RESEARCH REPORT
May 12, 2020

Maine consumer perceptions and attitudes about local food and the COVID-19 pandemic

This report was prepared by Atlantic Corporation as a public service to its home state of Maine. The statements, findings, conclusions, and recommendations are those of the author(s). For more information about this report, please contact: Atlantic Corporation, 44 Main St. Suite 205, Waterville, Maine, 04901 | info@atlanticcorporation.com | www.atlanticcorporation.com

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i. Introduction

Atlantic Corporation (Atlantic) conducted a consumer insights survey of 503 Maine respondents assessing attitudes and preferences for local food before, during, and after the COVID-19 pandemic. This study explores self-reported changes in purchasing decisions and can be used to help identify alternative distribution channels for stakeholders across the local food supply chain including farmers, value-added producers, wholesalers, retailers, and restaurants (stakeholders). Assessing consumer perceptions of changes to purchasing decisions, food safety and security, and local food preferences, can help stakeholders who may need to rapidly evolve business strategies or risk facing immediate and sustained losses in revenue. This report outlines the methodology, key findings, and conclusions of our research.

ii. Methodology

The subsequent sections describe the process of survey design, implementation, and statistical analysis.

Survey Design and Implementation

Atlantic led the development of the survey, consulting with our extended network of experts and stakeholders in the local food industry for their review prior to finalization, including those from the University of Maine School of Food and Agriculture, Maine Department of Agriculture, Conservation, and Forestry, Maine Organic Farmers and Gardeners Association, the Maine Aquaculture Innovation Center, and others. For implementation, we utilized online panels to administer an anonymous web-based survey with assistance from Dynata, a global online market research firm. Dynata uses a multi-sourcing panel recruitment model that maximizes reach and capacity, improves consistency, and minimizes bias. Eligibility for the survey required respondents to be over the age of 18 and live in the state of Maine. Atlantic set the target sample size to 500 respondents. The survey was initiated on April 29, 2020 and concluded on May 6, 2020.

The data collection instrument consisted of 52 questions including screeners. Survey themes included the following:

1) General food consumption habits throughout the pandemic such as household food spending, frequency of purchasing food from retail stores, delivery services, and restaurants, frequency of purchasing dine-in or take-out, and concerns regarding food security.
2) Local food preferences throughout the pandemic including the importance of purchasing locally sourced food, likelihood of shopping at various retail outlets, and willingness to pay premium pricing for locally sourced products; and
3) General impacts from the pandemic including perceived impacts to the economy, self-reported effect on job and income loss, and perceptions of state- and federal-level responses to the pandemic.

In order to determine changes in purchasing decisions and preferences of locally sourced foods, several questions regarding purchasing behavior were assessed at three different time-points:

before the pandemic (previous behavior), during the pandemic (current behavior), and after the pandemic (expected behavior). A copy of the full survey is included in Appendix 1.

Statistical Analysis

Statistical analysis for this survey was descriptive in nature and no multivariable analyses were conducted. Univariate statistics were run for each survey question including range, mean, and standard deviations for continuous variables and percentages and frequencies for categorical variables. Margin of error, i.e. the radius of the 95% confidence interval, was constructed for the estimates of each variable.

We initially limited the survey to specific quotas for each age group, gender, race, and ethnicity to ensure a sample distribution representative of the state's population based on U.S. census data. We were unable to meet the quota for male respondents as well as those ages 18-24. Therefore, the raw data is skewed. To better reflect the population distribution, we have weighted the mean and standard deviation of our results based on population and sample demographics. A separate weight was constructed for each demographic category (age group, gender, race, and ethnicity) based on the ratio of population proportion to sample proportion. For example, observations that reported 'male' for gender would have a gender weight equal to the population percentage of males divided by the sample percentage of males. Once weights were constructed for each of the four demographic categories, a composite weight was constructed for each observation obtained by multiplying the four category weights.

iii. Results

The subsequent subsections describe key findings from our report, including demographics, attitudes about locally sourced food products, and general impacts of the COVID-19 pandemic.

Respondents

A total of 503 respondents completed the survey. The largest group of respondents were 65 years or older (28%) while 7% were between the ages of 18-24. Most respondents were women (62%), not Hispanic or Latino (98.2%), and Caucasian (96%). Given the skew in our data to older, female respondents, we weighted the results to achieve a population distribution similar to 11% in the 18-24 age bracket, 19% in the 65+ age bracket, 51% female, 1% Hispanic/Latino, and 95% Caucasian. A table showing the raw, sample distribution as compared to the desired population distribution and the associated weights for each category is shown in Appendix 2. The remaining results described in subsequent sections have been weighted appropriately. All results are provided in Appendix 3.

Demographics

The majority of survey respondents have some level of higher education, with 30% of participants holding at least a bachelor's degree. Over half of the respondents have an annual household income over $50,000 and 21% have an annual household income over $100,000. Almost one-third of respondents are low income, with 8% earning less than $15,000, 10% earning between $15k and $24.99k and 13% earning between $25k and $34.99k.

Most respondents (63%) have two or fewer people living in their household including themselves, while only 8% are from households with five or more people. A large majority of respondents (70.7%) are the primary shoppers, while 21% share the responsibility equally, and 8.3% are not the primary shoppers.

General Consumption Habits
We asked respondents to provide average monthly household expenditures at various time points for the following categories: 1) Food stores (e.g. big box stores, convenience stores, farmer's markets, gourmet markets, local organic markets, meat markets, seafood markets/trucks/stands, and supermarkets); 2) Mail order and other home food delivery services (e.g. Hello Fresh, Home Chef, Schwans, Amazon, etc.); and 3) Restaurants and prepared takeout. Time points assessed include before the pandemic, during the pandemic, and the first, second and third through twelfth months after dine-in options at restaurants become available again.

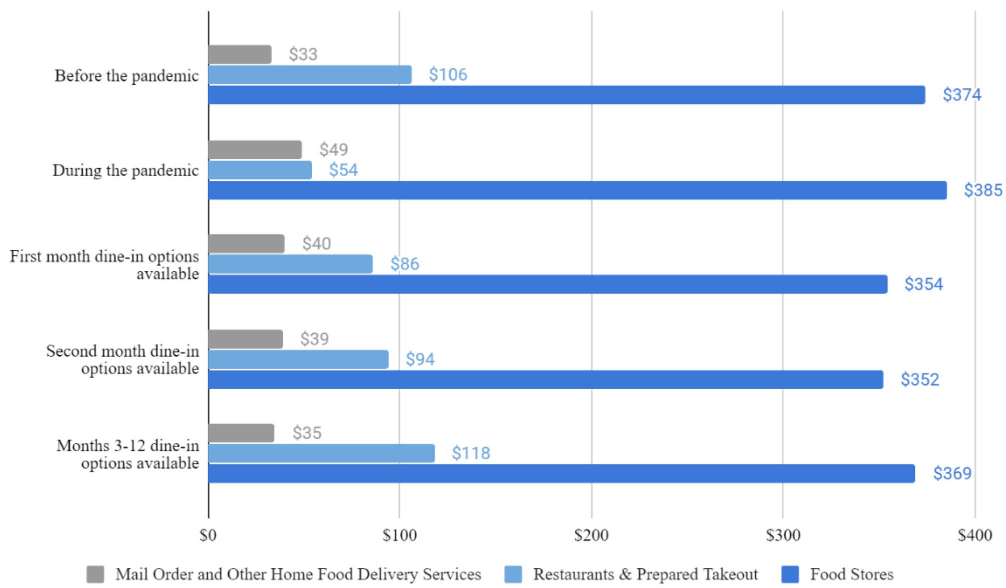

Figure 1. *Average monthly household spending before, during, and after the pandemic (Q14-Q17)*

Average spending at food stores increased from $374 to $385 during the pandemic Mail order and other home food delivery services increased from $33 to $49, while spending at restaurants decreased by half from $106 to $54. When dine-in options are available, expected monthly restaurant spending increases each month to above pre-pandemic levels, reaching $118 by the third month and food store and mail order spending decreases closer to pre-pandemic levels.

Respondents were also asked about the frequency in which they purchase food from restaurants (both dine-in purchases and take-out or delivery) before the pandemic and how much they expect to at one, two, and three to twelve months after restrictions are lifted.

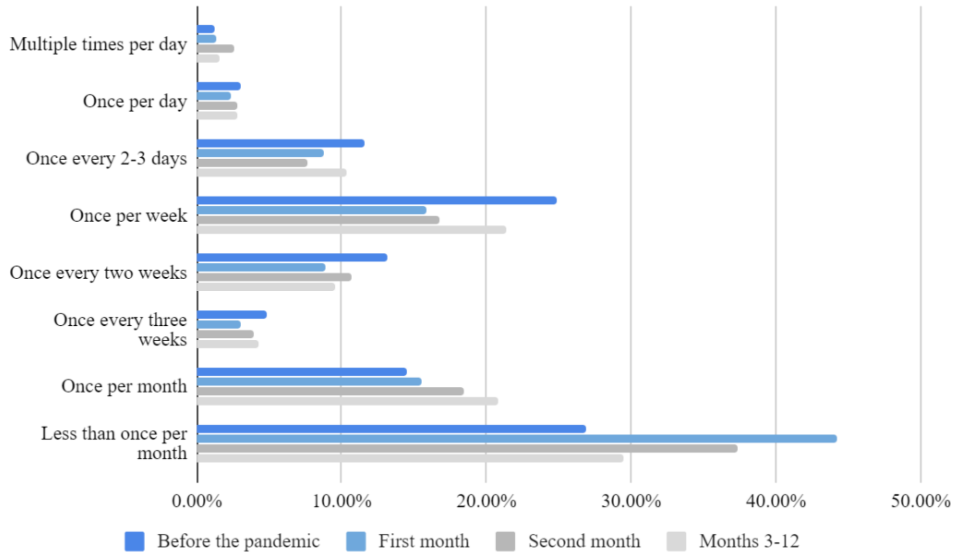

Figure 2. *Frequency of dining in at restaurants before and after the pandemic (Q18-Q21)*

Before the pandemic, 25% of respondents dined out at restaurants once per week and 27% dined out once per month. In the first month that dine-in service will be available, fewer respondents will dine out once per week (16%) than before the pandemic, and more respondents will dine out only once per month (44%). By months 3-12, the number dining out once per week will have increased but still be less than pre-pandemic levels at 21%.

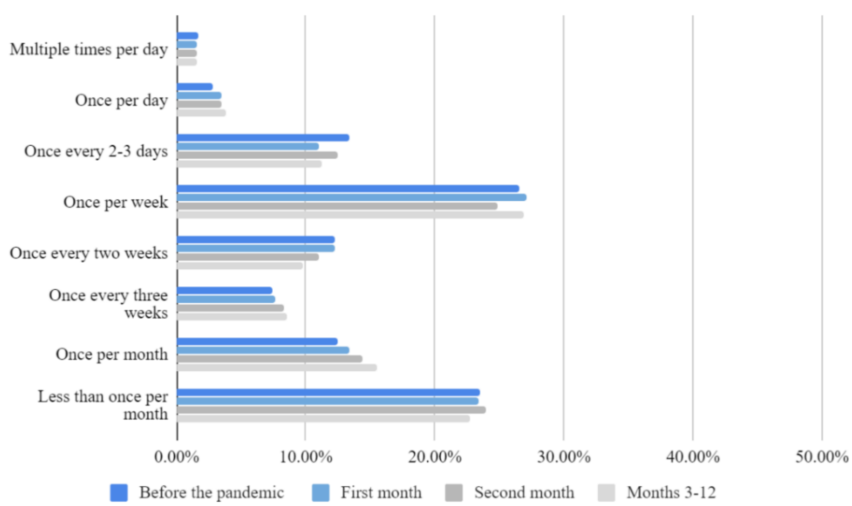

Figure 3. *Frequency of take-out and delivery purchases before and after the pandemic (Q18-Q21)*

Trends in restaurant take-out and delivery frequency remain relatively flat before the pandemic and after the restrictions end. Consumers purchased take-out or delivery at a rate of 27% once per week and 23% once per month before the pandemic. These levels are expected to remain unchanged three to twelve months after restrictions end.

Local Food Preferences

We assessed attitudes and preferences about locally sourced food among respondents, including their definition of local food, the types of specialty stores they shopped at before and during the pandemic, the importance placed on local food during a pandemic, willingness to pay premium prices for local food, gardening habits, and perceptions of food security.

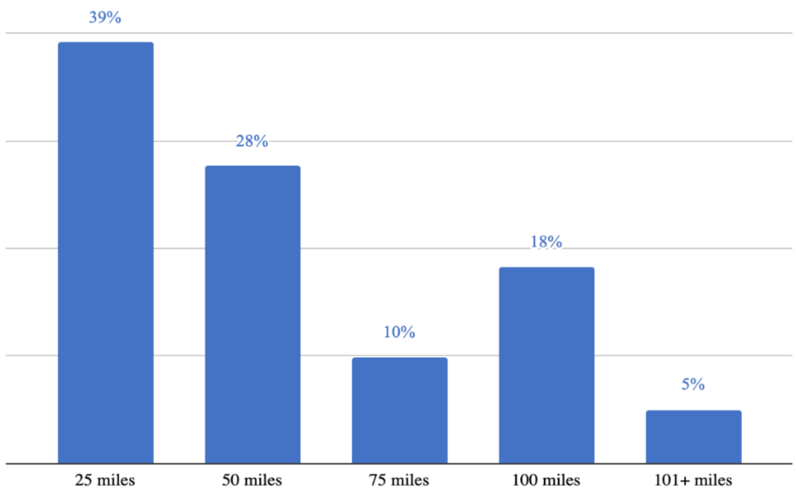

Figure 4. *Definition of local food (Q22)*

The survey defined locally sourced food for the respondents as organic and non-organic commodities and value-added products grown or processed in the state of Maine. Respondents were asked how they define local food in terms of mileage. Most respondents defined food purchased within 25 or 50 miles of the source as “local” food.

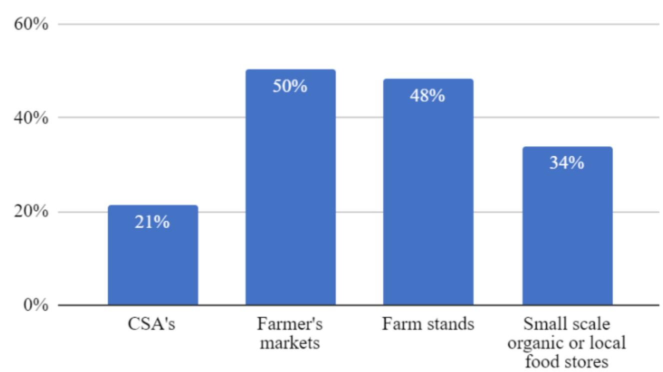

Figure 5. *Where respondents regularly purchased foods in 2019 (Q23)*

Respondents were asked if they made regular food purchases at CSA's, farmer's markets, farm stands, or small-scale organic local food stores or co-ops in 2019 (before the pandemic). Up to 50% of respondents shopped at these types of outlets, with 50% purchasing food at farmer's markets and 21% purchasing CSA's.

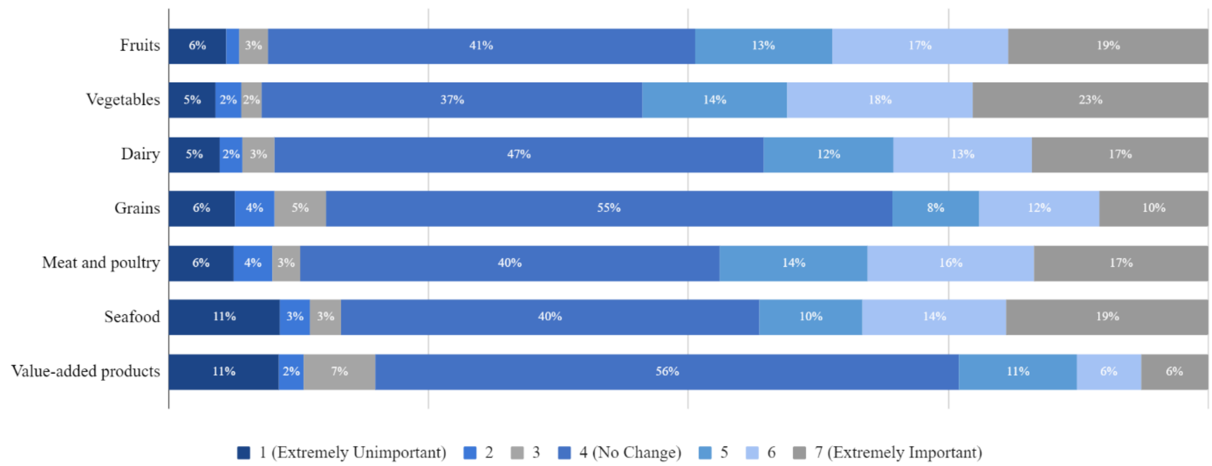

Figure 6. *Importance of purchasing local by product (Q24)*

Respondents were asked to rank the importance of purchasing local for each food category on a scale of 1 to 7 (with 1 defined as "extremely unimportant", 4 as "no change" and 7 as "extremely important"). Most survey participants indicated that it is important to them to purchase locally sourced fruits, vegetables, dairy, meat and poultry, and seafood. The majority of respondents, however, did not feel it as important to purchase locally sourced grains and value-added products.

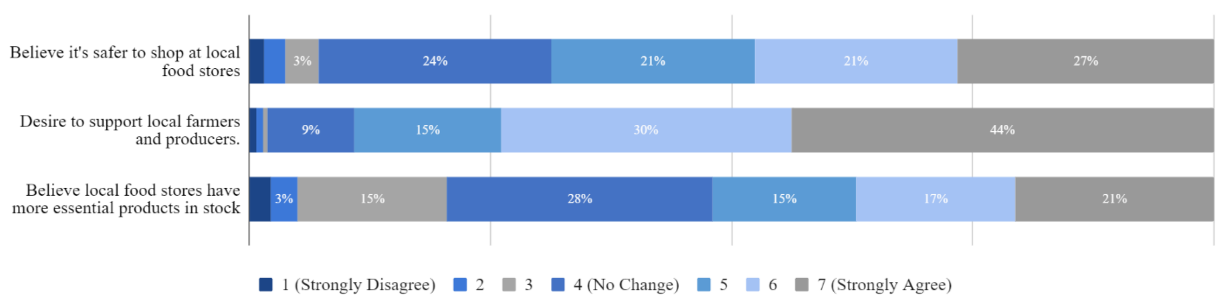

Figure 7. *Participant level of agreement with reasons for shopping local (Q26)*

Two-thirds of the survey participants believe it is more important to purchase local food products as a result of the COVID-19 pandemic. Among these respondents, 74% strongly agree (rating 6 or 7 on a scale of 1-7) that they shop local to support local farmers and producers, 48% strongly agree that it's safer to shop at local food stores than large retailers, and 38% strongly agree that local food stores have more essential products in stock than large retailers.

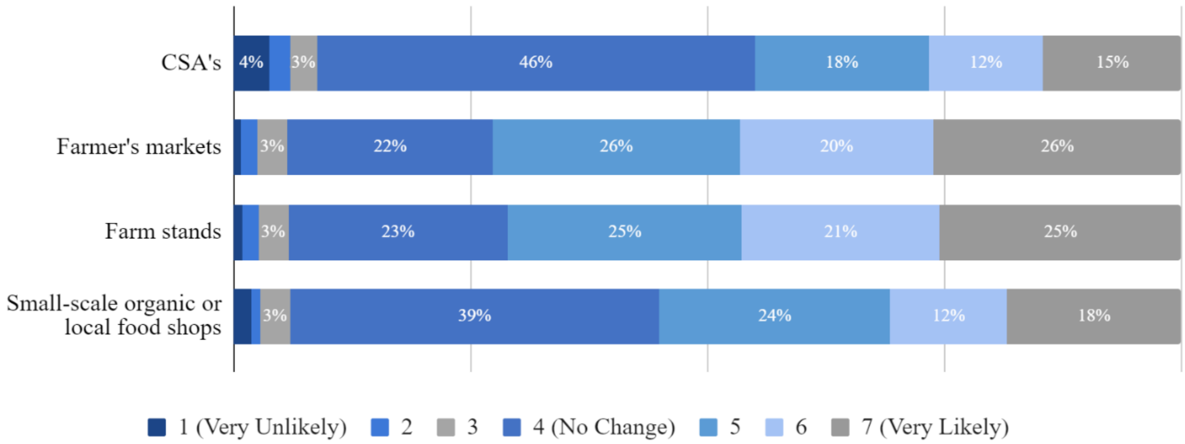

Figure 8. *Likelihood of purchasing at local food outlets (Q27)*

Of those who believe it is important to purchase locally as a result of the pandemic, 83% plan to prioritize locally sourced food after the executive order is lifted. These respondents were also more likely to purchase food at farmer's markets and farm stands (rating 6 or 7 on a scale of 1-7) than CSA's or local food stores as a result of the pandemic.

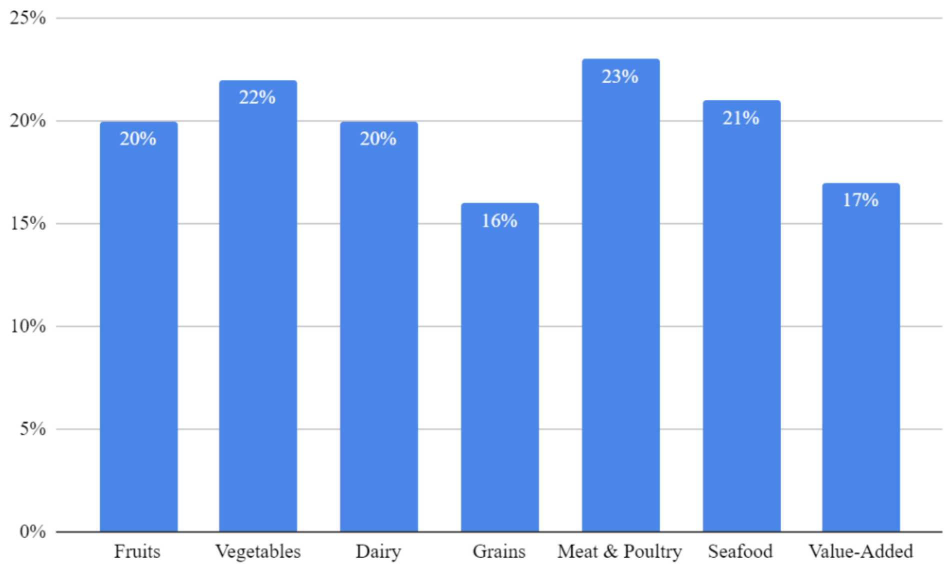

Figure 9. *Willingness to pay percentages (Q29)*

Participants who indicated it is more important to purchase locally sourced food due to the pandemic are willing to pay 16% to 23% more for local foods depending on the category. On average, they were willing to pay most for vegetables, meat or poultry, and seafood.

All participants were asked if they had any concerns whether they or members of their household might not have enough food to eat in 2019 and since the governor's executive order, roughly corresponding to the beginning of the public health crisis in Maine. 10.8% of respondents reported they had concerns about having enough to eat in 2019. This percentage increased to 18.7% after the executive order.

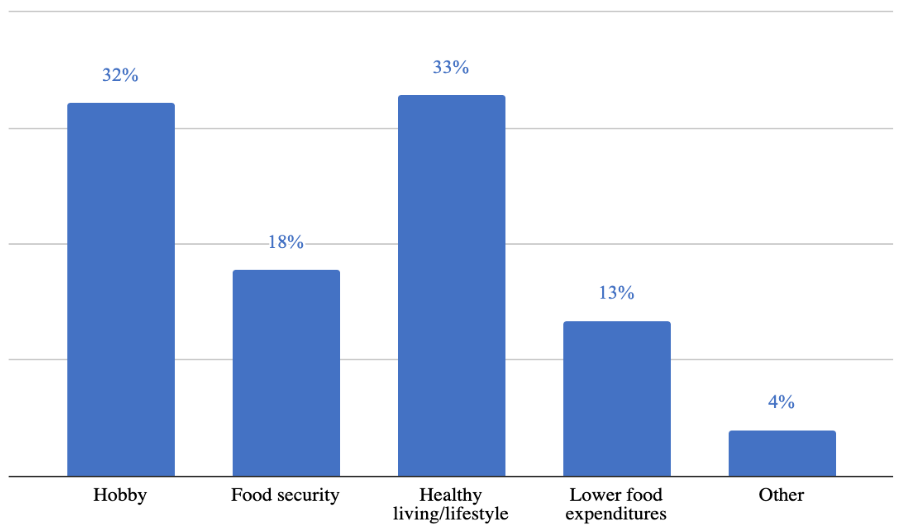

Figure 10. *Primary motivations for gardening (Q35)*

Participants were asked if they planted a produce garden in 2019, whether they will garden this year, and primary motivations for gardening. In 2019, 181 respondents (35.4%) planted a garden while 227 respondents (44.2%) have planted or will plant a garden this year. Respondents who gardened in 2019 grew an estimated 26% of the produce they consumed. This percentage increased among those who will garden in 2020 to 30%. The pandemic impacted the decision to garden among roughly half (48%) of participants. Primary motivations for gardening include gardening as a hobby (32%) and to lead a healthy lifestyle (33%). Fewer participants garden for food security (18%) or to lower food expenditures (13%).

Respondents were asked about any agricultural and farm product events and state fairs that they attended in 2019 and whether they plan to attend in 2020 assuming the executive order is lifted. In 2019, 36% of respondents attended at least one agricultural event with the most popular being Maine Maple Sunday (22% attendance) and Maine Apple Day (12% attendance). In 2020, the percentage of respondents planning to attend at least one event remains unchanged at 36%. As for state fairs, 53% of survey participants attended at least one fair with Fryeburg Fair being most popular (19% attendance) followed by the Cumberland and Common Ground fairs (11% attendance each). In 2020, the number of respondents planning to attend a state fair remains relatively unchanged at 51% assuming the executive orders are lifted and events are not cancelled. (NOTE: many of Maine's agricultural fairs were cancelled while this survey was being conducted).

General Impacts of the Pandemic

Participants were asked about impacts to the local, state, and national economies, as well as job loss, income loss, and any changes to travel plans as a result of the pandemic.

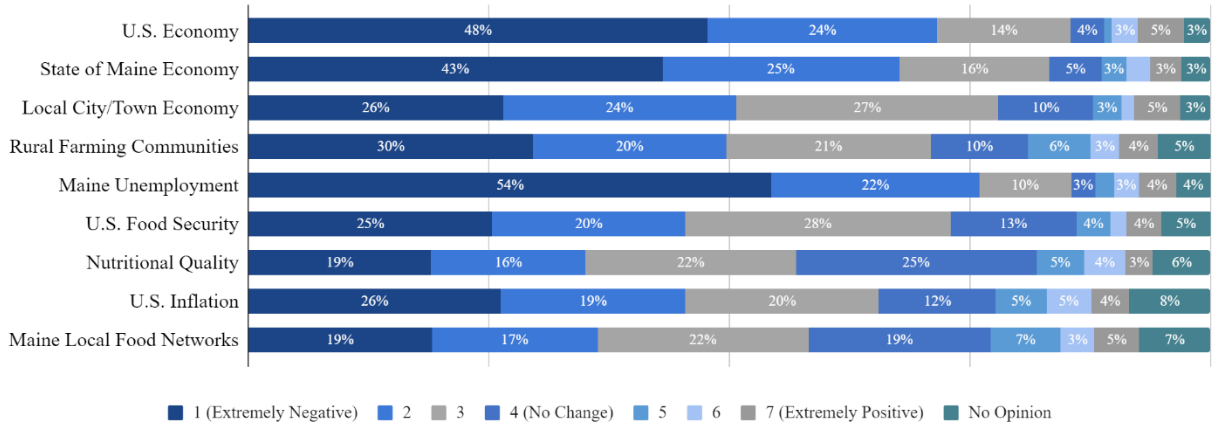

Figure 11. Perceptions of the pandemic's impact on the economy (Q40)

Due to the COVID-19 pandemic, 18% of participants lost their jobs and 29% reported a loss in personal or household income. Respondents perceived the pandemic as having the greatest negative impact to Maine unemployment with 76% rating the impact as a 1 or 2 on a scale of 1-7 (with 1 being extremely negative and 7 being extremely positive impacts). The U.S. economy and state of Maine economy were also perceived as also being negatively impacted (72% and 68% respectively). Respondents were less concerned about U.S. food security, nutritional quality of the U.S. diet, U.S. inflation, and Maine local food networks.

In every category of travel (out of country, out of state, and in-state at least 50 miles from home), the number of people planning to travel at least once after the executive order ends decreased from the prior year, ranging from 3 to 17 percentage points. There were no major differences in planned travel whether the executive order ends on May 15, 2020 or on June 15, 2020.

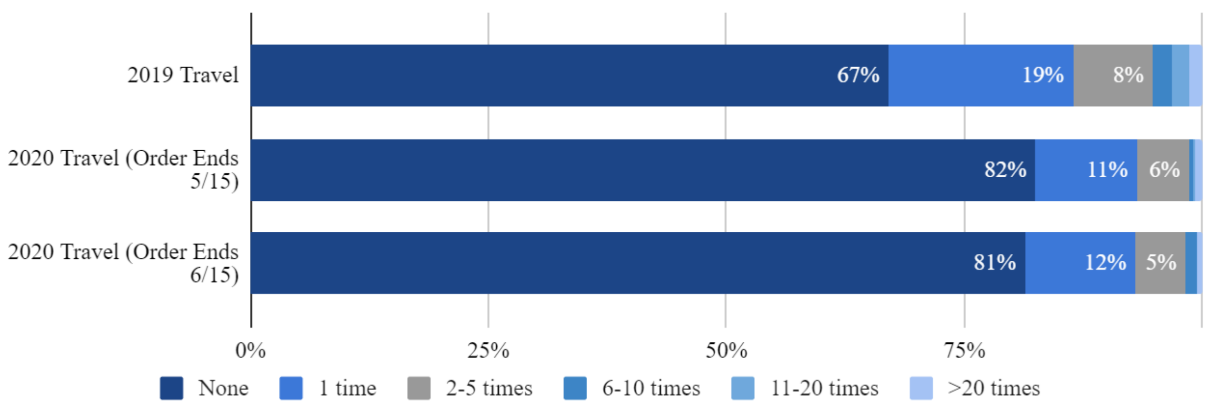

Figure 12. Previous and planned out-of-country travel (Q41)

In 2019, 33% of respondents traveled out of the country at least one time. Planned 2020 travel sharply declined to 18% if the Stay Healthy at Home restrictions end on May 15, 2020 and 19% if the restrictions end on June 15th.

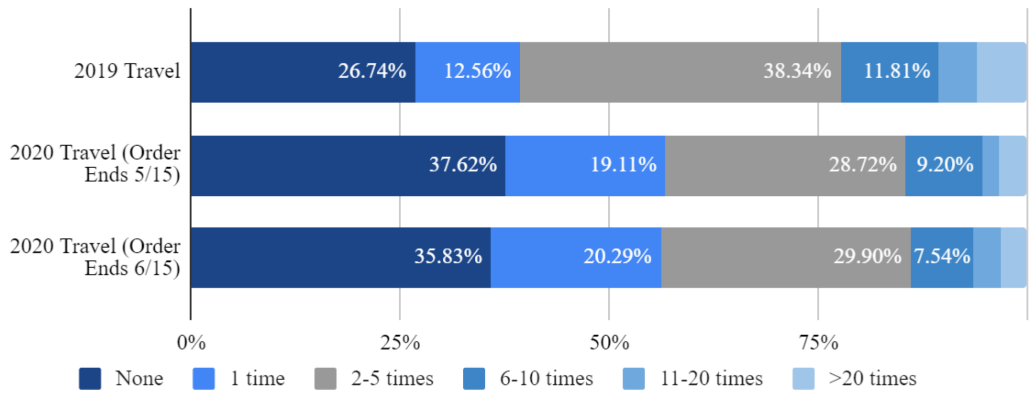

Figure 13. *Previous and planned out-of-state travel (Q42)*

As for out of state travel, 73% of respondents traveled at least once in 2019 compared to 62% planned travel if the executive order ends on 5/15/20 and 64% if the order ends on 6/15/20.

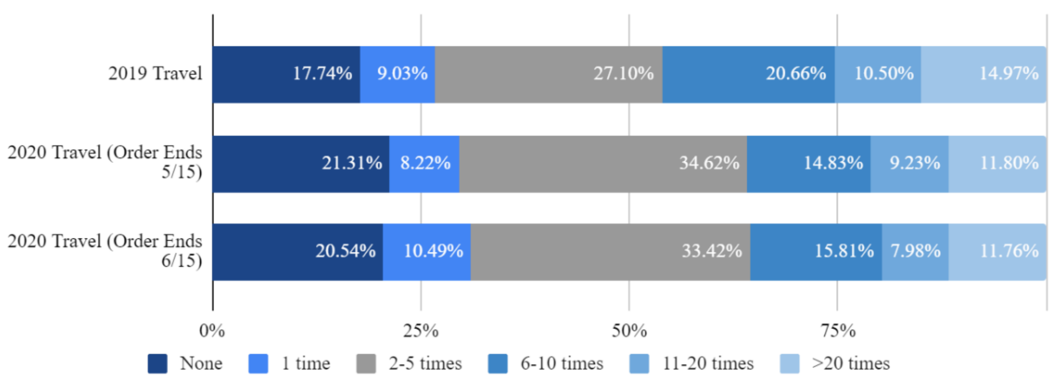

Figure 14. *Previous and planned in-state travel (Q43)*

The majority (82%) of respondents traveled in-state at least once in 2019. The number of respondents planning to travel in-state after the orders are lifted remains relatively steady at 79% regardless of when the order ends.

Respondents were also asked their familiarity with the public responses of the federal and state COVID-19 task forces. Those with familiarity were asked to rate the task force's handling of the pandemic from 1 to 7, with 1 being poor and 7 being excellent. Any ratings above 4 are considered positive. Likewise, all respondents were asked to rate the handling of the pandemic by President Trump and Governor Mills.

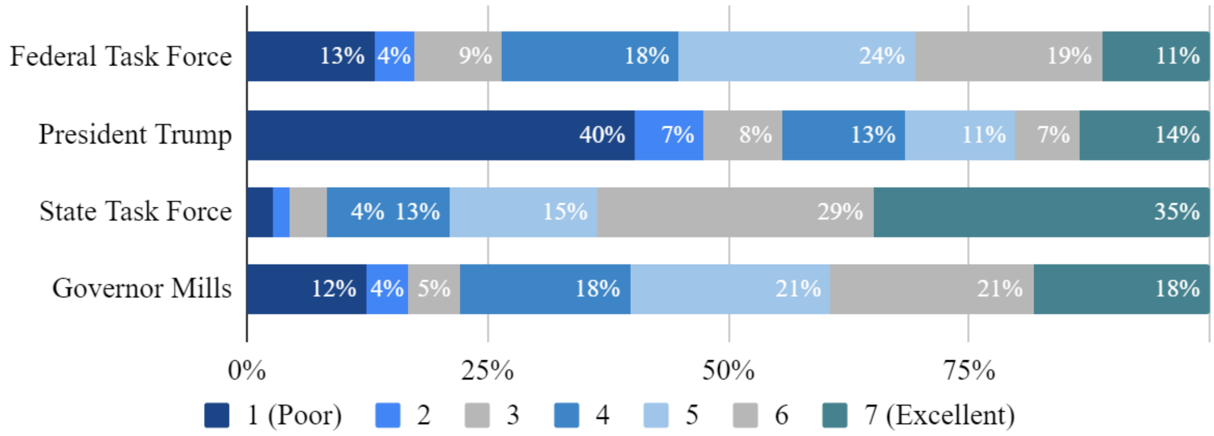

Figure 15. *Participant ratings of state and federal responses to pandemic (Q47, Q48, Q50, Q51)*

Over three quarters of respondents are familiar with the public responses of the federal task force (including Vice President Pence, Dr. Anthony Fauci, and Dr. Deborah Birx). Of these participants, 13% rated the federal task force as poor, 54% rated it positively, and 11% gave it an excellent rating. The mean score of the task force is 4.4. In rating President Trump's handling of the pandemic, 40% of participants rated his response as poor, while 32% rated it positively. The mean score associated with him is 3.2.

Over 70% of respondents are familiar with the public response to the state team including Dr. Nirav Shah, Jeanne Lambrew, and others. Of these participants, 3% rated their handling of the pandemic as poor and 79% rated them positively with 35% indicating that their response has been excellent. Their mean score was 5.6. For Governor Mills' handling of the pandemic, 12% of respondents rated it as poor, 60% as positive. The governor's mean score was 4.7.

iv. Conclusion

Over 500 respondents completed the survey on Maine Consumer Perceptions and Attitudes about Local Food during the COVID-19 Pandemic. After weighting the results to obtain a sample distribution representative to the state population, we found the following key results:

- The pandemic may not greatly affect household food spending in the long-term, but in the near-term average monthly spending has been greater at food stores and mail order services during the pandemic than previously, while restaurant spending is down. Post-pandemic, defined in this survey as three to twelve months after restrictions end, average spending in all categories is expected to be slightly higher than it was before.
- It is unclear whether farmers and other stakeholders will be able to rely on restaurants as a major source of revenue in the long-term. The number of participants dining out once per week is predicted to drop the first month dine-in services are available as compared to pre-pandemic levels. The number of diners rises as time goes on, but by months three to twelve the number dining out is still less than before the pandemic. The number of consumers purchasing take-out remains steady before and after the pandemic.

- Maine consumers are generally prioritizing locally sourced food. As a result of COVID-19, 67% of participants place importance on shopping local. Among these respondents, most shop at farmer's markets and farm stands, doing so mainly to support local farmers and producers. The vast majority of consumers prioritizing local food during a pandemic will continue doing so after the pandemic ends and will be willing to pay 16% to 23% more for locally sourced products, particularly for vegetables, meat, and seafood.
- We may see sustained declines in out-of-country and out-of-state travel among Maine consumers several months after restrictions are lifted. In-state travel will likely resume to normal rates post-pandemic and the number of respondents planning to attend agricultural events and state fairs is expected to remain the same if those events are held.
- The number of respondents reporting job and income loss is most concerning. A total of 18% lost their jobs as a result of the pandemic and 29% report losses in household or personal income.
- The state and federal COVID-19 task forces are rated highly among Maine respondents, as is Governor Mills. President Trump's handling of the pandemic response was rated poorly in comparison.

As stakeholders in Maine are struggling to keep their doors open during the pandemic, understanding changes in spending and preferences can potentially enable them to seek more profitable distribution channels. Longer term, many stakeholders may want to consider adjusting their business strategies to accommodate a population that is trending towards more interest in locally sourced food.

Additional research is needed at the national and regional levels to determine geographic trends in local food economics during the pandemic for farmers across the country. Analyzing data by socio-demographic characteristics and by specific commodity could provide stakeholders with the critical data needed to identify the most valuable target markets and product offerings. An understanding of planned post-pandemic in-country travel can be helpful to stakeholders catering to the tourism industry. Lastly, matched post-pandemic surveys of original respondents could reveal sustained changes in preferences and purchasing behavior that could guide stakeholders in making typically more profitable market-driven business decisions.

Atlantic Corporation is a leading business and economic research and development firm. Our team and national network of experts provide research and development products and services for agriculture, including aquaculture and local food. We work collaboratively with clients to develop innovative solutions that propel sustainable natural resource-based, rural economies. Based in Waterville, Maine, Atlantic serves the United States, providing customized research, in-depth analysis, marketing and business development tools, and project implementations.