not perfect; it represents the most comprehensive dataset available. For this report, it is important to clarify the NASS definitions of "organic farming" and "organic farms," and distinguish when the sales data, in particular, is referenced from their definition of "organic farms" or "organic products." In both their censuses and surveys, NASS requests that farmers reporting any organic data be certified organic. In regards to organic sales data, not all Maine farms that sell "organic products" sell only organic products — in fact, many sell a mix of certified and non-certified items, and an indeterminate number of organic farms' sales figures that NASS reports may include sales of non-certified products purchased for resale. These were not assumptions applied during our prior report that worked with the 2007 NASS data; these are newer trends that have evolved since, are not captured in the NASS data, and have yet to be teased out. Given these limitations, for this report, we acknowledge the following conditions:

   a. NASS reports (in both their census and surveys) on the total sales of all organic products from all Maine farms; these numbers are described in this report as "total organic sales."

   b. These "total organic sales" from the NASS reports were fed into the IMPLAN software program (see below) to estimate the economic impacts of organic agriculture.

   c. However, NASS also reports on the number of farms that sold organic products in Maine, and furthermore reports on select economic data related to these farms, such as total sales (organic or non-organic), and total production expenses. This considers any farm with sales of organic products to be an "organic farm." When this report refers to NASS data related to sales and expenses of organic farms, it means the total sales and expenses of those farms, whether or not those sales or expenses were related directly to organic production.

   d. The NASS surveys (not the Census) report on the total number of certified organic acres in Maine; these numbers are referred to as "organic acres" in this report (in other words, not the total acreage of the "organic farms," as some of those acres are not certified).

2. **IMPLAN data.** Certain data from the NASS reports were fed into the IMPLAN software program to estimate the economic impacts of organic agriculture. IMPLAN is a software model that estimates the economic impact of events or policy changes. It is generally recognized in the field of economic policy as one of the most effective tools for estimating economic impact.

3. **Data from MOFGA's "Organic Farmer Goals" survey.** A 19-question survey was composed and distributed during the summer of 2023 to all 417 certified organic farmers in MOFGA's database (not including sea vegetable producers; certified organic processors and handlers were also excluded as this was a survey of farmers/producers). The survey comprised two sections:

   e. GOALS: The first section asked farmers to describe their past, present, and future goals as they related to production, marketing, finances, and other topics; along with questions about the barriers they face in working towards these goals.

f. FINANCIAL: The second section asked financial questions about financial sustainability, including questions about owner's draw/take-home pay, financing and debt service repayment, and equipment replacement costs.

Ninety-two farmers responded to the survey, a response rate of 22%. This means that, when analyzing the survey results, there is a margin of about 9% between what our respondents said and the overall population of organic farmers in MOFGA's database. For instance, if 50% of our survey respondents said they would like to invest in more equipment in the next five years, we can reasonably assume that 41% to 59% of the organic farmers in MOFGA's database would also say so (see this Sample Size Calculator for a good explanation of how this works). This means that the survey results aren't a perfect representation of what all Maine organic farmers think about the questions asked in the survey, but they are accurate enough to help point MOFGA in directions that might warrant further investigation.

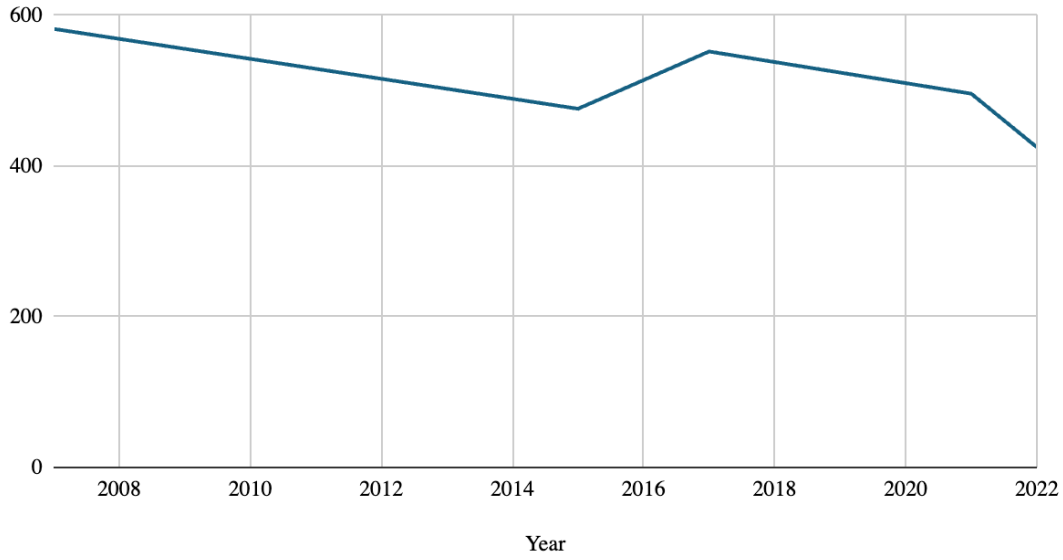
It is also important to note that this survey was sent out only to MOFGA's certified organic farm operations and does not include the perspectives of aspiring, transitioning, or non-certified organic farmers. MOFGA currently has no means or mechanism for defining, determining, or tracking data from these farms.

SECTION 1. Data from NASS

Number of Farms, Acreage, and Sales: 2007 to 2022

According to NASS, the total number of certified organic farms in Maine has declined from 582 in 2007 to 425 in 2022. This is a 27% decrease in farms from 2007 to 2022. What's more, after a brief rebound in 2015, this shows a 23% decrease from 2017 to 2022.

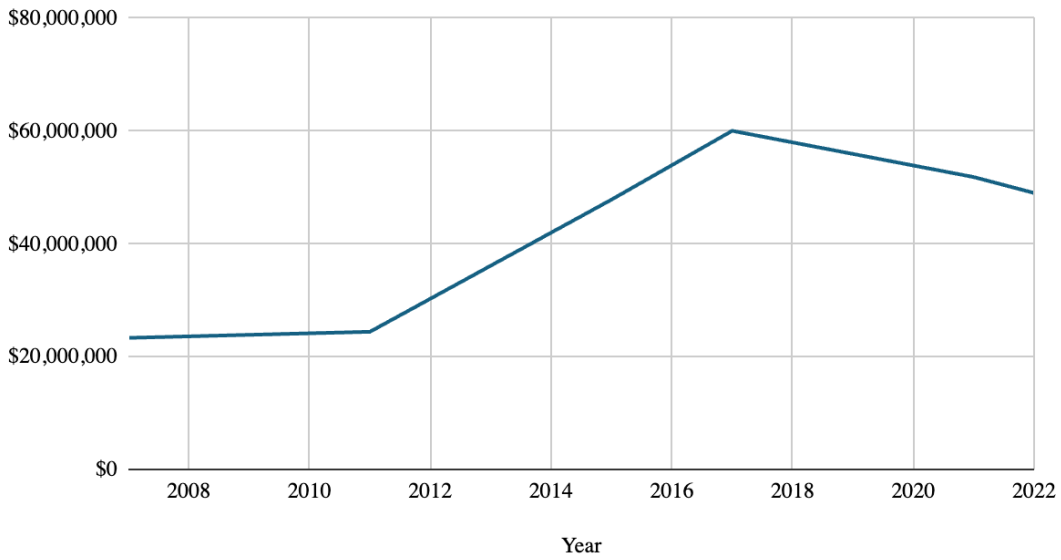
Number of Maine Organic Farms, 2007-2022



The NASS data shows that total sales of organic products from farms in Maine were $23,315,000 in 2007. After remaining relatively flat through 2011, sales increased steadily to a high point of $60,027,000 in 2017 before dropping to $49,015,000 in 2022 (not adjusted for inflation).

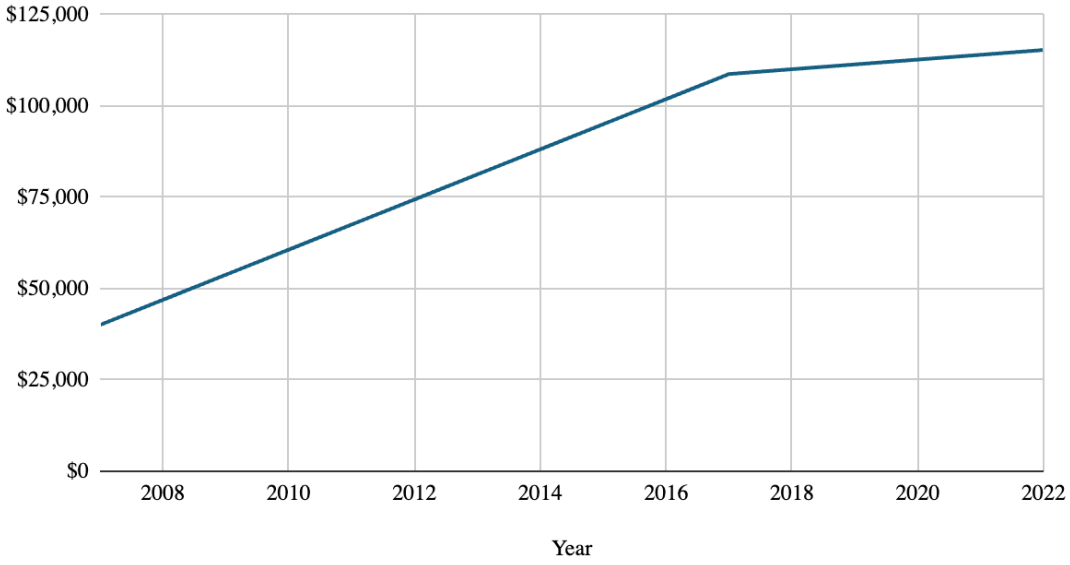
This is a 110% increase in sales from 2007 to 2022. But this also shows an 18% decrease in sales from 2017 to 2022.

Maine Organic Product Sales, 2007-2022



The average revenue per organic farm in Maine has risen over the whole 15-year time period: from $40,060 in 2007 to $108,744 in 2017, to $115,329 in 2022. This is a 188% increase from 2007 to 2022.

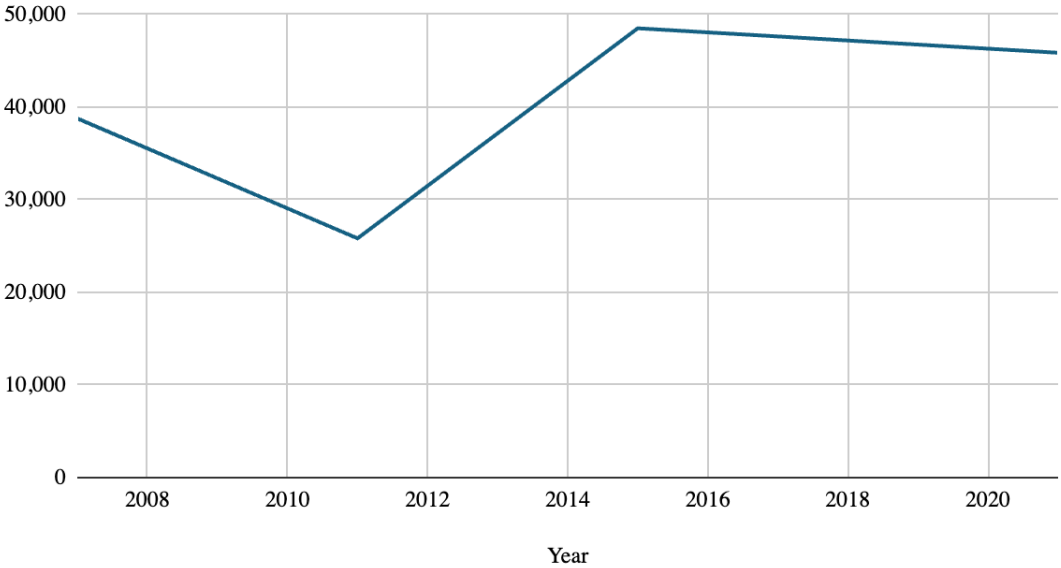
Average Revenue per Maine Organic Farm, 2007-2022



NASS survey data shows that the amount of certified organic acreage in Maine has increased from just under 40,000 in 2007, up to a high of 48,502 in 2015, then settling back down to 45,862 in 2021. The average acreage per farm has increased from 66 in 2007 to 92 in 2021.

This is a 16% increase in the number of acres, with a 39% increase in the average acres per farm, from 2007 to 2021. But this also shows, after a period of growth starting in 2011, a decrease of 17% in the number of acres from 2019 to 2022.

Certified Organic Acres in Maine, 2007-2021



We will now focus on the trends from 2017 to 2022 for the rest of this section on NASS data.

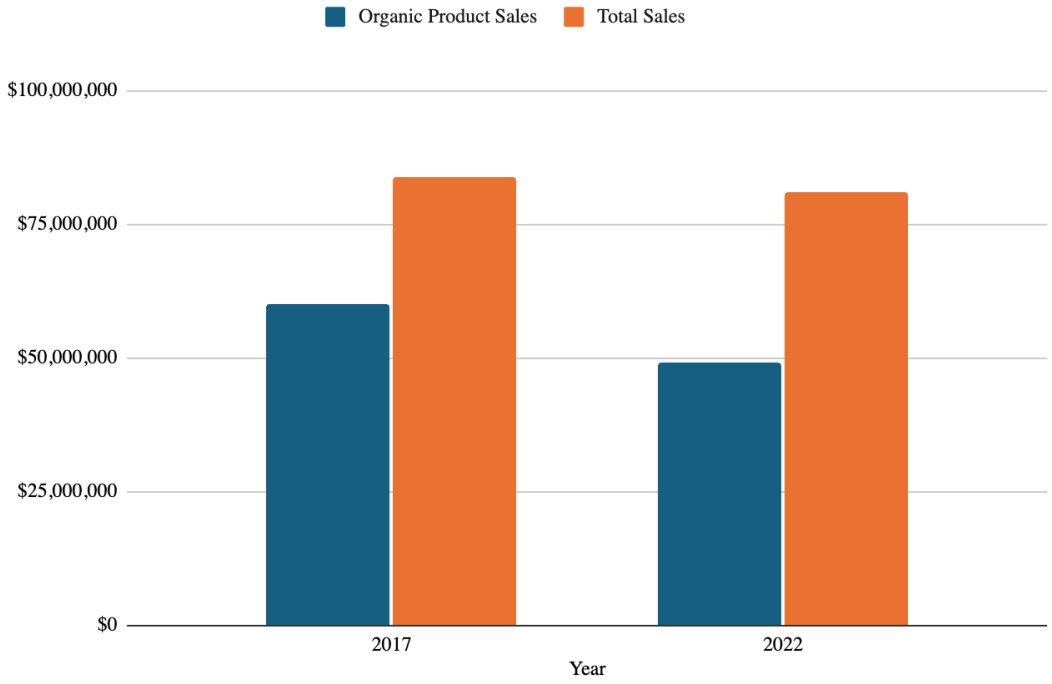
Sales Trends and Comparisons: 2017 to 2022

While organic product sales in Maine declined from 2017-2022, organic *farms'* sales in Maine did not decline as sharply.

According to NAAS, organic product sales in Maine declined approximately 18% from 2017 to 2022, yet the TOTAL sales for organic farms in Maine declined only very slightly, about 3% over the same period. This indicates one or more of a combination of possibilities:

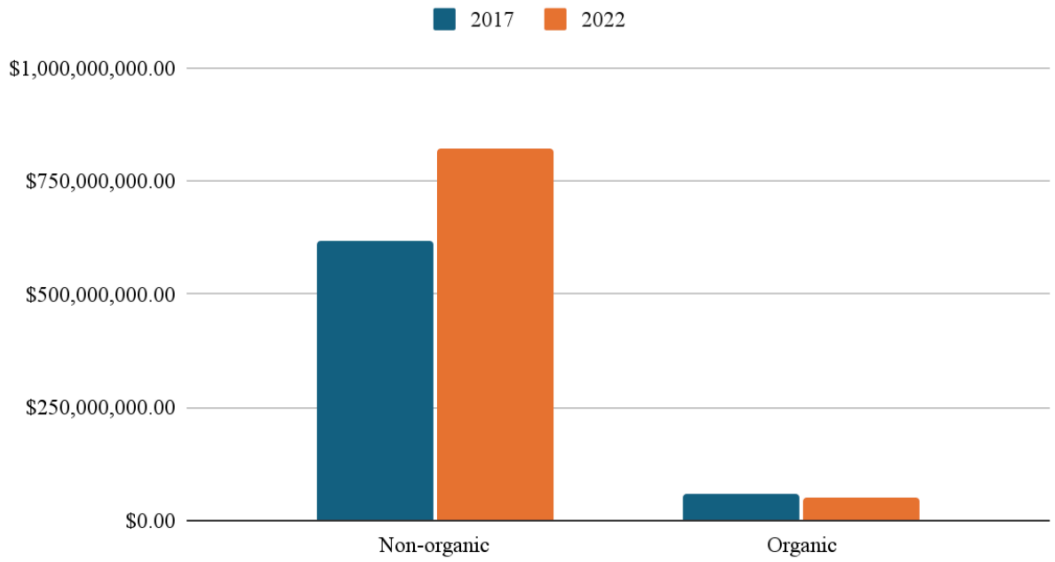
1. That split-operation farms (i.e., farms that produce both certified and non-certified products) may be cutting back on the portion of their production that is certified organic.
2. That organic farms may be increasing the amount they supplement their sales with other non-organic purchased products for resale.
3. That organic farms may be dropping their organic certification on parts of their overall operation (not going out of business, but no longer certifying certain scopes, like maple syrup or processed products) and are then selling those products as non-organic products.

Organic Product Sales and Total Sales, Maine Organic Farms, 2017 vs. 2022



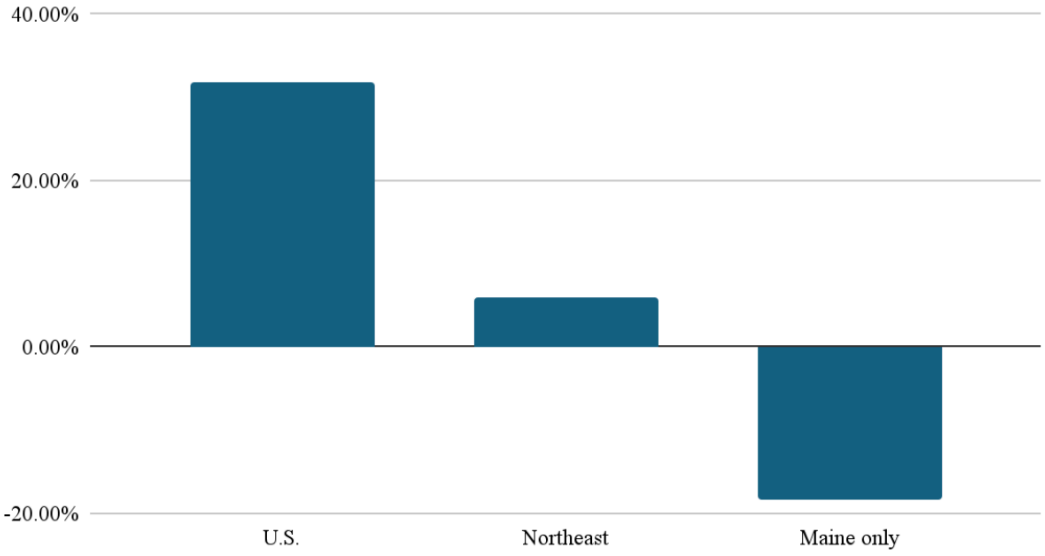
To explore these trends further, we compared the NASS data of Maine organic product sales to Maine non-organic product sales. While Maine's organic farming sector experienced an 18% decline in product sales from 2017 to 2022, Maine's non-organic farming sector experienced a 33% growth over the same period. The same combination of possibilities listed above could be implicated in this trend.

Maine Organic vs. Non-organic Sales, 2017 vs. 2022



We then compared this decrease in Maine organic product sales to both Northeast regional and national organic product sales. NASS data from 2017 and 2022 shows that national organic product sales grew by 32%, and Northeast organic product sales grew by 6%, indicating that Maine's negative trend in organic sales is an outlier in an otherwise growing organic and conventional agricultural economy.

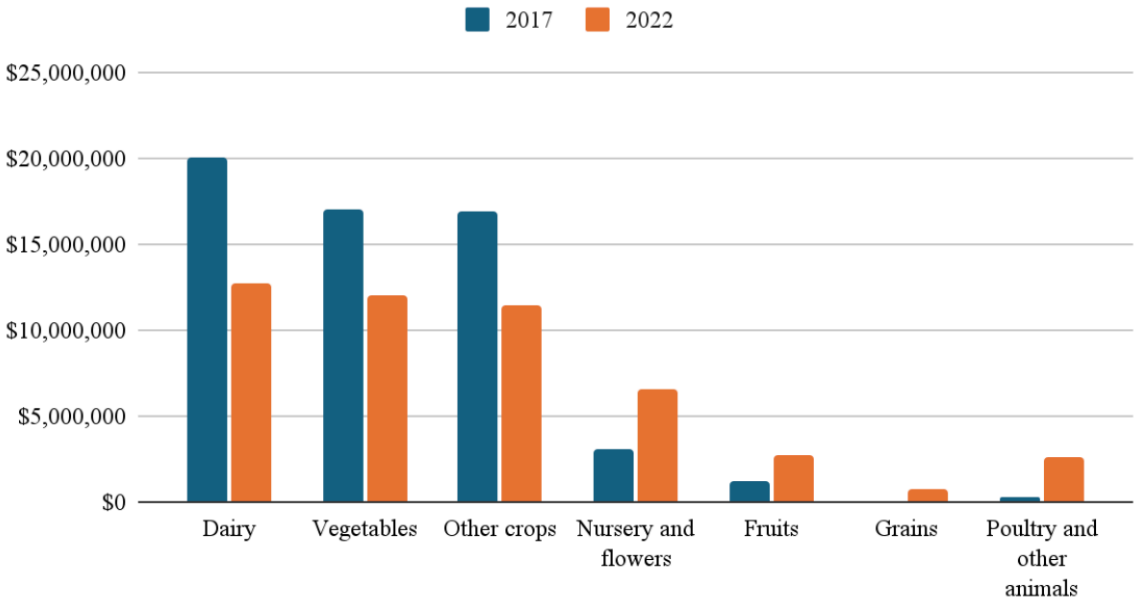
Percent Change in Organic Product Sales, 2017 vs. 2022



Sales and Farms by Product Category: 2017 to 2022

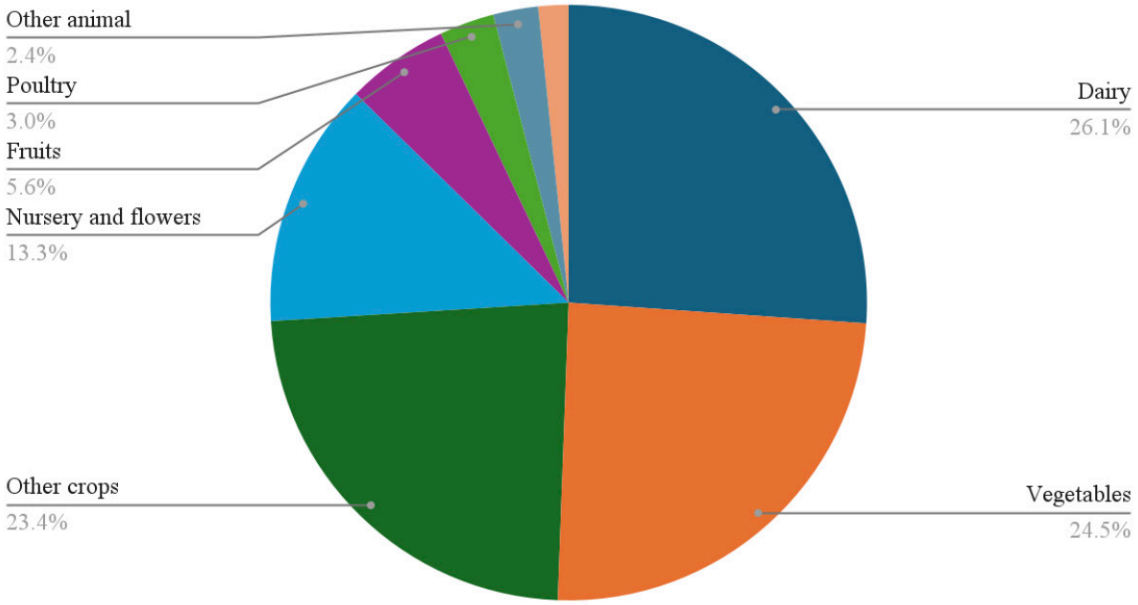
One possible explanation for the decline in Maine organic product sales, acreage, and farms since 2017 is that they are the result of changes in the organic dairy industry in the Northeast (including the exiting of one of the major processor/buyers, decreasing farmgate prices, and increasing costs of inputs, in particular organic grain). However, when we look at the NASS data on sales by farm type from 2017 to 2022, the downward trend is pretty evenly spread across the three largest categories: dairy, vegetables, and other crops (which includes hay and maple syrup). In other words, this trend is not just the result of declining dairy. It is worth noting that fruit, grains, nursery and flowers, and poultry and other animals sales grew from 2017-2022.

Organic Sales by Product Type, 2017-2022



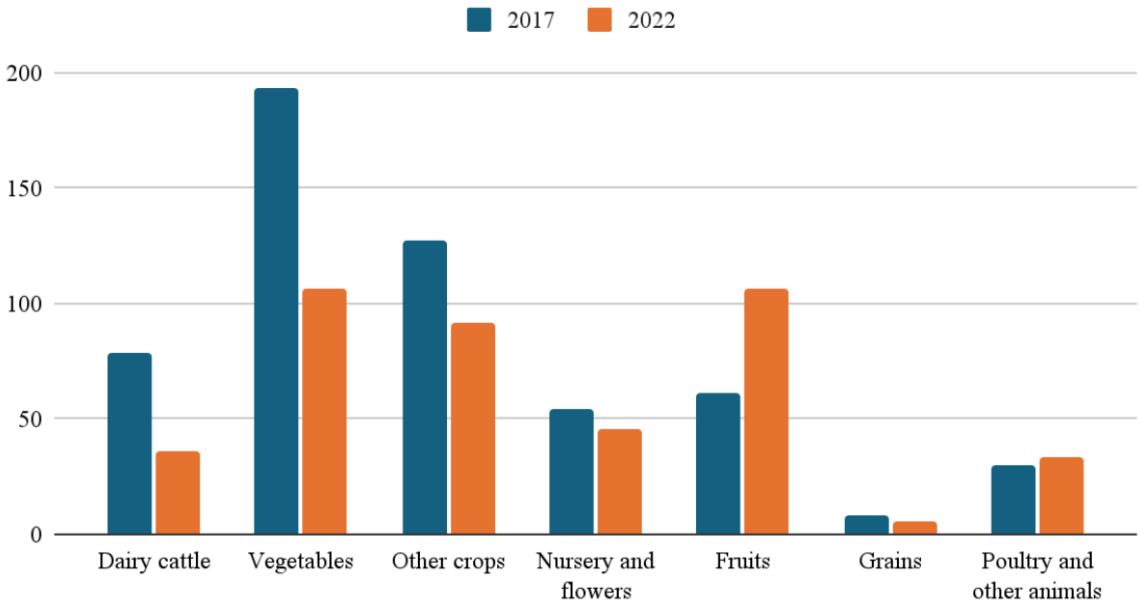
Looking at 2022, NASS data shows that dairy, vegetables, and other crops (which include hay and maple) comprise nearly 75% of all organic sales in Maine.

Maine Organic Sales by Product Category, 2022



Some of the trends in the number of organic farms by category from 2017 to 2022 mimic the sales. NASS reports show that the number of dairy farms declined 54%, vegetable farms declined 45%, and other crop farms declined 28%. Fruit farms saw the largest growth, up by 74% (which, when we looked closely at NASS data, can be attributed primarily to wild blueberry farms as other major fruits including strawberries, raspberries, and highbush blueberries all decreased), while poultry and other animals saw modest growth in the number of farms. On the other hand, organic nursery and flower farms declined in number as their sales grew; the same held true for organic grain farms.

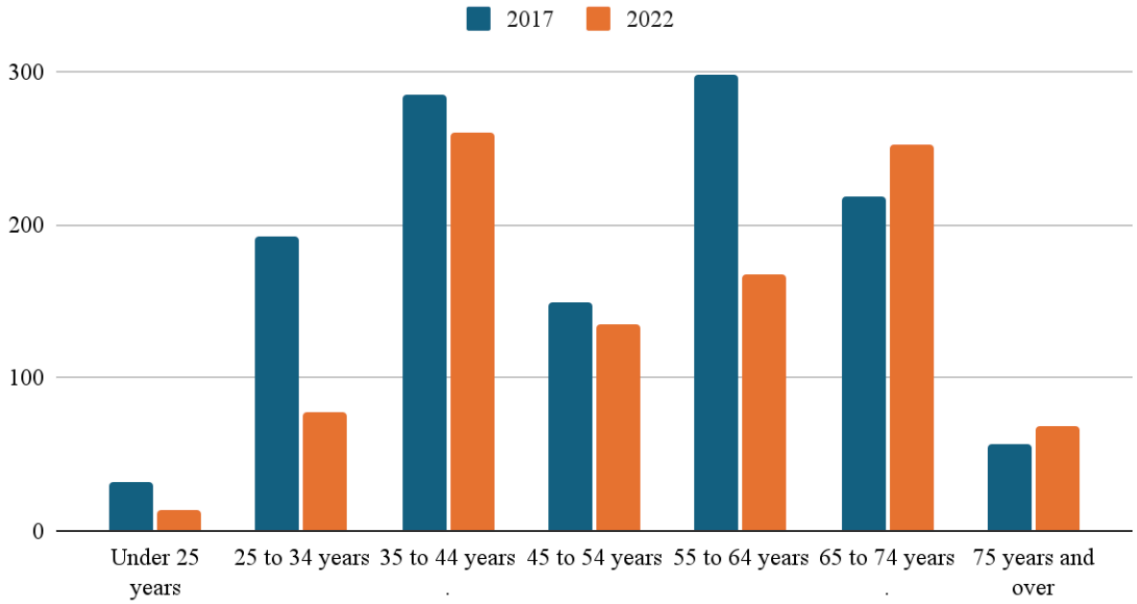
Number of Organic Farms by Type, 2017 vs. 2022



Age of Organic Farmers: 2017 to 2022

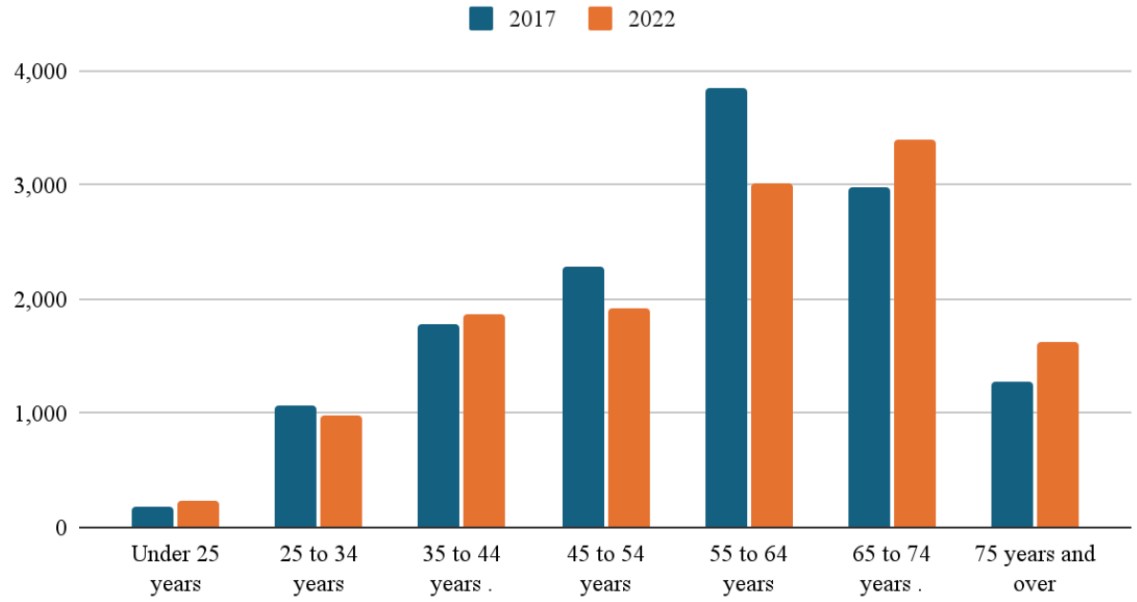
Maine's organic farming population is aging, according to NASS statistics. The number of organic farm operators in Maine aged 65 and up increased from 2017 to 2022, while all those below age 65 decreased. In particular, the number of organic farm operators aged 25-34 and 55-64 declined sharply. If the state is to continue to maintain and increase organic farm operations, more insight into reversing this trend is warranted as it is unclear why younger farmers are either leaving the agricultural economy or choosing not to certify.

Number of Maine Organic Farm Operators by Age Bracket, 2017-2022



When we compare the previous chart to the overall number of Maine farm operators (organic plus conventional), the trends bear some similarities but also some key differences. Like with the organic population, Maine's overall farming sector has seen an increase in the number of farm operators aged 65 and above, and a decrease in the 45 to 64 year old cohorts. On the other hand, overall Maine gained farmers in the under 25 and the 35 to 44 brackets, and while there was a dip in the number of farmers aged 25 to 34, it is only slight. This suggests that younger Maine farmers are choosing not to certify in larger proportions than their older counterparts.

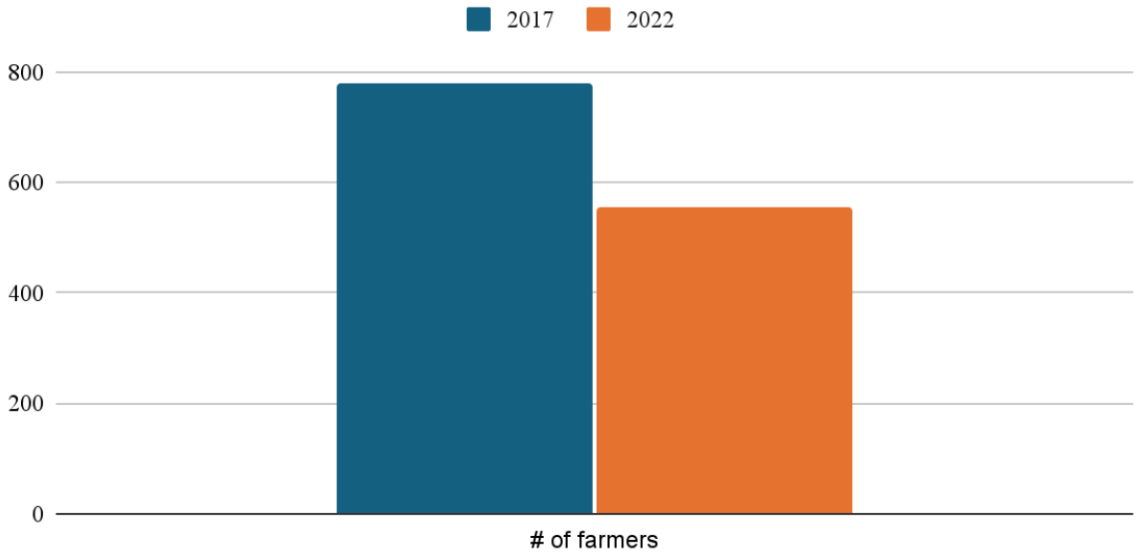
Number of All Maine Organic Farm Operators by Age Bracket, 2017-2022



Farming as Primary Occupation: 2017 to 2022

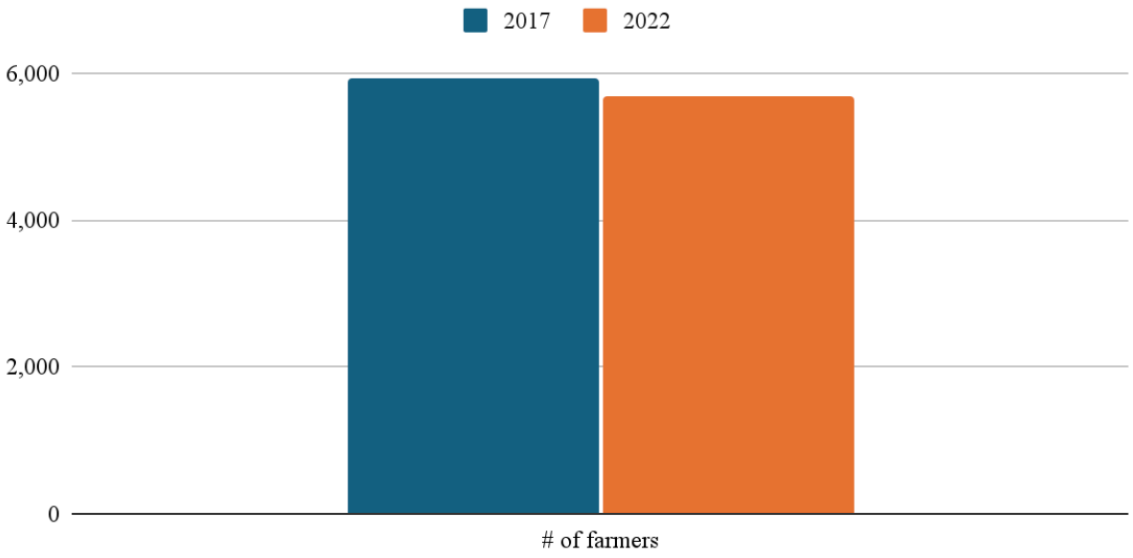
It appears that fewer organic farmers cite farming as their primary occupation in 2022 vs. 2017, from 780 in 2017 down to 545 in 2022, or a 29% drop. Since there was an overall decrease in the number of farms during this time, we also see a decline in farms citing that they have another primary occupation.

Number of Farmers Who Listed Farming as Their Primary Occupation (Maine Organic Farms), 2017-2022



When compared to all Maine farms (organic plus conventional), the drop in number of farmers who listed farming as their primary occupation is present but not as steep.

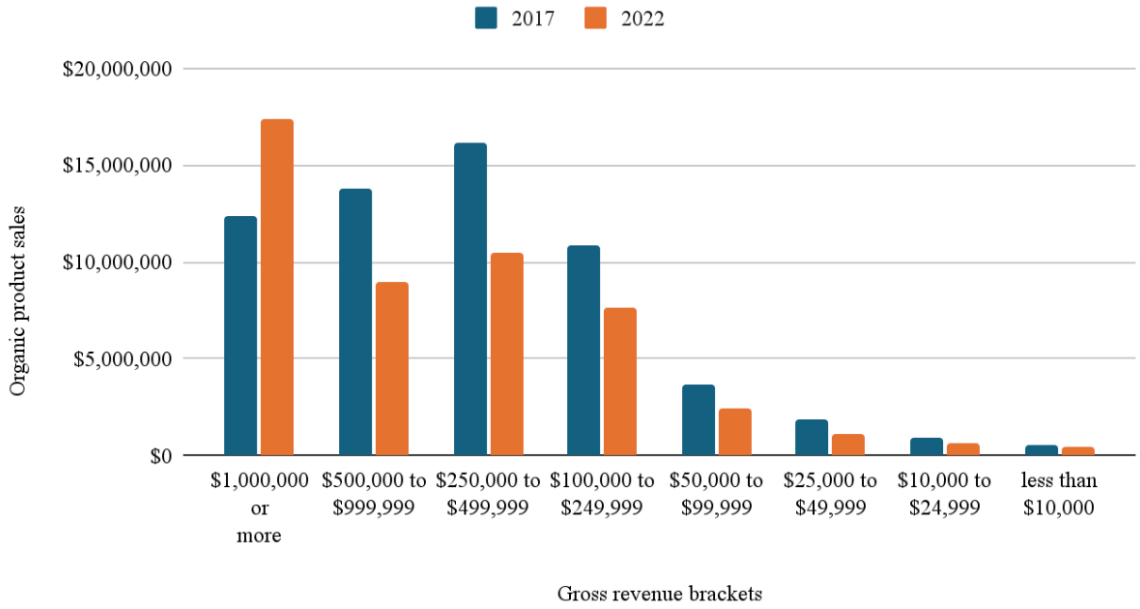
Number of Farmers Who Listed Farming as Their Primary Occupation (All Maine Farms), 2017-2022



Sales by Revenue Bracket: 2017 to 2022

NASS data shows that only organic farms grossing $1 million or more annually saw an increase in their organic product sales from 2017 to 2022. All of the other revenue brackets are consistent with the decrease in organic sales we've seen in data above.

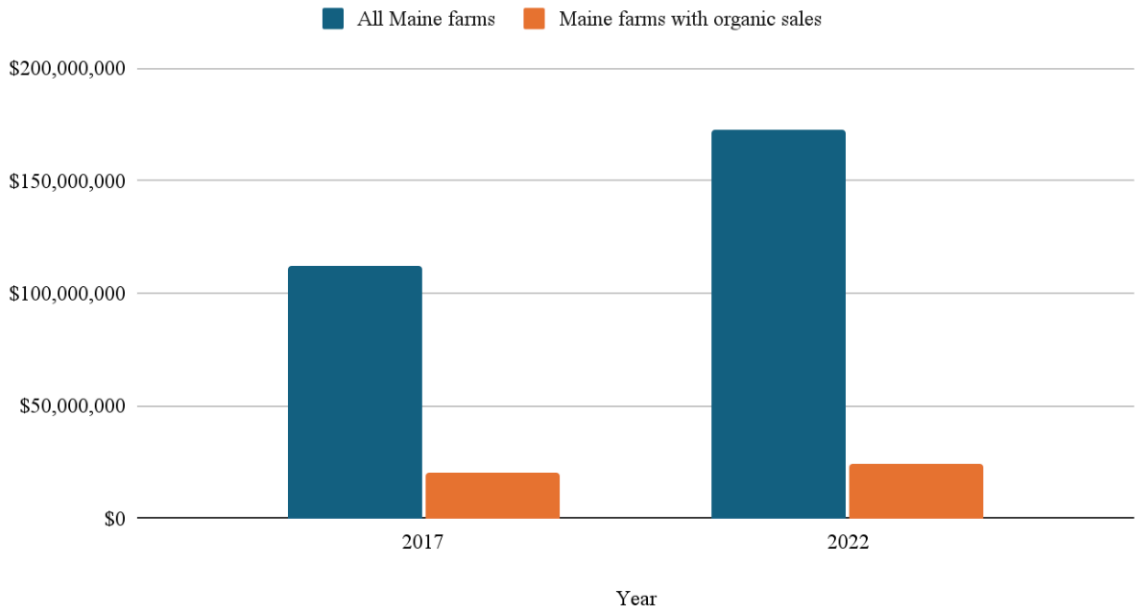
Organic Product Sales by Gross Revenue Bracket, 2017-2022



Trends in Locally-Focused Marketing: 2017 to 2022

NASS data shows that, between 2017 and 2022, Maine's organic farms saw a $4 million growth in "local" sales (defined as direct to consumer plus wholesale direct to retail markets, institutions, and food hubs), representing an 18% growth. Comparatively, the local sales for Maine farms overall (organic plus conventional) grew by approximately 54%, or $60 million. These trends are positive in general, however the disparity in rate of growth may indicate consumers are placing a greater value on local, over local and organic.

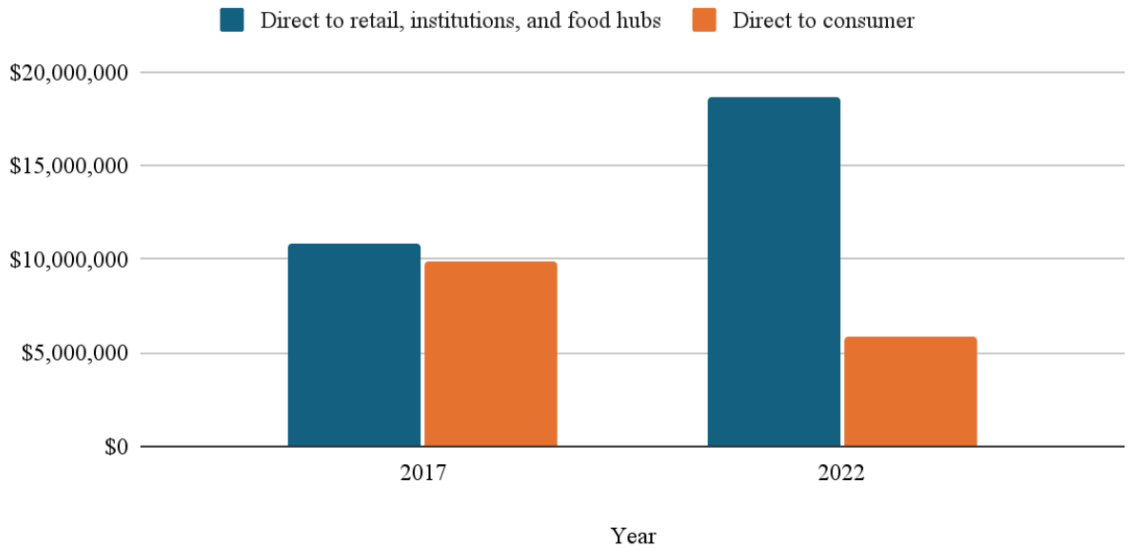
Local Food Sales, 2017 vs. 2022



The NASS reports provide some insight into the market channels used by organic farms. In addition to reporting total sales and total organic sales for these farms, they also report on direct-to-consumer sales, and wholesale direct to retail markets, institutions, or food hubs (please note that these figures are total sales for organic farms; they don't parse what portions of sales to these channels were organic vs. non-organic).

For Maine organic farms, wholesale direct to retail markets, institutions, and food hubs increased by 72%, from $10,796,000 to $18,625,000 between 2017 to 2022. Over the same time period, direct-to-consumer sales decreased 40%, from $9,910,000 to $5,876,000.

Direct to Retail and Direct to Consumner Sales (Maine Organic Farms), 2017 vs. 2022



SECTION 2. Data Analysis Using IMPLAN

Economic Impact of Maine Organic Agriculture Over Time

Revenue data from the NASS reports were fed into the IMPLAN software program to estimate the economic impacts of organic agriculture. Sales of each type of crop were entered for the years 2007, 2015, and 2022; each crop type corresponded to one of the North American Industry Classification System (NAICS) industry codes that IMPLAN uses to calculate impacts.

Economic impact measures the total dollars, jobs, and/or household income generated in an economic region due to the existence of a certain industry or cluster of industries. In this case, we are studying the economic impact of organic agriculture in Maine.

IMPLAN measures impact in three different categories:

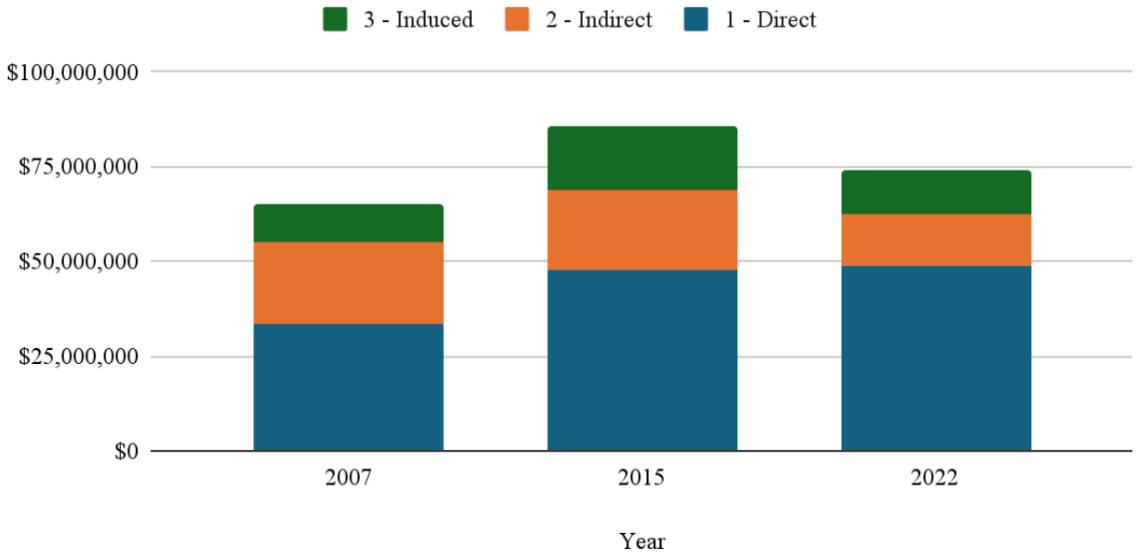
Direct impact	Initial effects to a local industry or industries due to the activity or policy being analyzed.
Indirect impact	Effects stemming from business-to-business purchases in the supply chain taking place in the region.
Induced impact	Effects in the region stemming from household spending of income, after removal of taxes, savings, and commuters.

The sum total of direct, indirect, and induced impacts equals the “total impact.”

Total Economic Impact: 2007 to 2022

Adjusted for inflation to 2023 dollars, IMPLAN estimates that the economic impact of Maine organic agriculture in 2007 was $65,194,823; this climbed to $85,417,188 in 2015 before dropping to $74,199,579 in 2022. Overall, this is a 14% increase in total impact from 2007 to 2022, but a 13% decrease between 2015 and 2022.

Economic Impact of Maine Organic Agriculture Over Time



Farms by Product Category: 2015 to 2022

When looking at the impact of select types of organic farming from 2015 to 2022, we see that the proportion of impact has shifted over time. Dairy farming's impact declined from $30 million to $20 million between 2015 and 2022; however, as of 2022, organic dairy farming still produces about one third of the overall impact of organic farming in Maine. Vegetables, flowers, nursery and other crops increased from $36 million to $44.5 million.

Total Economic Impact of Select Maine Organic Farm Types, 2015 vs. 2022

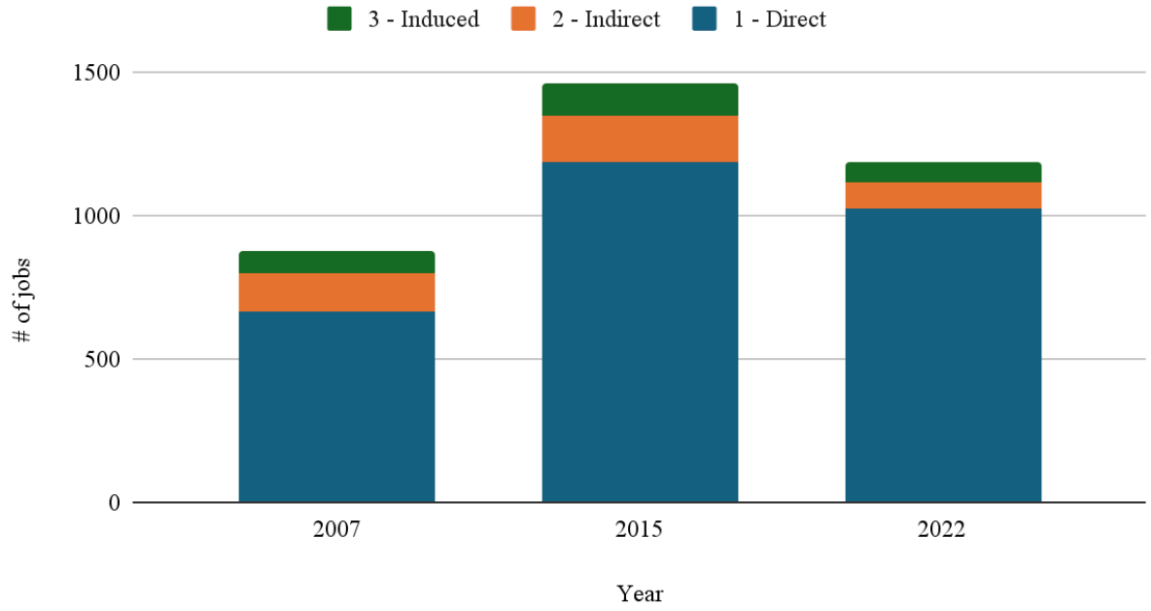
Payroll and Jobs: 2007 to 2022

Payroll and jobs according to the IMPLAN model: To estimate the total number of jobs and labor costs created by Maine organic agriculture, IMPLAN looks at the gross revenue generated and then estimates the total number of jobs (including direct, indirect, and induced) generated, based on labor cost ratios. IMPLAN's figures include owner's draws.

Payroll and jobs according to NASS census data: Farmers report their actual number of jobs and labor costs. The numbers reported by respondents in 2022 show that Maine organic farms hired 1,413 employees, and 554 Maine organic farmers listed farming as their primary occupation. When added together, this brings the total number of "jobs" produced by organic farms to 1,967 in 2022. Total payroll costs for organic farms in 2022 were $19.9 million; yet, we must note that this figure does not include any owner's draws that farm operators may have taken outside of regularly processed payroll.

As these two data sources determine their numbers in significantly different ways, the results are dissimilar. According to IMPLAN, the total number of jobs (including direct, indirect, and induced) generated by organic farming rose from 876 in 2007, up to a high of 1,463 in 2015, then down to 1,182 in 2022. This is a 35% growth in the 15-year period from 2007 to 2022. The drop in overall direct jobs from 2015 to 2022 is in keeping with the curve of declining certified farms, sales, and acreage.

Employment of Maine Organic Agrcitulture Over Time



SECTION 3. Data from MOFGA's Organic Farmer Goals Survey

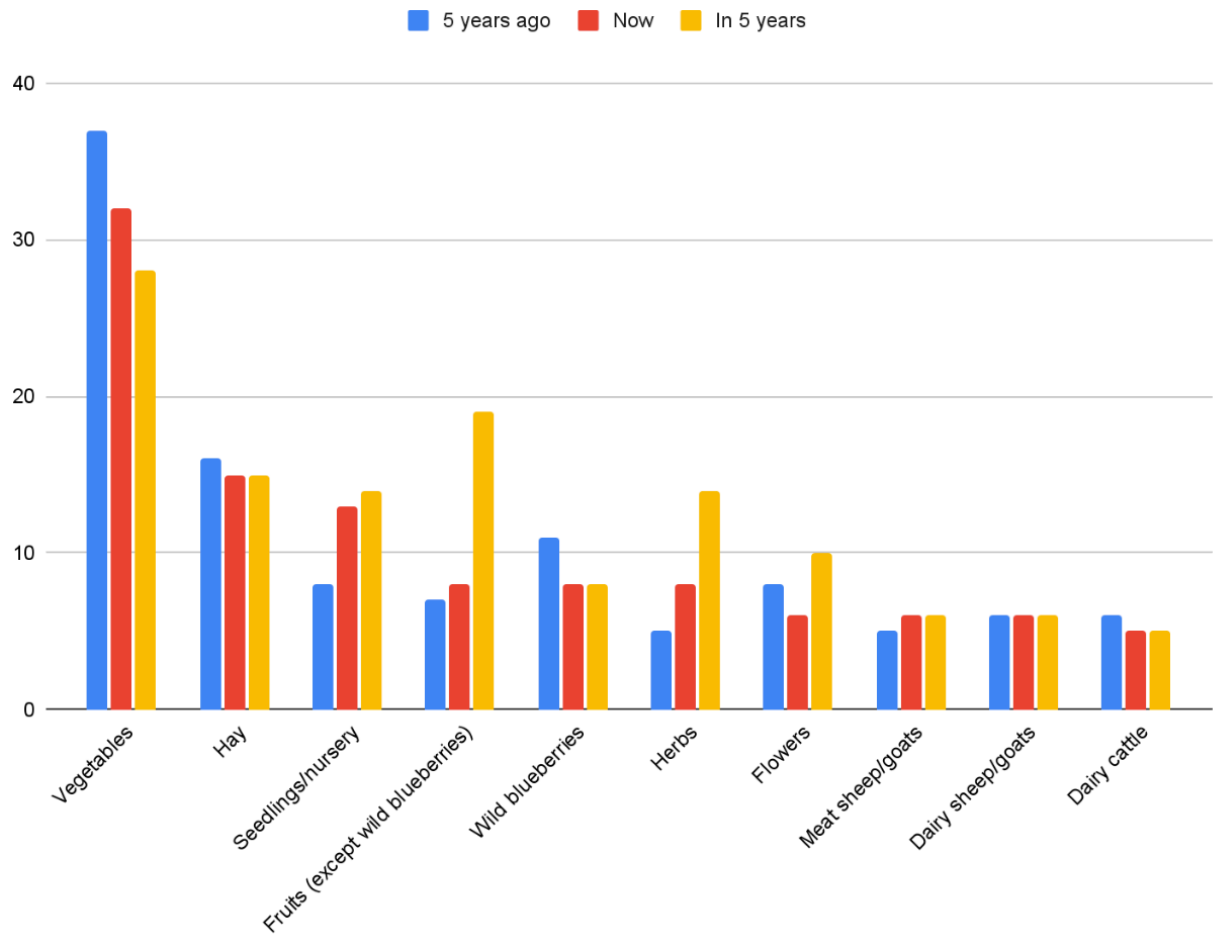
Survey Analysis of Farmer Goals and Barriers

Everything covered in this report so far has been focused on the overall size and impact of organic farming in Maine from a bird's-eye view, drawn from NASS data. In order to add more depth, we sought to consult the perspectives of the organic farmers themselves through a survey of questions. What goals do they have? What barriers do they face? The next section of this report focuses on the results of our Organic Farmer Goals survey.

Enterprise Makeup/Balance

Farmers were asked to rate the importance of different enterprises (e.g., vegetables, fruits, dairy, etc.) to their overall farm five years ago, now, and five years in the future. Interestingly, the most common current enterprise — vegetables — is something that many respondents hope to diminish in importance in the future. On the other hand, many respondents hope to increase the importance of fruits, herbs, or flowers in the future. Other enterprises remained mostly steady.

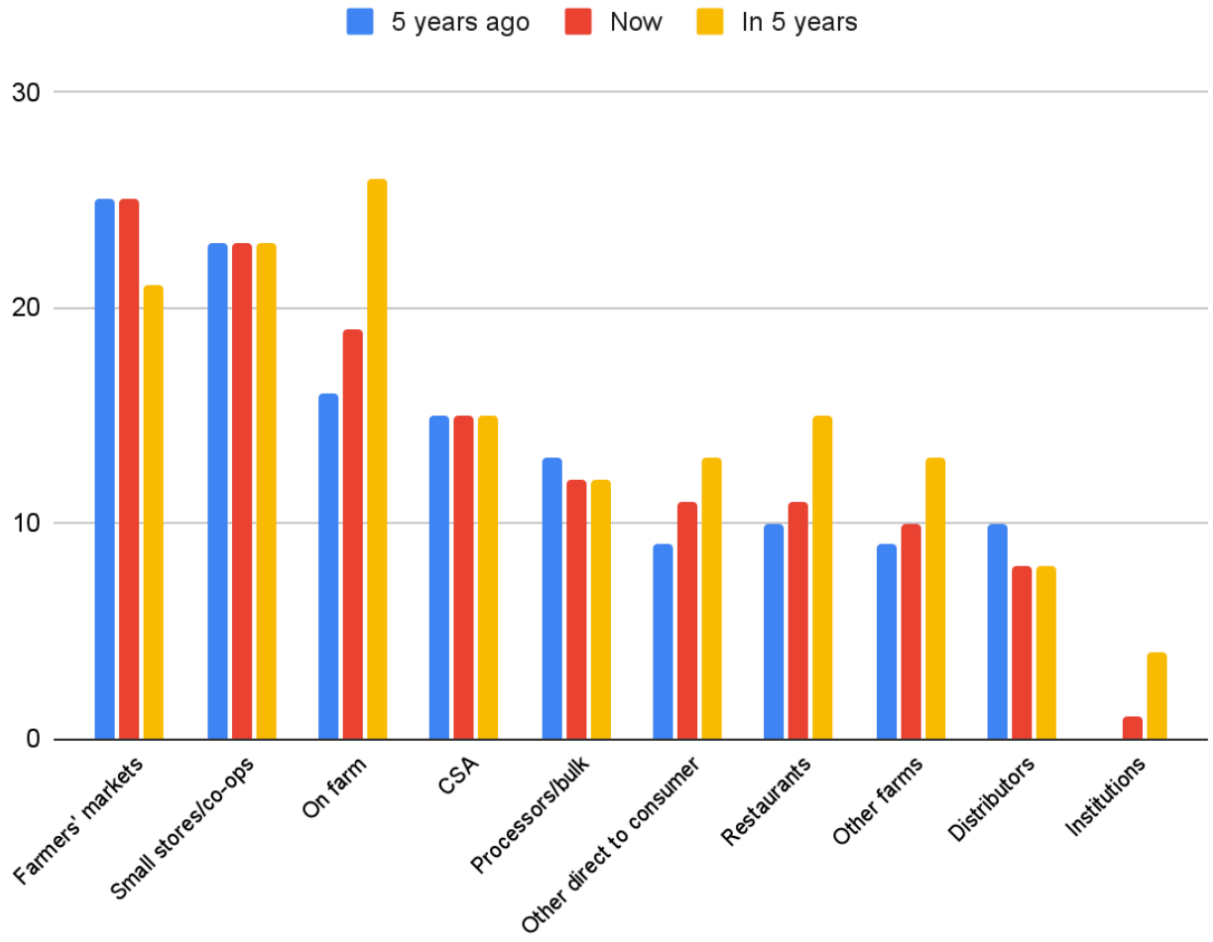
Number of Farmers Who Ranked Each Enterprise"Important" to Their Farm: 5 Years Ago, Now, and in 5 Years



Market Channel Makeup/Balance

Farmers were also asked to rate the importance of various marketing channels. Similar to our findings with the enterprise question above, the most important current channel — farmers' markets — is desired to diminish in importance if respondents achieve their goals, while on-farm direct-to-consumer sales will rise to become the most important and direct wholesale to restaurants and other farms will also grow. Direct sales to stores and operating a CSA (community supported agriculture) are projected to remain steady, while reliance on wholesale to processor and distributors is desired to decrease.

Number of Farmers Who Ranked Each Market Channel "Important" to Their Farm: 5 Years Ago, Now, and in 5 Years



Market Channel Makeup/Balance

Survey respondents were asked to rate the importance of various production-related goals to their farms. Overall, the most popular "very important" responses involved purchasing or building more infrastructure; extending seasonal availability of existing products; and increasing scale of existing products. Respondents were less interested in decreasing scale. Also, overall, respondents were less interested in equipment investments.

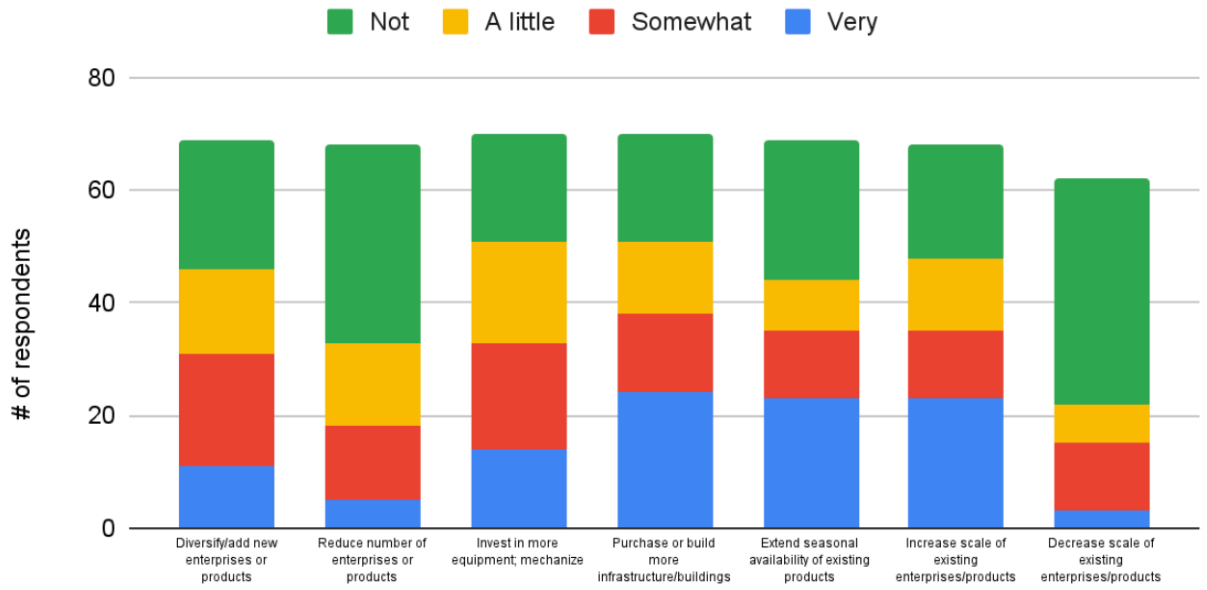
However, marked differences appeared when we looked at the responses and broke them down based on the focus or main product of each farm. We were able to create three cohorts: vegetable, fruit, and livestock farms. Farms focused on livestock production were much more interested in investing in

equipment: 44% of livestock farmers rated this “very important,” and 22% “somewhat.” The other cohorts ranked this much lower.

Fruit farmers were the cohort most interested in “increasing scale of existing enterprises/products”: 63% responded “very,” and 13% responded “somewhat.” The other cohorts were not as interested in this goal.

Vegetable farmers were the most interested, of the three cohorts, in “purchase or build more infrastructure/buildings”: 52% responded “very,” and 13% responded “somewhat.” Other cohorts ranked this lower. Vegetable farmers were also the most interested in “extending seasonal availability of existing products”: 43% responded “very,” and 26% responded “somewhat.” These responses are intriguing given farmers indicated a desire to decrease vegetable production.

How Important Are the Following Production Goals to Your Farm in the Next 5 Years?

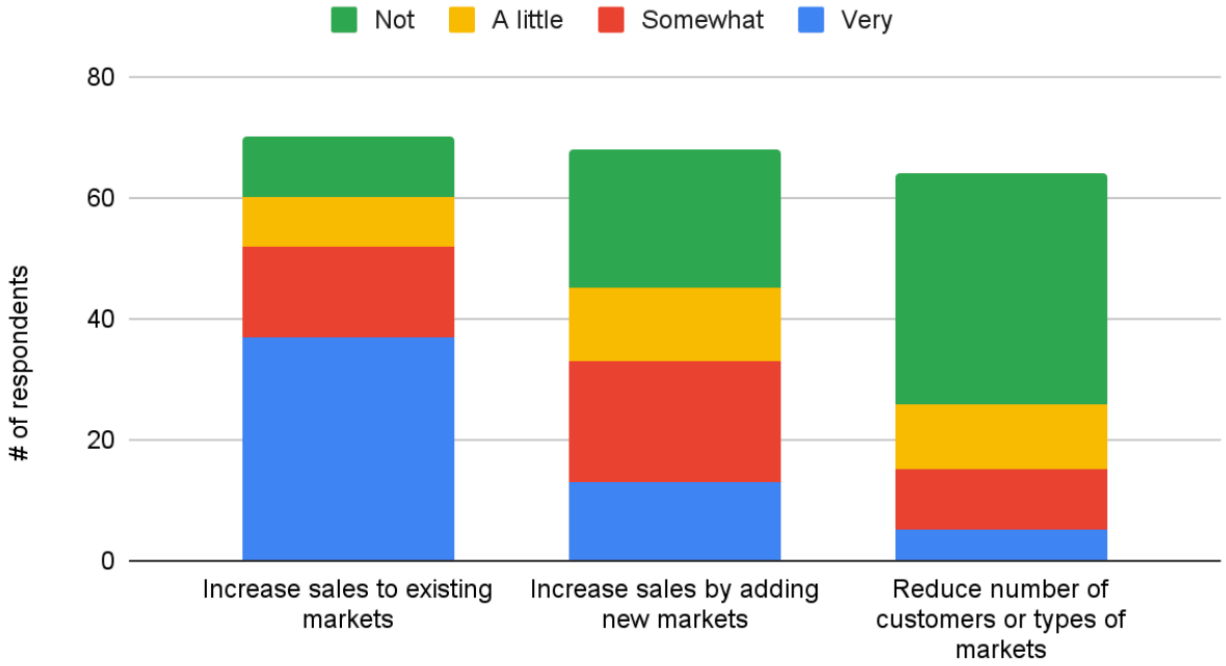


Marketing Goals

Respondents were also asked about the importance of various marketing goals for the next five years. Overall, farmers are most interested in increasing sales to existing markets rather than adding new markets or reducing markets.

Similar to the question above on production goals, marked differences appeared between different farm cohorts. Vegetable and fruit farmers were most interested in increasing sales to existing markets; livestock farmers were more likely to want to find new markets.

How Important Are the Following Marketing Goals to Your Farm in the Next 5 Years?

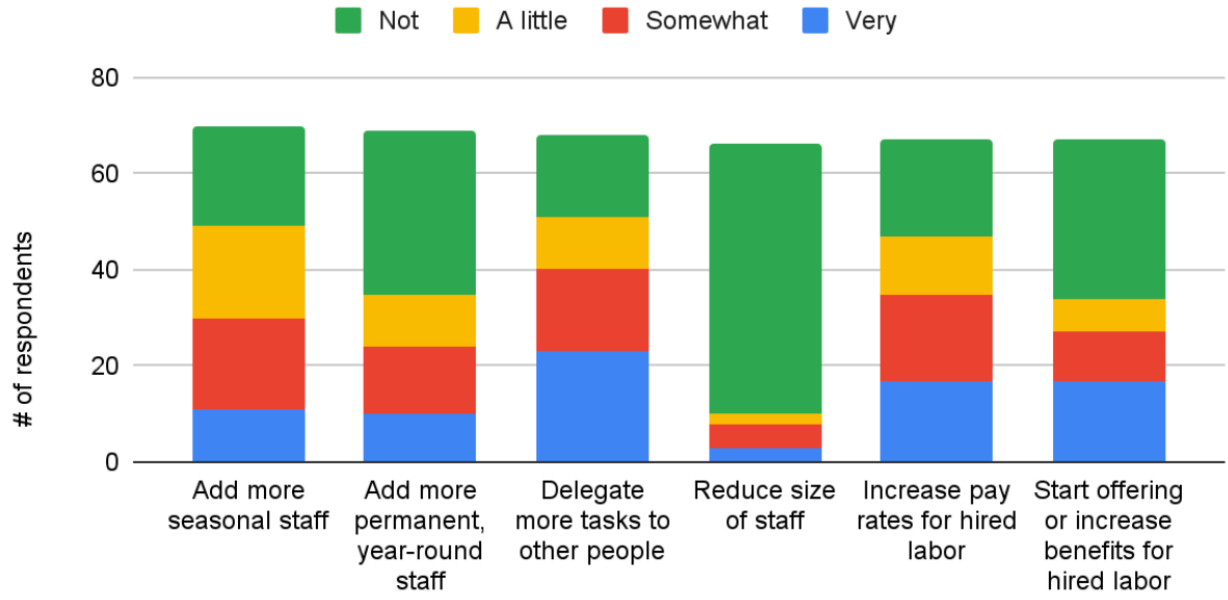


Hired Labor Goals

With respect to labor goals, survey respondents were most interested in learning how to delegate more. They were also interested in improving employee compensation. Expanding and/or reducing the size of their staff was of less importance.

When we looked at this data broken out by farm cohort, vegetable farmers ranked highest of all the cohorts in desiring to improve delegation of tasks to other staff: 43% responded “very,” and 30% responded “somewhat.”

How Important Are the Following Hired Labor Goals to Your Farm in the Next 5 Years?

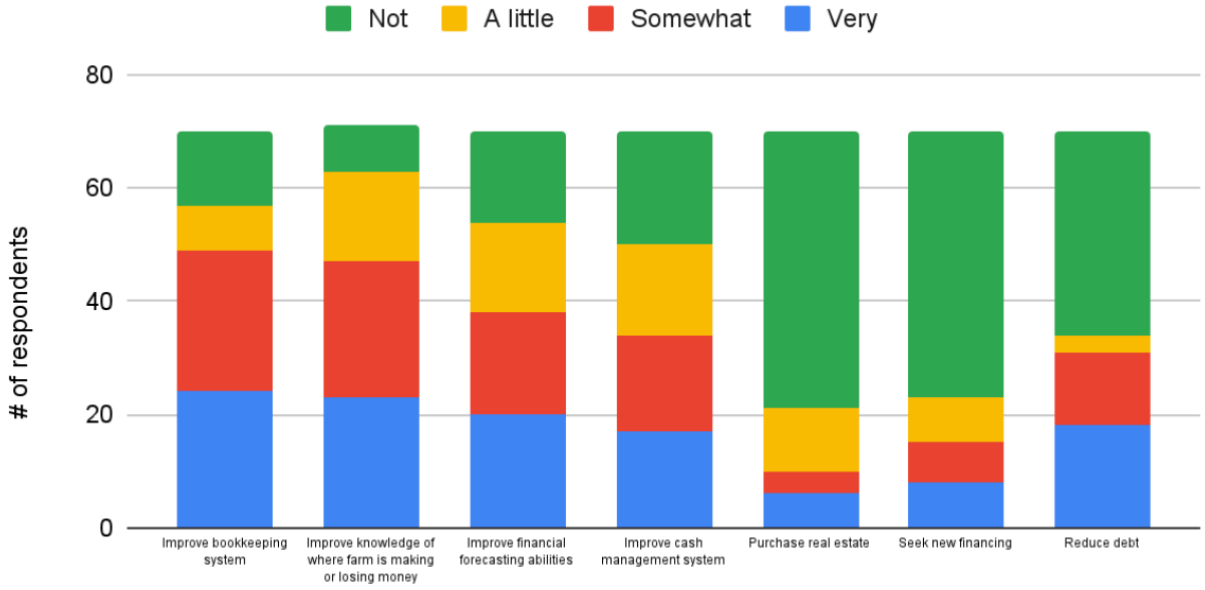


Financial Management Goals

Respondents expressed a relatively high level of interest in improving their financial management systems, in particular improving bookkeeping, understanding where the farm is making or losing money, and financial forecasting.

Our analysis by farm cohort showed that fruit growers in particular were interested in the goal to "improve bookkeeping system": 50% responded "very" and 25% responded "somewhat." On the other hand, the majority of vegetable growers were less interested in this topic: 22% responded "a little" and 17% responded "not."

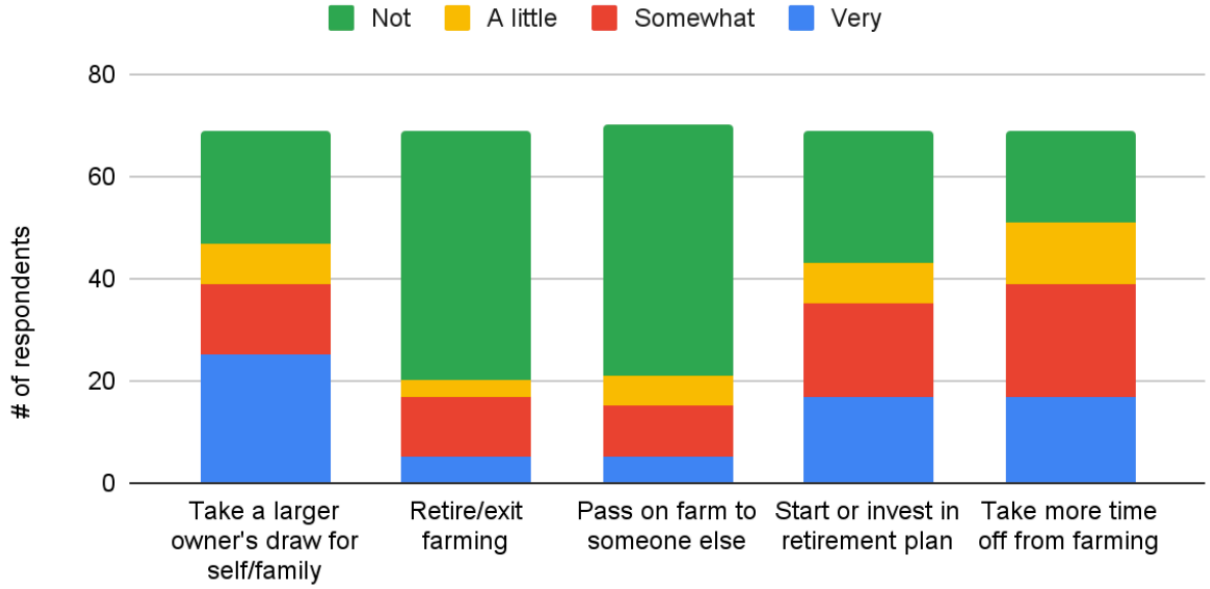
How Important are the Following Financial Management Goals to Your Farm in the Next 5 Years?



Personal Owner/Operator Goals

Overall, respondents were most interested in figuring out how to take a larger owner's draw, to take more time off from farming, and to start or invest in a retirement plan. Not many were interested in exiting or passing on the farm to someone else.

How Important are the Following Personal Owner/Operator Goals to Your Farm in the Next 5 Years?



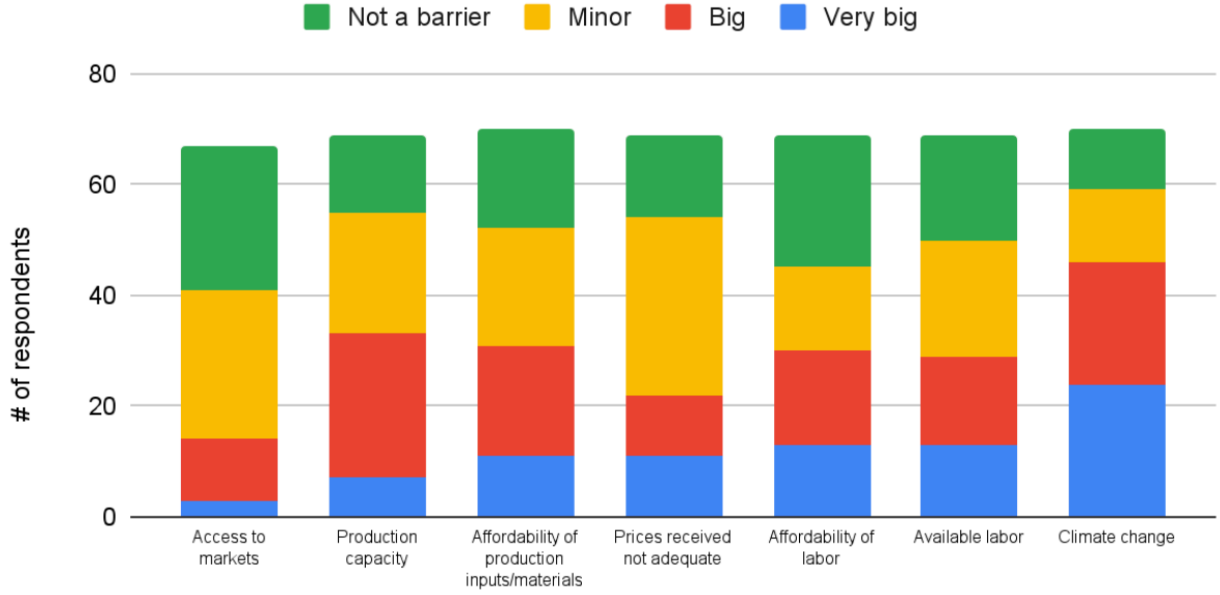
Barriers

Overall, respondents ranked climate change as the number one barrier, with availability and affordability of labor next. “Access to new financing,” “PFAS contamination,” “making payments on existing loans” and “access to farmland” were ranked as relatively unimportant barriers.

By farm type, the cohort of livestock farmers differed markedly from the other cohorts in terms of the barriers it emphasized. Livestock farmers ranked highest of all the cohorts in their response to “prices received were not adequate”: 56% responded “very big” and 22% responded “big.” The other cohorts ranked this lower (actually the majority responded this is “minor” or “not a barrier”).

Livestock farmers also found “affordability of production inputs/materials” to be a barrier: 44% responded “very big,” and 33% responded “big.” The comments section of our survey responses contained multiple mentions of the price of organic grain. The other cohorts ranked this much lower.

If You Face Barriers in Achieving Your Goals, What are the Biggest Ones?



Farm Financial Sustainability

In order to understand why Maine organic farmers may or may not stay certified, it is helpful to understand their financial sustainability. Through the Organic Farmer Goals survey, we attempted to create a perspective on this, based on specific financial questions that we asked.

Our Definition of Financial Sustainability

This report considers financial sustainability to be the point where a farm has enough revenue from sales to pay all of its normal operating expenses, keep up with its loan payments, pay its owners an amount that meets their goals, and set aside enough capital to reinvest in equipment and infrastructure. This definition of "financial sustainability" is significantly different from the standard definition of "profit," which typically considers only revenue minus expenses.

Here is a table of the terms and definitions we have used in this report:

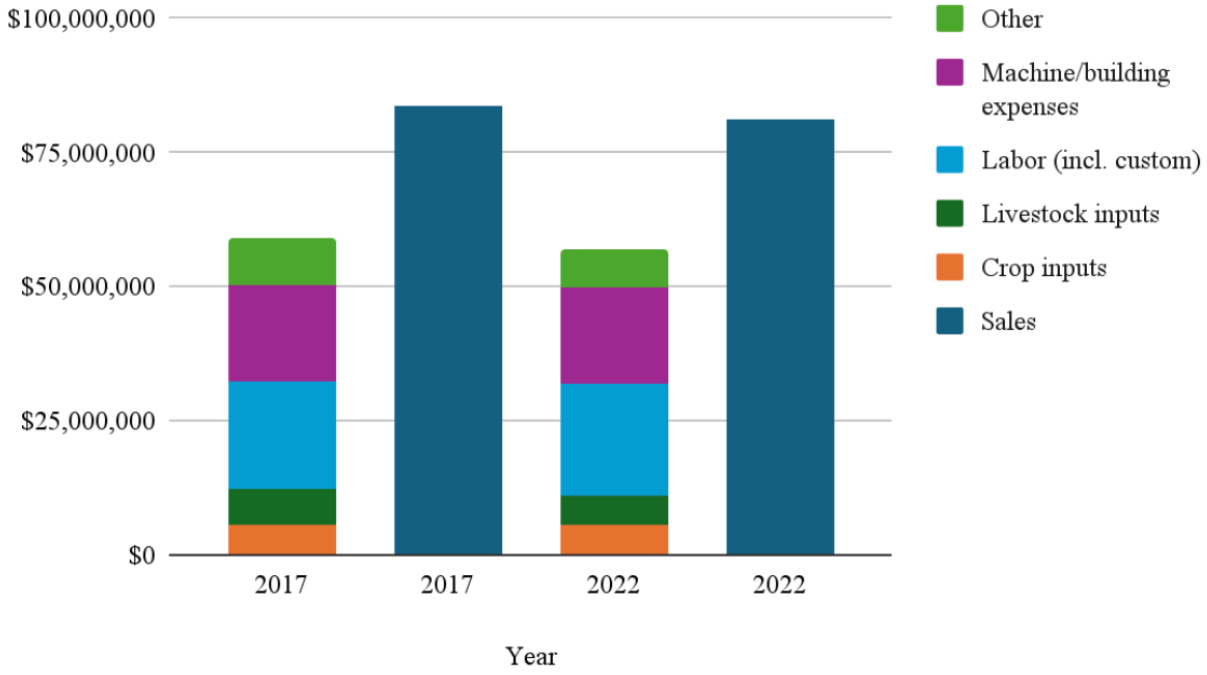
Term	Definition
Revenue	Sales of products or services.
Expenses	Normal business operating expenses — everything from labor to inputs (like feed) to overhead (like insurance).
Net Profit	Revenue minus expenses.
Loan Payments	The amount of money a farm needs to pay its debts in one year (excluding interest if interest is already considered an expense above).
Equipment Replacement Cost	The amount of money a farm needs to set aside (on average) each year to replace its existing equipment and infrastructure.
Owner/Operator Labor	The total pay taken home by the farm owner(s), including both payroll and owner's draw.
Financial Sustainability	**When a farm generates enough revenue to cover all expenses, loan payments, equipment replacement, and owner/operator labor.**

NASS Data and Farm Sustainability

In contrast, the 2022 NASS Census reports on certain "farm production expenses," which this report has condensed into the following categories: crop inputs, livestock inputs, labor (including custom hire), machine/building expenses (including maintenance, utilities, fuel, rent) and other (including Interest). It is important to note that the NASS Census "expenses" don't capture the whole picture of a farm's cash outlays. Loan principal payments, equipment investments (in any form, either outright or as depreciation), or owner's draw are not included in the census reporting. What the NASS Census calls "net cash income from farm operations" represents the money that farmers then use to pay loans, reinvest in farm equipment, and/or pay themselves. We considered this problematic, as it does not capture the full costs of farming in Maine at this time.

According to NASS Census data, both income and production expenses declined slightly, at about the same rate, from 2017 to 2022, indicating no major change in the percentage of income that was spent on production expenses. This indicates little to no change in the financial efficiency of Maine's organic farms from 2017 to 2022. But it begs the question: Why were Maine farmers dropping organic certification?

Sales vs. Production Expenses on Maine Organic Farms, 2017 vs. 2022



A Deeper Dive According to Our Farmer Goals Survey Results

While NASS data reports income as compared to certain expenses (as outlined above), it leaves out several expenditures needed to assemble a complete picture of financial sustainability:

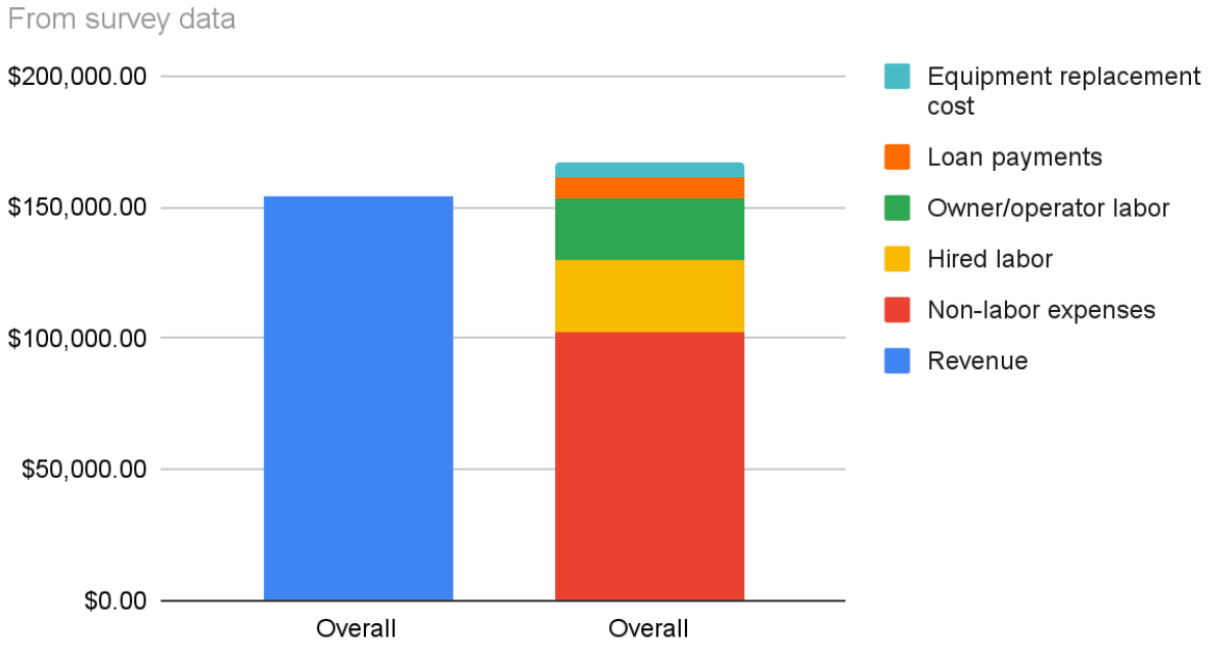
- Owner's draw in excess of payroll costs.
- Loan payments (debt service).
- Equipment replacement cost — defined as the average amount of money a farm needs to set aside each year to replace equipment as it ages out. This is also known as straight line depreciation, in which the value of the equipment is divided and expensed equally over its useful lifespan.

In our Organic Farmer Goals survey, respondents were asked to provide their 2022 total sales, expenses excluding interest, non-owner payroll costs, owner's draw, loan payments, and equipment replacement costs. These figures were then used to understand a more realistic financial sustainability of Maine organic farms, by looking at their net cash flow after all expenses, loans, equipment investments, and labor (including owner's draw) have been paid for.

As the chart below shows, the average revenue per farm is around $154,000. This sufficiently covers expenses, payroll, and an owner's labor cost of $24,000, but is insufficient to support loan payments and equipment replacement, or any additional family living or retirement contributions to the farmer above and beyond $24,000. In practice, farmers are likely to make their loan payments and equipment investments before paying themselves, resulting in an even more meager owner's draw. This indicates that Maine's organic farmers are struggling with financial sustainability.

From this data, we were able to ascertain that, across all responses, labor (including both employees and owners) represents about 33% of revenue.

Average per Farm Revenue vs. Expenses



Financial Sustainability by Income Class

In order to see if there was a connection between financial sustainability and size, we broke the survey respondents into different levels of annual total farm revenue. We established four different cohorts:

- Less than $35,000.
- $35,001-$100,000.
- $100,001-$200,000.
- Over $200,000.

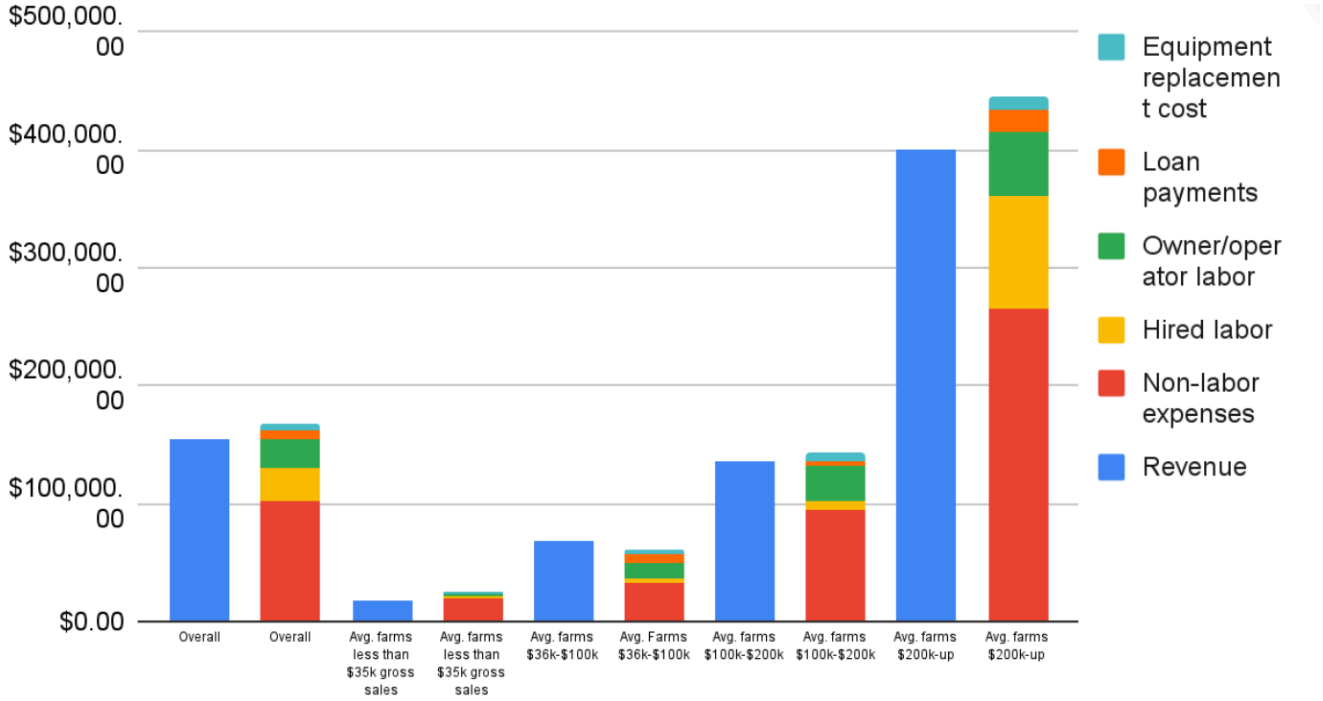
The less than $35,000 revenue cohort has a labor-to-sales margin of 18%, lowest of all the cohorts, but that's because, according to the data, the owners don't appear to pay themselves. They operate at an average loss of -$3,784 per farm, without paying themselves.

The $35,001-$100,000 revenue cohort is the only cohort with positive net profit and margin after owner's labor, loans, and equipment replacement are paid — however, the owner's labor is only being compensated at approximately $11,500 per farm. This leads us to conclude that farms at this level of sales are not providing a full-time living for the farmer.

The $100,001-$200,000 revenue cohort shows the best capacity to pay themselves (total owner compensation = 21%, highest of all the cohorts). But again, this is not a living wage; they are only able to pay themselves $29,000 per year on average. This cohort is also therefore likely to be supported by off-farm income.

The $200,000-plus revenue cohort has the highest labor-to-sales margin of all the cohorts at 37% and posts the largest average loss per farm.

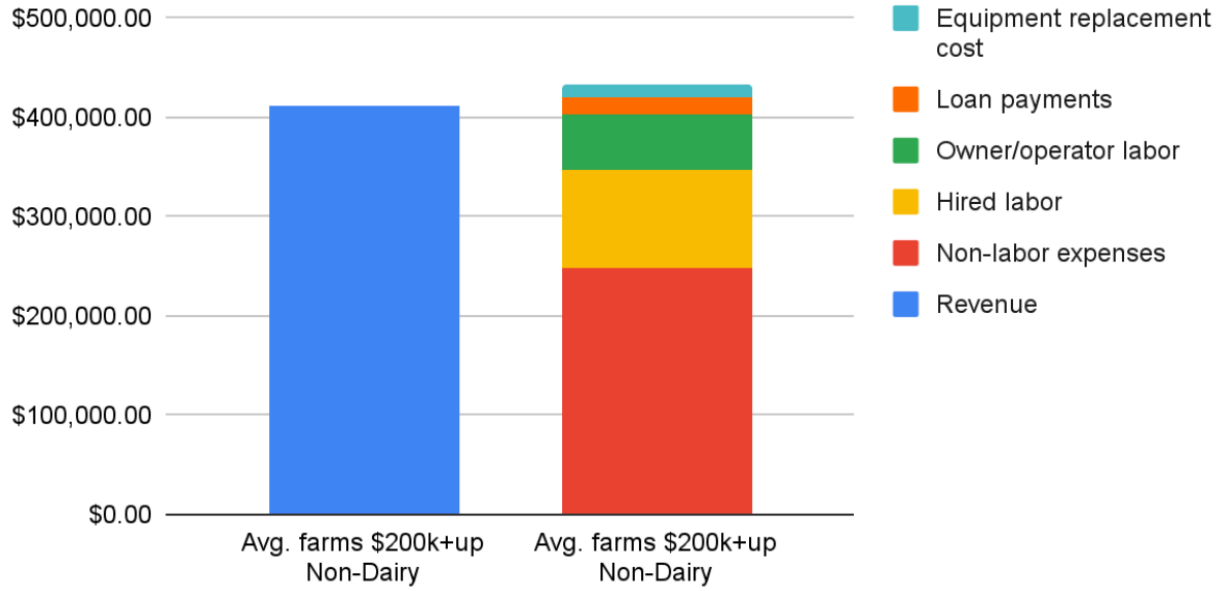
Average Revenue vs. Expenses by Revenue Class



The $200,000-plus revenue cohort contains the larger dairy farms, so we decided to look at the financial sustainability of this group with dairy farms removed. This group is more financially sustainable when dairy farms are excluded; however, the non-dairy farms with more than $200,000 in sales are still not generating sufficient revenue to cover expenses and loan payments. Without dairy farms the average loss is -$21,000 per farm. With dairy farms the average loss came to -$44,500.

This data analysis indicates that there is not a strong improvement in financial sustainability as Maine's organic farms get bigger; in many ways their challenges appear to grow larger as they grow past the $200,000 revenue mark.

Average Revenue vs. Expenses for Non-dairy Farms with More than $200,000 in

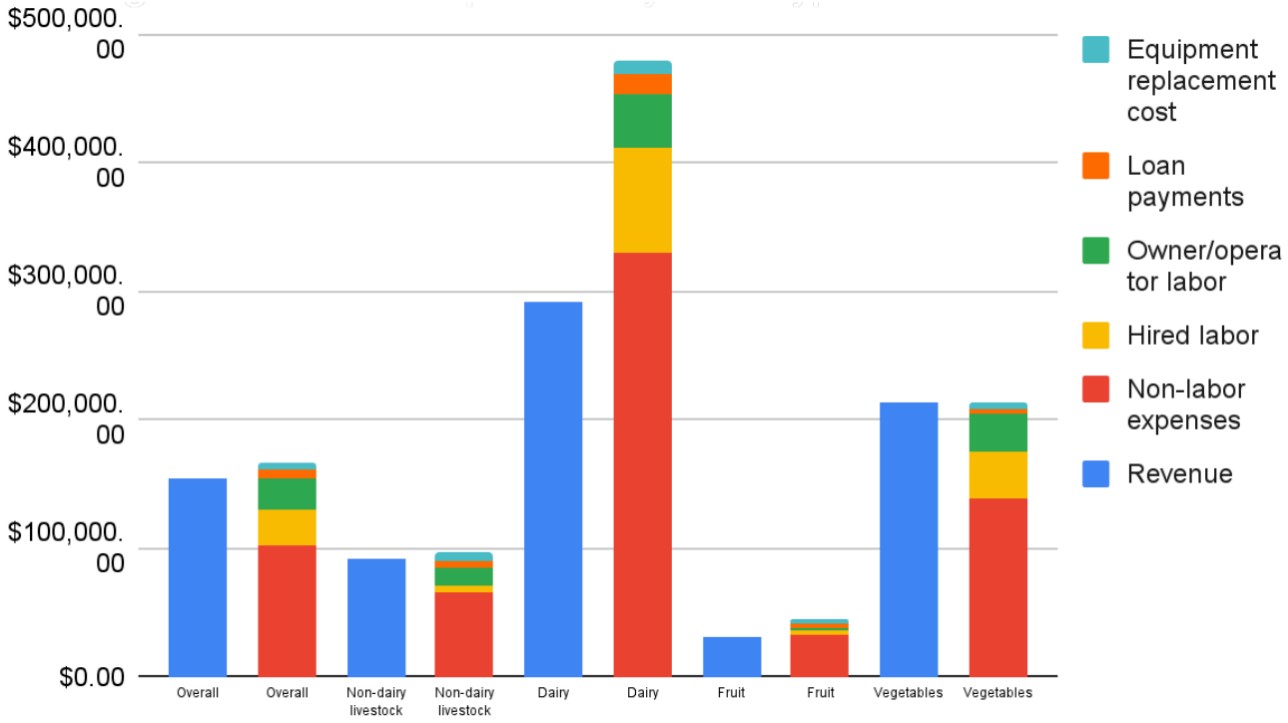


Financial Sustainability by Income Class

An even greater contrast between financial sustainability appears when we look at the financial sustainability of different farm types. Vegetable and non-dairy livestock farms do appear to generate enough revenue to cover their full costs, with vegetable farms having higher average sales per farm than most of the other farm types.

On the other hand, fruit farms operate at a deficit. And the dairy farm respondents in particular operated at a big loss in 2022, with average expenses per farm exceeding average sales per farm by more than $150,000. Non-labor expenses alone exceeded revenues, without factoring any of the labor, owner's pay, loans, or equipment costs.

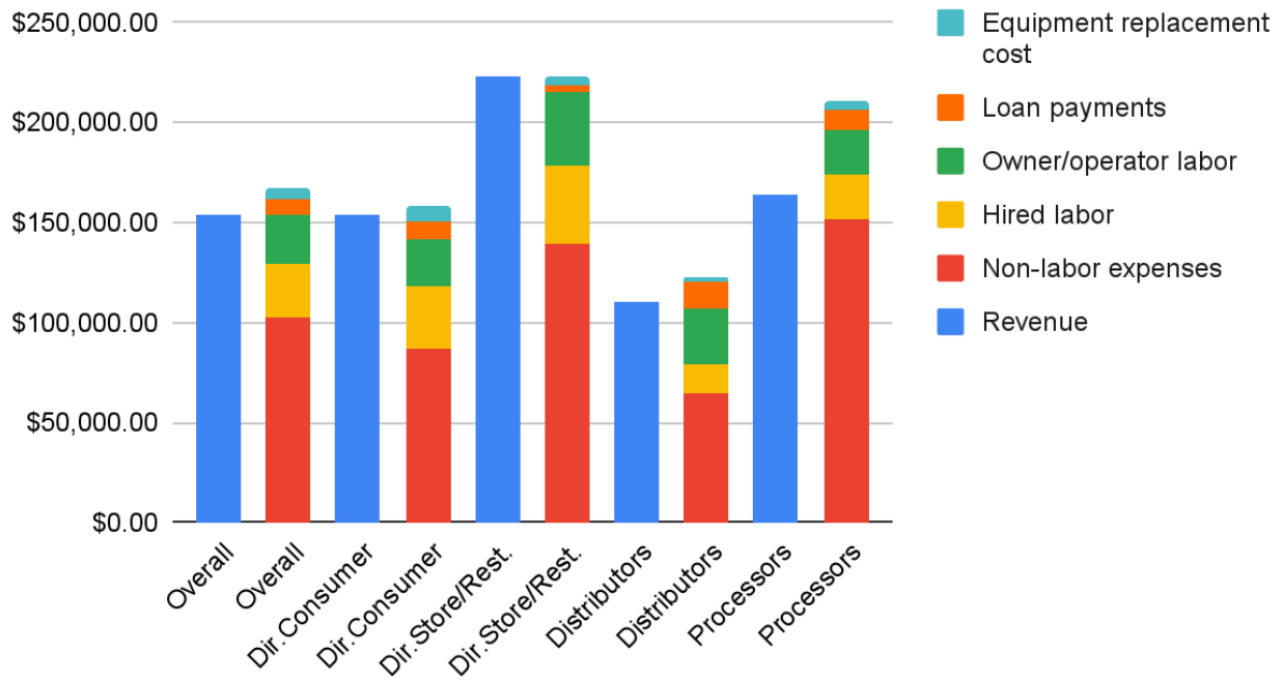
Average Revenue vs. Expenses by Farm Type



Financial Sustainability by Market Focus

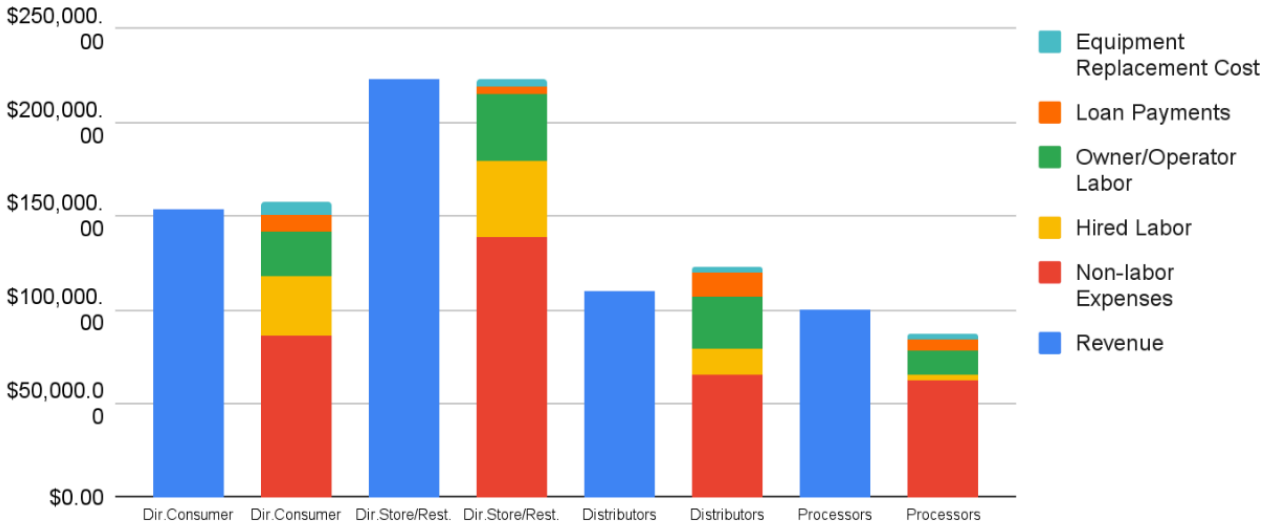
There is also a sharp contrast in the financial sustainability of different farms based on their primary market channel. Those farms that focused their sales on wholesaling direct to stores, restaurants, and other farms averaged enough sales to cover their full expenses. Those farms that focused on direct-to-consumer sales operated at a very slight deficit. Farms that focused on sales to distributors and processors, on the other hand, operated at greater deficits — with distributor-focused farms at a mild deficit and processor-focused farms at a larger one.

Average Revenue vs. Expenses by Market Channel



However, when these same market channel financial sustainability numbers are calculated without the dairy farms, the financial sustainability picture for sales to processors and distributors looks significantly better. Non-dairy farmers who cited processors as their primary market channel have a net margin of 13% — the highest of each of the market channel cohorts.

Average Revenue vs. Expenses by Market Channel, Dairy Farms Not Included

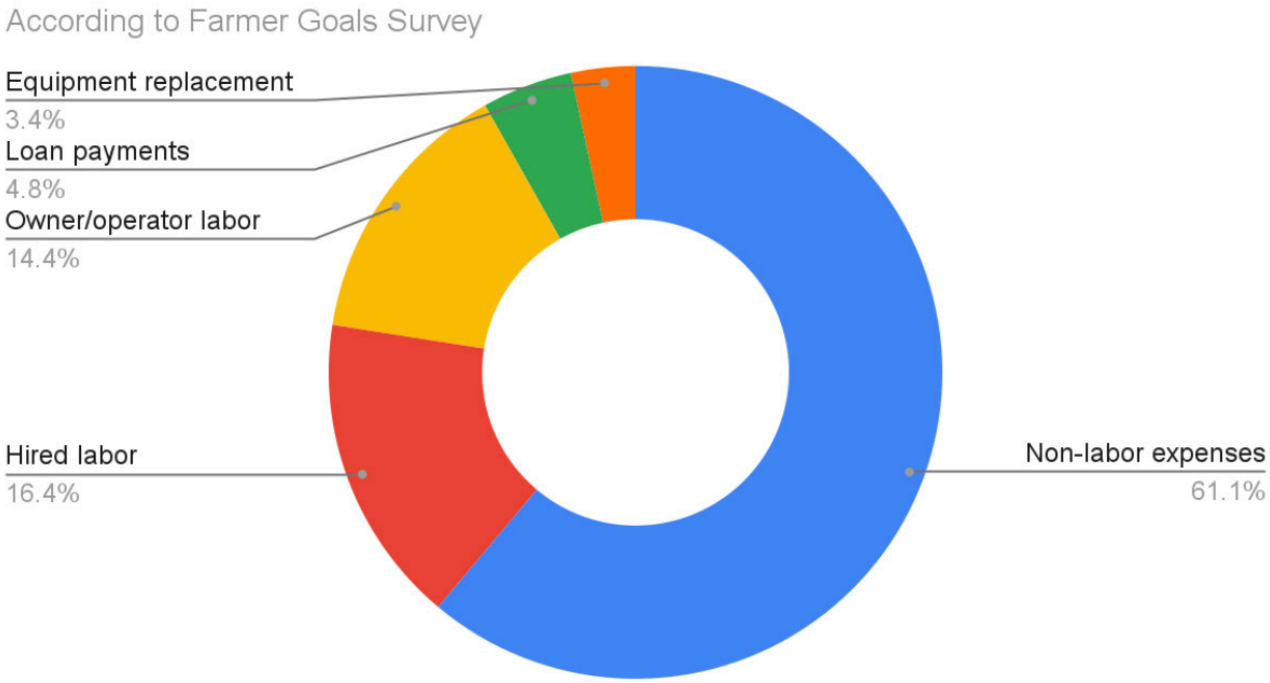


Where Does Each Dollar Received by a Maine Organic Farmer Go?

According to MOFGA's Farmer Goals Survey data, for every dollar in revenue:

- $0.61 is spent on non-labor expenses;
- $0.165 is spent on hired labor;
- $0.145 is spent on the farmers paying themselves;
- $0.05 is spent on loan repayments;
- $0.03 is reinvested back into the farm's equipment and infrastructure.

Where Does Each Dollar Received by a Maine Organic Farmer Go?



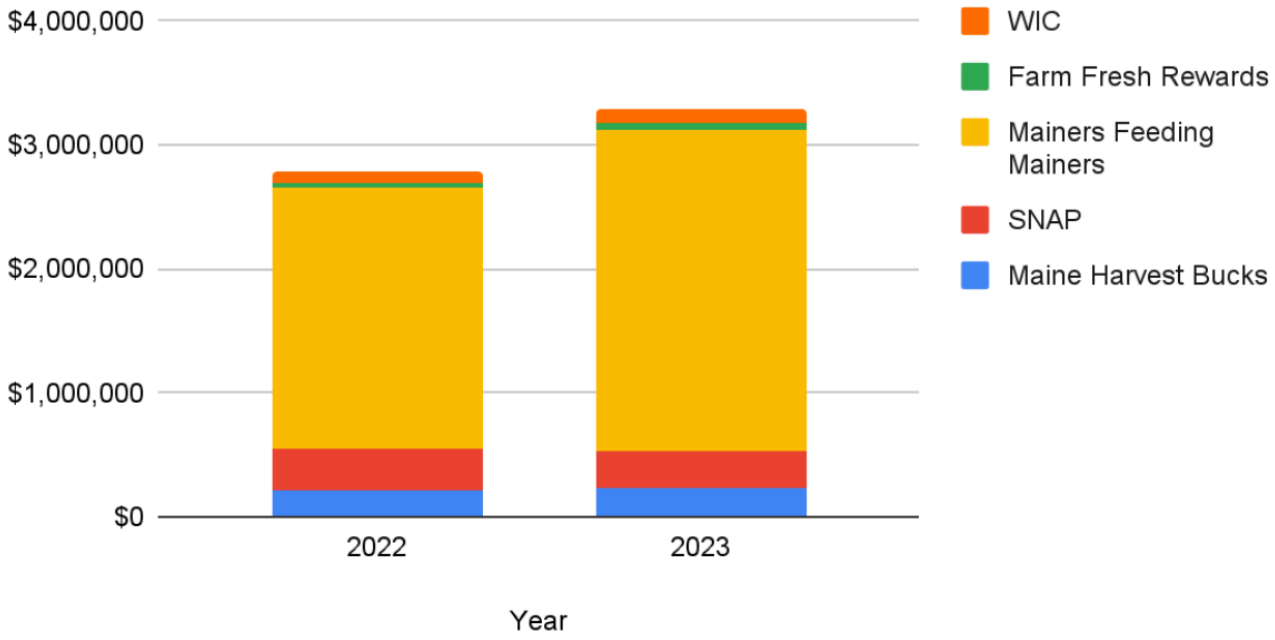
Maine's Expanding Food Access Programs — A Market Opportunity for Maine Farmers

In Maine, there is a constellation of government and nonprofit-operated programs that enhances access to locally produced foods for low-income Mainers. These programs include:

1. Maine Harvest Bucks. This program, jointly operated by a collaboration of organizations (Maine Federation of Farmers' Markets, Maine Organic Farmers and Gardeners Association, St. Mary's Nutrition Center, and Cultivating Community), acts to boost Supplemental Nutrition Assistance Program (SNAP) purchases of local foods at farmers' markets and through community supported agriculture (CSA) programs. SNAP is administered by the USDA and provides food benefits to low-income families to supplement their grocery budget so they can afford the nutritious food essential to health and well-being. Maine Harvest Bucks stretch SNAP dollars to increase SNAP customer spending power and empower low-income shoppers to make healthy food choices; SNAP shoppers can use their Maine Harvest Bucks benefits at participating CSA farms, farmers' markets, and farm stands to receive "bonus bucks" (usually in the form of a coupon) to redeem for fruits and vegetables. The redemption ratio, which is set by the Maine state legislature, went down in 2023 compared to 2022. The Maine Federation of Farmers' Markets administers the Maine Harvest Bucks program for farmers' markets and farm stands, while MOFGA administers the Maine Harvest Bucks programs for CSA farms in Maine.
2. Farm Fresh Rewards. This program is similar to Maine Harvest Bucks but the benefits are redeemable at participating grocery stores, food co-ops, and specialty food stores. Like Maine Harvest Bucks, Farm Fresh Rewards enable shoppers who buy food with SNAP to earn discounts on select fresh foods, with an emphasis on locally grown items. Good Shepherd Food Bank administers this program.
3. Supplemental Nutrition Program for Women, Infants, and Children (WIC). Administered by the USDA, this program aims to safeguard the health of low-income women, infants, and children up to age 5 who are at nutrition risk. In Maine, WIC can be accepted as payment directly by farmers and farmers' markets across Maine. To accept WIC payments, farmers must register with the WIC program through the Maine Center for Disease Control & Prevention (CDC), which administers the program.
4. Mainers Feeding Mainers. This program is operated and administered by Good Shepherd Food Bank, which develops purchase agreements with Maine farms, committing to buy certain crops or locally produced products directly from them. A majority of the purchased product goes to the food bank's distribution centers, but the food bank also coordinates direct deliveries to food pantries, schools, healthcare centers, senior living facilities, and other institutions. This unique food access program, focused on reducing hunger through supporting local farms and fisheries, is funded primarily through private foundation support. Good Shepherd Food Bank, a nonprofit organization, reaches all 16 counties in the state and has over 600 locations where people can access food, including food pantries, meal programs, and mobile distributions.

From 2022 to 2023, the estimated dollars paid to farmers through these four programs grew 18%, from $2,748,179 to $3,245,323. The Mainers Feeding Mainers program provided the vast majority of revenue to farmers in both years.

Estimated Dollars Paid to Farmers from Maine's Food Access Programs, 2022 vs. 2023



These programs are growing quickly and could represent emerging market opportunities for Maine farmers. It is unclear to what extent they represent opportunities for certified organic sales expansion as none of these programs explicitly focus on organic and instead emphasize local and Maine-grown. That said, there are currently certified organic farms serving and utilizing these market channels successfully.

Conclusions

Report Conclusions

Maine's organic farming sector has seen many changes in the 15 years between 2007 and 2022. Maine organic sales have grown 67% over this time period, with an economic impact increase of 14%, from $65 million to $74 million.

At the same time, the number of acres has increased only slightly, while the number of certified farms has declined. These trends coupled with the growth in sales indicate the average revenues per farm have increased over this time period.

In the most recent time period that this report covers, from 2017-2022, we have seen a decline in Maine organic sales, acres, and economic impact, and a decrease in organic farmers who cited farming as their primary occupation. We continue to see a decrease in the number of certified farms. In this same time period, overall revenue for Maine-grown agricultural products has grown, along with Maine local food sales.

All of these trends indicate a loss in the proportion of Maine farmers who see organic certification as vital to their business strategies. In particular, younger farmers are choosing not to certify.

The organic farmers who responded to MOFGA's Organic Farmer Goals survey want to stay farming. They want to improve their incomes and their quality of life. They hope to do so by diversifying their production (in particular, by producing less vegetables and more fruits); by focusing more of their marketing efforts towards on-farm sales; and by investing in infrastructure/buildings, season extension, and increased scale. They feel most challenged by climate change and the availability and affordability of labor. They want to improve their business management skills.

Financial sustainability is a major challenge for Maine's organic farmers. On average, they are not generating enough revenue to pay their expenses, loans, and themselves, and to reinvest in farm equipment or infrastructure. Smaller farms appear to be financially balanced but are unable to provide a full-time wage for their owners. Larger farms, rather than being more profitable, appear to encounter greater financial challenges than their mid-sized counterparts. There appear to be challenges with scaling up that Maine's organic farming community has yet to fully understand or solve.

Key Takeaways:

1. As measured by both sales and acreage, certified organic agriculture in Maine grew significantly in size and impact from 2007 to 2017; then declined from 2017 to 2022.
2. Sales of Maine-grown certified organic products grew 67% from 2007-2022, to $50 million per year in 2022.
    a. Maine non-organic sales remained fairly stagnant from 2007 to 2017; then grew by 40% to $760 million/year in 2022.
    b. From 2017-2022 it appears a larger proportion of Maine farmers (in particular, young farmers) chose not to certify.
3. Financial sustainability appears to be a major challenge for Maine's organic farmers.

Recommendations

MOFGA should focus some of its policy efforts on the challenges presented in this report, including the two top barriers cited by organic farmers (climate change and availability and affordability of labor).

MOFGA should continue to develop and implement programming aimed at supporting farmer skills and knowledge to address the needs and challenges identified in this report, such as financial

management skill development and climate change adaptation, as well as programming to support opportunities farmers expressed a strong interest in such as increasing on-farm sales and sales to existing customers.

Now that this report has established a historic baseline, it should be periodically updated. MOFGA should engage in a similar review of NASS data and conduct similar Organic Farmer Goals surveys every five years to produce comparative reports. (IMPLAN is not so necessary, especially as it's so expensive.)

MOFGA should conduct research to understand why the number of certified organic farms relative to total Maine farms is declining. As part of this research, MOFGA should conduct surveys with consumers and retail buyers to understand the value of organic certification from their perspective. For the farmer's perspective, MOFGA should continue to systematically perform "exit interviews" of farmers leaving certification to identify any potential trends and develop a process to regularly analyze these trends to inform programs and services.

MOFGA should also reach out to farmers who have participated in MOFGA's programs but have chosen not to certify. While this report doesn't examine the data of non-certified farms that use organic practices, it is well known that MOFGA's programs benefit many who choose not to certify. MOFGA should consider broadening its understanding of its own impact to include quantifying and qualifying the number of Maine farms that use and market their use of organic practices but elect not to certify.

Overall, the report paints a mixed picture of organic agriculture in Maine. While there are challenges, there are also opportunities for growth and improvement. MOFGA should use this report to guide its programming decisions and policy efforts to continue to support Maine's organic farmers.