

# Home Food Production and Food Security Since the COVID-19 Pandemic

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## Introduction

We conducted a Northern New England survey to understand the initial and continued impacts of the COVID-19 pandemic on food security, food access, and home food production (HFP) (i.e. gardening, fishing, harvesting shellfish, foraging, hunting, trapping, raising animals for meat, dairy, or eggs, and food preservation such as canning, drying or freezing). The surveys were conducted in the Spring and Summer of 2021 (March – June). The survey was conducted in Maine (n = 562) and Vermont (n = 426). The cohort of respondents was representative of racial and ethnic identities of Vermont and Maine state populations. The data presented in this research brief

were weighted to be representative of income in both states. Here, we summarize our findings related to changes in food security, food sourcing, and HFP before and since the COVID-19 pandemic. When data are referred to as “significant” it indicates a statistical significance at  $p < 0.05$ .

## Food Insecurity

Overall prevalence of food insecurity (measured using the US Department of Agriculture six-item module) among household respondents was 28% in Maine and 27% in Vermont in the four months prior to the survey (Figure 1). In Maine, 15% of households had “low food security”, characterized as worrying about

## Key Findings

1. 28% and 27% of households were classified as food insecure in Maine and Vermont, respectively, higher than before the pandemic but lower than at the beginning of the pandemic.
2. Food insecure households were more likely to rely on non-traditional and non-market sources for food, including salvaging, sharing, bartering, local farms and HFP (especially fishing, foraging, hunting, raising animals for meat, dairy or eggs, and preserving food) compared to food secure households.
3. HFP is common, as 59% of respondents engaged in one or more HFP activities since the beginning of the pandemic (55% in Maine, 66% in Vermont), with gardening, preserving food, and fishing the most common.
4. Intensity of HFP activities increased during the pandemic, with 53% of people reporting engaging in HFP more than before the pandemic or for the first time (56% in Maine, 49% in Vermont).
5. HFP is likely to continue into the future at high rates: 82% of respondents intended to do some kind of HFP in 2021 with 72% intending to garden. The greatest increased interest in 2021 was for fishing or harvesting shellfish, preserving foods, and raising animals for meat or dairy.
6. Food insecure households are more likely to report plans to continue all HFP activities in 2021 compared to food secure households.

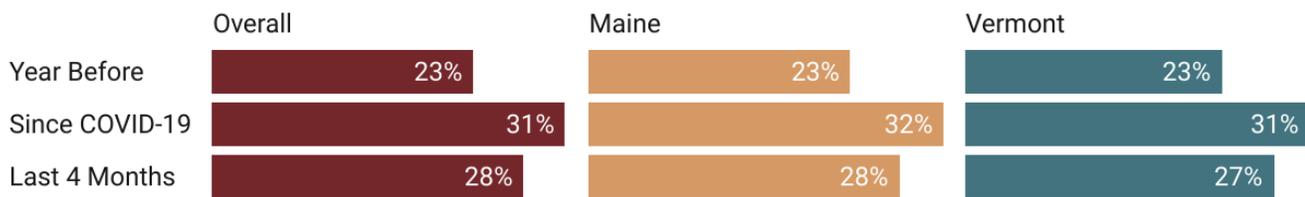


Figure 1. Change in food insecurity prevalence across Maine and Vermont in the year before the COVID-19 pandemic, since the COVID-19 pandemic (March 2020), and in the 4 months prior to the survey.

food availability and costs, while 13% had “very low food security”, characterized by cutting meals or disrupted eating. In Vermont, 12% of households had low food security, while 15% had very low food security. The prevalence of food insecurity is significantly lower than in the first year of the COVID-19 pandemic (13% lower in Maine and 11% lower in Vermont); however, it remains significantly higher than before the pandemic.

### Food Sourcing During the First Year of the Pandemic

The majority of respondents (86-91%) in both states primarily obtained their food from grocery or convenience stores, restaurants or delivery both before and since the pandemic began. Prior to the pandemic, local food sources including farmers markets, farm stands and Community Supported Agriculture (CSAs) were the second most common food source; however, use of these food sources decreased by two-thirds since the COVID-19 pandemic among respondents in both states (Figure 2). Home food production and food assistance program use were the third and fourth most common

food sources since the pandemic, with food assistance program use increasing by 34% in Maine (from approximately 19% to 25%) and 62% (from approximately 19% to 31%) in Vermont since the pandemic. There was also an increase in respondents accessing non-market sources of food (e.g. sharing or bartering) since the pandemic began, rising nearly 20% in both regions.

### Food Sourcing Among Food Insecure Households During the Pandemic

Prior to the pandemic, food insecure households (as compared to food secure households) in both Maine and Vermont were significantly less likely to obtain food from grocery and convenience stores, restaurants and delivery, but more likely to obtain food from food assistance programs, salvaging, and sharing, gifts, or bartering (Figure 3). These differences persisted during the pandemic. However, food insecure households were significantly more likely than food secure households to report obtaining food from local farm sources and HFP activities since the pandemic began.

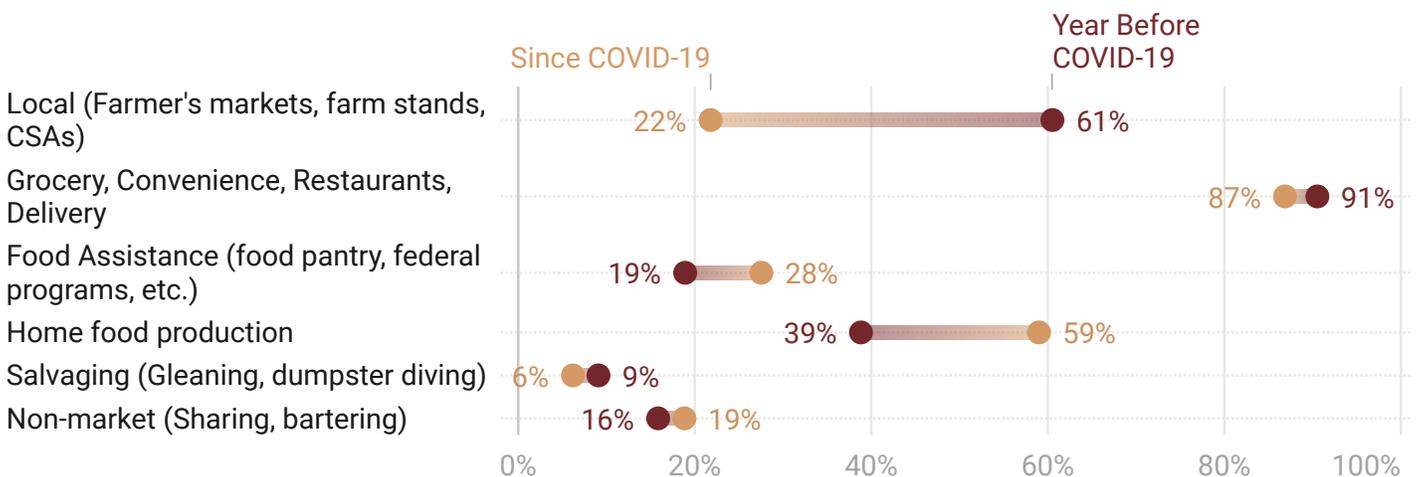


Figure 2. Percent of respondents obtaining food from different sources in the year before and since the COVID-19 pandemic.

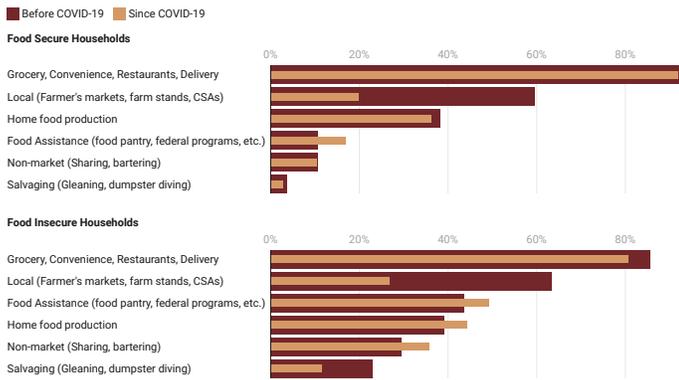


Figure 3. Percent of households using food source before the COVID-19 pandemic and since by food security status. Percent of households using food source before the COVID-19 pandemic and since by food security status.

Respondents' sources of fruits, vegetables and animal proteins<sup>1</sup> between food secure and food insecure households also differed significantly in the four months prior to the survey (Figure 4). Food secure households were more likely to obtain fruits, vegetables and animal proteins from grocery stores compared to food insecure households. Conversely, food insecure households were more likely to obtain fruits and vegetables from local farm sources, food assistance programs, non-market sources like bartering or sharing, gardening, foraging, and salvaging than food secure households. Food insecure households were also more likely to obtain animal proteins from animals they raised, food assistance programs, non-market sources, fishing and harvesting shellfish.

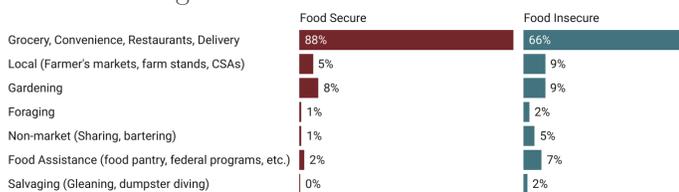


Figure 4. Percent of vegetables by source and food security status.

## Home Food Production Since the Pandemic Increases in Intensity

Overall, 59% of respondents in both regions (55% in Maine, and 66% in Vermont) engaged in one or more types of HFP since the COVID-19 pandemic (Figure 5). Gardening was the most common HFP strategy (48% of respondents overall), followed by preserving foods (26%), and fishing/harvesting shellfish (17%) and hunting/trapping (16%).

<sup>1</sup> Defined as eggs, meat, fish and/or seafood.

More than half (56%) of respondents in Maine and nearly half (49%) of respondents in Vermont who engaged in HFP either increased the intensity with which they practiced HFP or did HFP for the first time during the COVID-19 pandemic (Figure 6). Across both states, new or more intense HFP overall was especially pronounced for raising poultry for eggs (56% new/more intense egg production), raising animals for meat/dairy (53% new/more intense) and foraging (51% of foragers new/more intense).

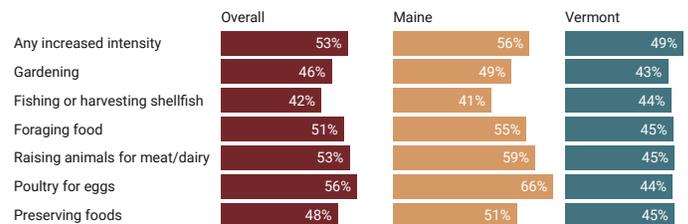


Figure 5. Percent of respondents engaging in a HFP activity that did the activity for the first time or more intensely than before the COVID-19 pandemic.

## Food Insecure Households More Likely to do HFP

To understand who is engaging in HFP since the pandemic, we further investigated the demographic characteristics of those engaged in any HFP activities, who did specific HFP activities, and who engaged with HFP activities more since the beginning of the pandemic than before. Households who were food insecure since the pandemic were significantly more likely overall to do any HFP activity, and specifically more likely to do all HFP activities except for gardening (Figure 6). People with a college degree or who experienced a job impact (i.e. job loss, reduction in hours, or furlough) since the pandemic were significantly more likely to garden since the pandemic. Rural households had greater odds of fishing and foraging since the pandemic. Female respondents were less likely to fish, forage, hunt, raise animals for meat/dairy, and preserve food since the pandemic. Respondents 62 years of age and older were less likely to fish, hunt, raise animals for meat/dairy, and have poultry for eggs since the pandemic. Food insecure households and those with a job impact were more likely to increase the intensity with which they practiced HFP since the onset of the pandemic.

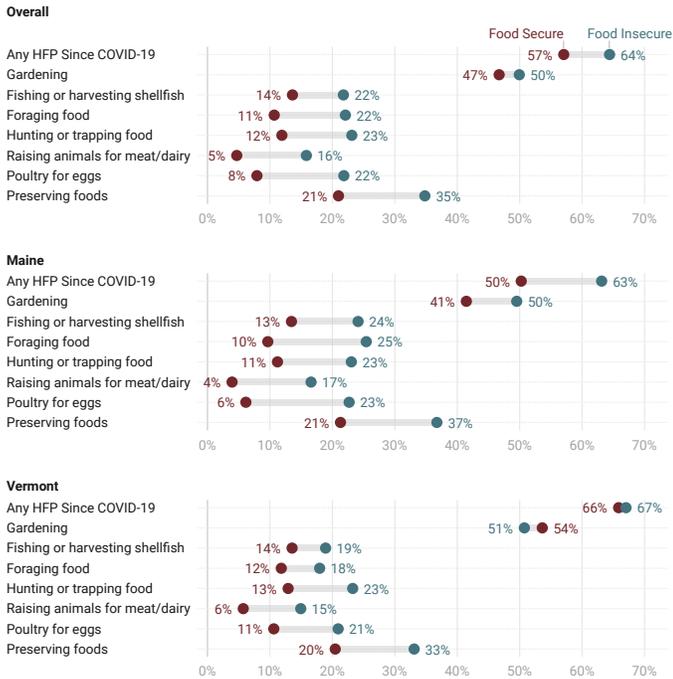


Figure 6. Engagement in HFP activities overall and by state since the COVID-19 pandemic based on food security status.

## Will Home Food Production Continue and by Whom?

When asking all respondents about their intention to engage in HFP in 2021, 82% of respondents overall indicated they would do some type of HFP in 2021 (80% in Maine, 85% in Vermont) (Figure 7). The majority of respondents in both states intended to garden (72% overall) and preserve food (51% overall). Fishing (39%), foraging (25%), and hunting (24%) overall were also common goals overall in both states.

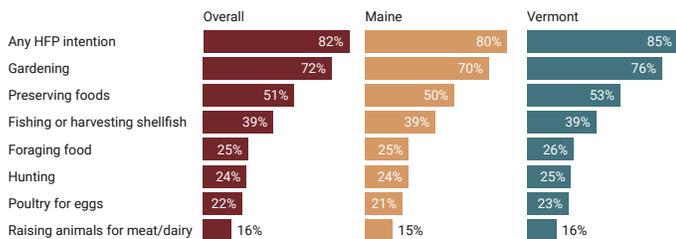


Figure 7. Intended HFP across different activities for 2021.

There was an increased interest in HFP in both regions for 2021 (Figure 8). Among those intending to do HFP in 2021, the greatest increased interest from 2020 to 2021 was in fishing/ harvesting shellfish (a 133% increased interest overall from 17% doing this activity 2020, and 39% interested to do this in 2021), preserving foods (101% increase overall from 26% in

2020, to 51% interest in 2021), and raising animals for meat or dairy (51% increase overall from 9% in 2020, to 16% interest in 2021).

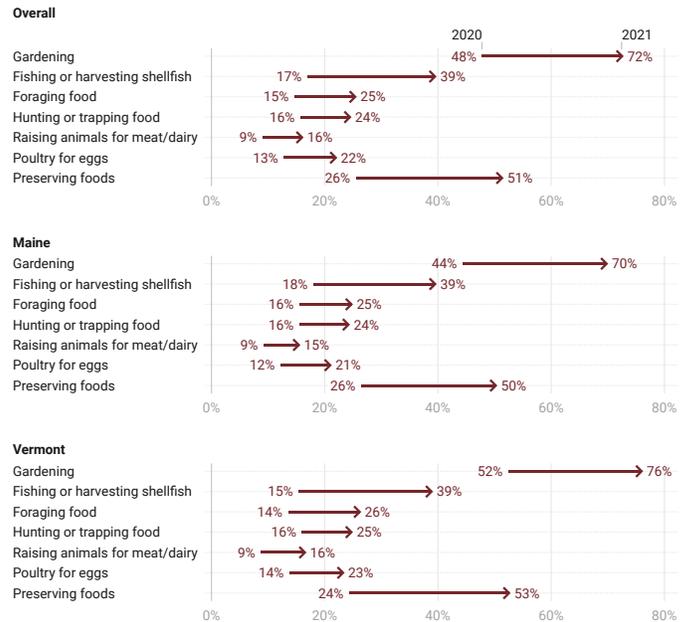


Figure 8. HFP participation in 2020 compared to HFP intention in 2021.

Overall, households that were food insecure during the pandemic had significantly greater odds of intending to continue all HFP activities in 2021 (between 1.8 and 3.7 times greater odds than food secure households). People who experienced a job impact and respondents with a college degree had greater odds of gardening in 2021. Rural households had greater odds of fishing and foraging in 2021 compared to urban households. Women were less likely to intend to fish, forage, hunt, raise animals or poultry in 2021, while respondents 62 or over were less likely to intend to fish, hunt, raise animals or poultry in 2021. Finally, households making less than \$50k annually were less likely to intend to garden or preserve food in 2021.

## How Do Hunters and Anglers Feel about Permits and Regulations?

Respondents that did any hunting, fishing or trapping either before or since the COVID-19 pandemic, were asked three questions related to their state's regulations and permits. Overall, the majority of respondents agreed that their state's regulations allow them to hunt, fish, and trap the amount of food they would

like (63%), they have enough access to land (71%), and licenses are worth the cost (71%). However, food insecure respondents were more likely to disagree that their state's regulations allowed them to hunt, fish, or trap the amount of food they would like (22% disagree compared to 10% disagree among food secure). Food insecure households were also more likely to disagree that the cost of licenses were worth it (13% disagree compared to 8% disagree among food secure households).

## Implications

Food insecurity remains higher than it was before the COVID-19 pandemic began. Lessons learned from previous periods of social disruption (i.e. economic recession) suggest that it may take years for the prevalence of food insecurity to return to pre-disruption levels.

Food insecure households' reliance on non-traditional and non-market sources, including purchasing from local farms and home food production, highlights the importance of including these channels in efforts to improve food security.

Food insecure households are more likely than food secure households to engage in HFP practices beyond gardening, especially those involving animals like fishing, hunting, raising animals for meat, dairy or eggs.

This provides specific areas where additional support may help provide increased food security.

## Acknowledgments

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## About NFACT

This research is conducted as part of The National Food Access and COVID research Team (NFACT), which is implementing common measurements and tools across study sites in the US. NFACT is a national collaboration of researchers committed to rigorous, comparative, and timely food access research during the time of COVID. We do this through collaborative, open access research that prioritizes communication to key decision-makers while building our scientific understanding of food system behaviors and policies. Visit [www.nfactresearch.org](http://www.nfactresearch.org) to learn more or contact Dr. Meredith Niles at [mtniles@uvm.edu](mailto:mtniles@uvm.edu).