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CONSUMER FOOD INSIGHTS

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INTRODUCTION

Consumer Food Insights is a monthly survey of more than 1,200 Americans from across the country. Since January 2022, the Center for Food Demand Analysis and Sustainability (CFDAS) at Purdue University has used this survey to track trends and changes in consumer food demand and food sustainability behaviors.[1] Visit purdue.ag/CFDAS for more details.

In this issue, we break down our results by religious group — Protestant, Catholic, Jewish, Other faith, and Unaffiliated — aggregating every month of data since January 2022.[2] Notably, religion and subsequent cultural values can have significant effects on eating habits, and we find some correlations that support this understanding of food behaviors. New questions included in this month's survey asked about consumers' plans for their tax refunds, as well as assessed their opinions on frozen vs. fresh foods. Interested in more in-depth analysis and exclusive access to our data? Please contact cfdas@purdue.edu to learn how you can join our industry consortium.

KEY INSIGHTS FROM FEBRUARY

- Americans expect to receive a tax refund of $1,940, on average, most of which they plan to save, invest, or pay down debt.
- Religious consumers, namely Protestants, Catholics, and Jews, tend to be more happy with both their diets and lives.
- Religious affiliation correlates with some food behaviors like vegetarianism, but few generalizable trends emerge.
- Consumers largely think fresh food is better than frozen food, although frozen foods compete better on price.
- The average length of time that households are staying on SNAP has continued to increase to over 13 months.
- Reported food spending remains relatively flat on a monthly basis as consumers feel that food inflation is easing.

SFP INDEX	FOOD INSECURITY	FOOD SPENDING	FOOD HAPPINESS
68/100	14%	$182/WEEK	86%

TAX SEASON

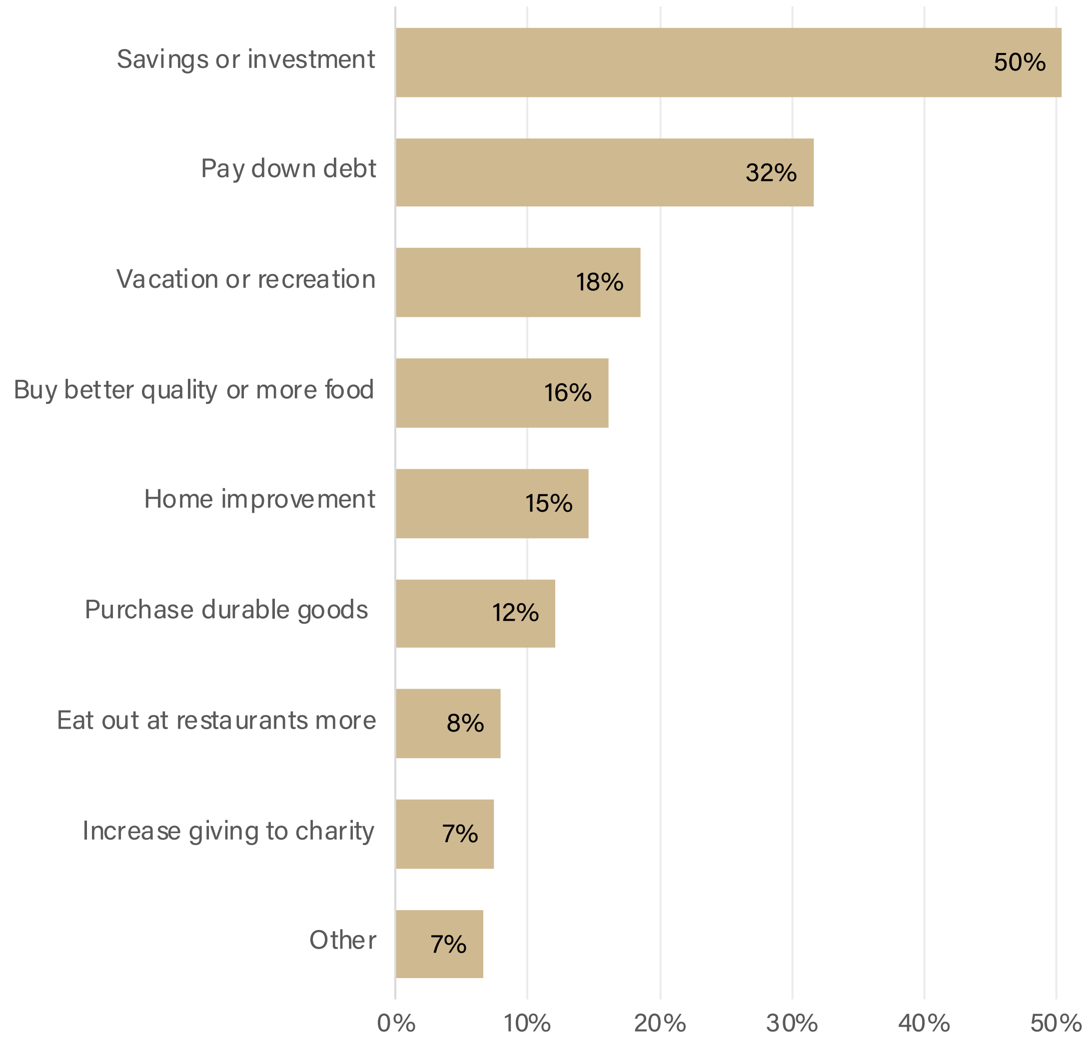
How do Americans plan to use their tax refund this year?

This month, we asked respondents if they have received or expect to receive a tax refund this year. So far, 19% report receiving a refund, while another 38% say they expect a refund.

Of this share of Americans, the majority (50%) intend to save their refund, while a third (32%) plan to pay down debt (**Figure 1**). Notably, buying better quality or more food was the fourth most popular use of tax refunds. Without historical data, we cannot say whether this figure is unique to 2023. However, given historically high inflation at the grocery store, many Americans evidently have food costs on their minds.

On average, Americans expect to receive about $1,940 in tax refund this year. As of mid-February, this figure is on par with the average refund the IRS has paid out for 2023 ($1,997) and is down greatly from the nearly $3,300 that the average American received in 2022. With many benefits reverting to pre-pandemic levels, we will watch to see how consumer food behaviors respond.

Figure 1. Planned Uses for 2023 Tax Refunds, Feb. 2023



SUSTAINABLE DIETS

Are Americans purchasing sustainable foods?

The Sustainable Food Purchasing (SFP) Index[3] continues to show a reliably flat trend line across each of its sub-indicator (**Figure 2**). Specifically, we observe that the *taste*, *economic*, and *security* indicators remain closely related, as well as the *environment* and *social* indicators, while the *nutrition* indicator largely stands alone between the two clusters. Each indicator has stayed within about a 5-point range since January 2022.

When disaggregating the SFP Index based on the religious affiliation of respondents, Christian and Jewish consumers perform better on the overall index by several points (**Figure 3**). However, when comparing Protestants and Catholics, the former group leads on the *taste*, *economic*, and *security* indicators and the latter group leads on the *nutrition*, *social*, and *environment* indicators, while each group has the same overall score. The significant variation across religious groups on indicators like *security* and *economic* suggests that other factors, such as socioeconomic status, are likely at play.

Figure 2. Sustainable Food Purchasing Index, Jan. 2022 - Feb. 2023

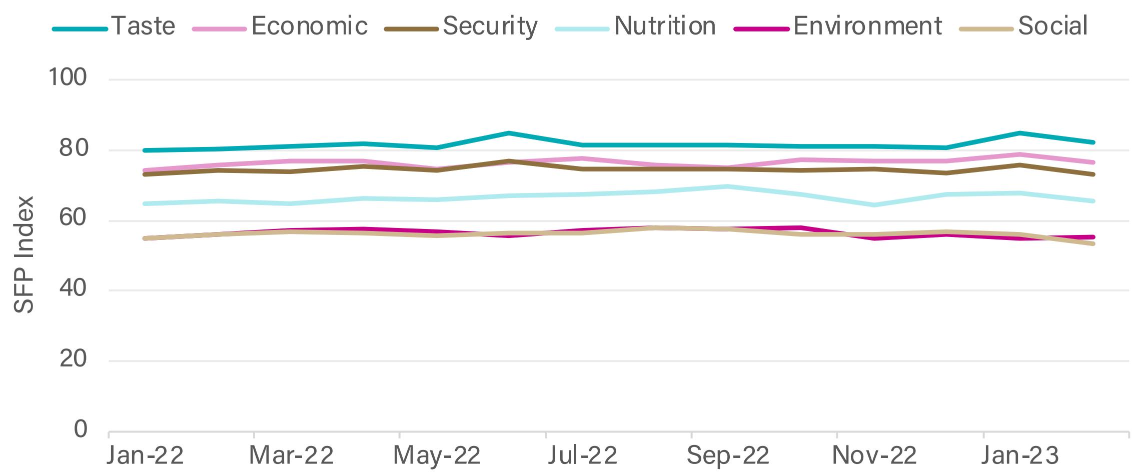
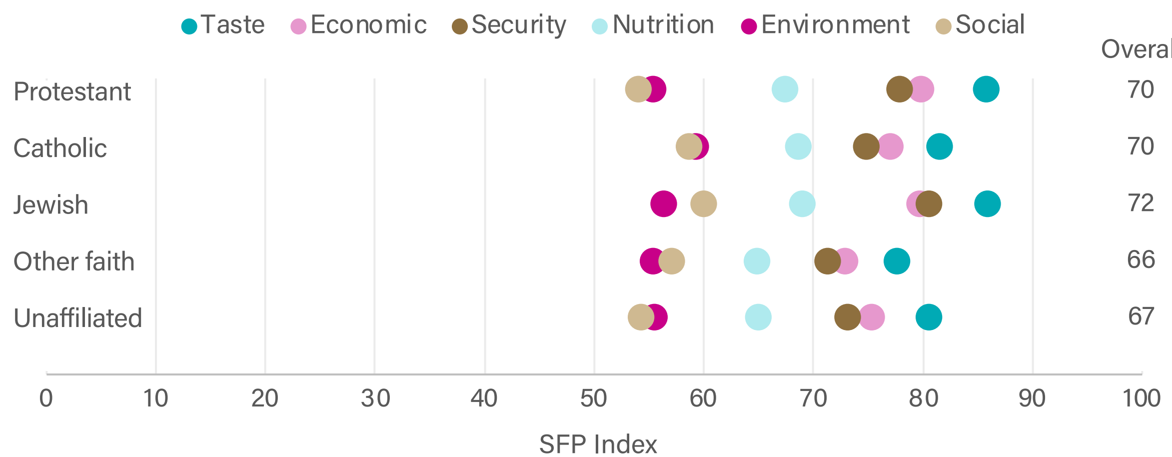


Figure 3. Sustainable Food Purchasing Index by Religious Affiliation, Jan. 2022 - Feb. 2023

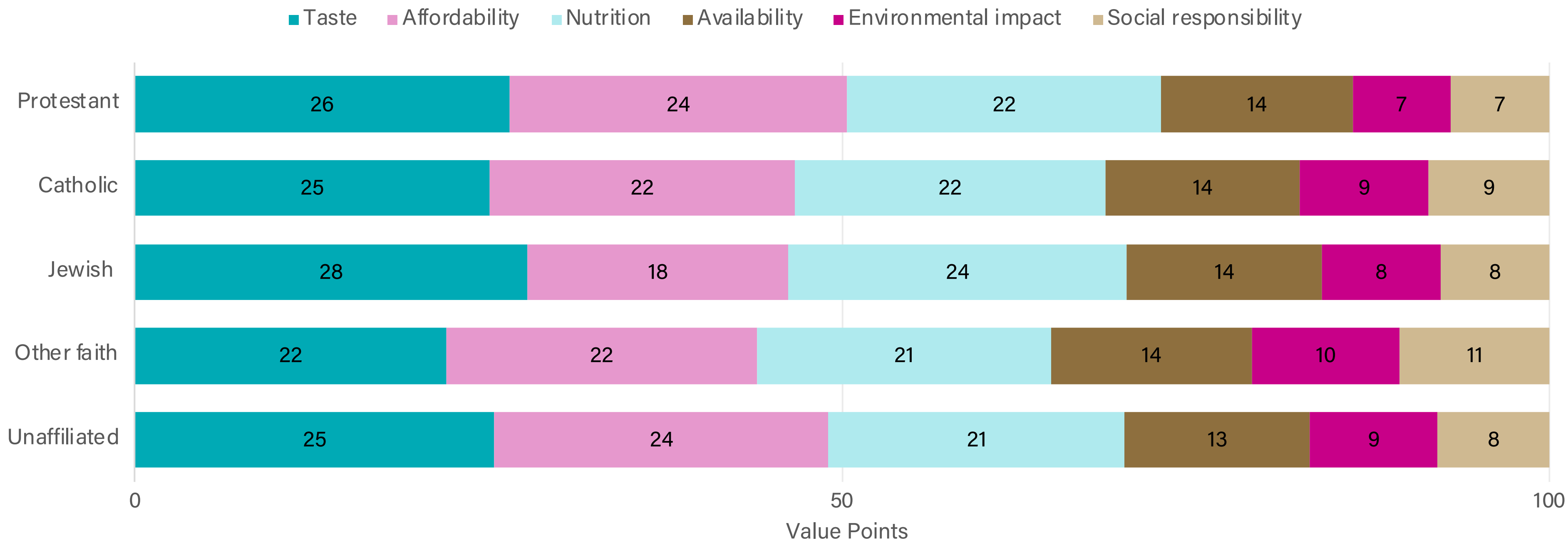


FOOD VALUES

What attributes do Americans most value when purchasing food?

Respondents are asked to allocate 100 points to six food attributes based on their importance when grocery shopping. These attributes closely reflect the components of the SFP Index. How much consumers value these different sustainability aspects remains consistent on a monthly basis as of February 2023. However, compared across religious affiliation, members of different groups diverge in how much weight they give to these food attributes (**Figure 4)**. For example, there is a six point difference in how much Jewish respondents value taste relative to those grouped under other faiths. Interestingly, non-Judeo-Christian faiths also give relatively more value to the environmental impact and social responsibility of their food, yet they do not score as high in these areas on the SFP Index (see **Figure 3**).

Figure 4. Share of 100 Points Allocated to Food Attributes by Religious Affiliation, Jan. 2022 - Feb. 2023



FOOD EXPENDITURES

How much are American households spending on their food?

Respondents were asked to estimate the weekly food spending of their household over the last 30 days (**Figure 5**). On average, consumers reported spending $118/week at the grocery store (FAH) and $64/week on restaurants and other carryout meals (FAFH).[4] These figures represent a small decline from January 2023 but are part of longer-term trend in which overall food spending has not increased or decreased significantly since before summer 2022. Given that food inflation remains persistently high, one might expect more movement in these spending figures, and we will continue to parse the factors affecting consumer demand in future surveys.

The consumer estimate of food inflation over the past year is at its lowest point since April 2022, which is a positive signal of improving consumer sentiment (**Figure 6**). Moreover, the consumer prediction for food inflation over the next year remains consistent at just over 4%, which would be a dramatic improvement but still higher than the Federal Reserve's target level of inflation.

Figure 5. Weekly Household Food Expenditures, Jan. 2022 - Feb. 2023

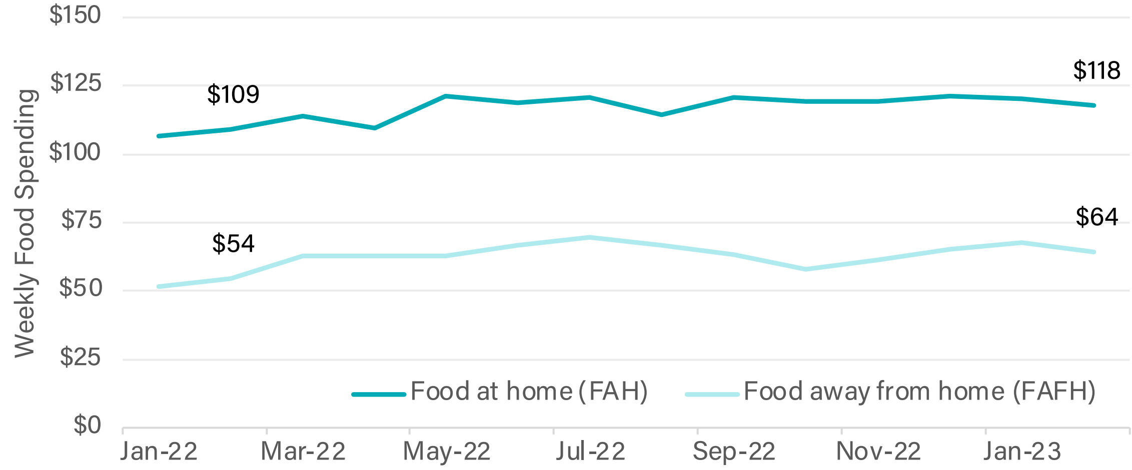
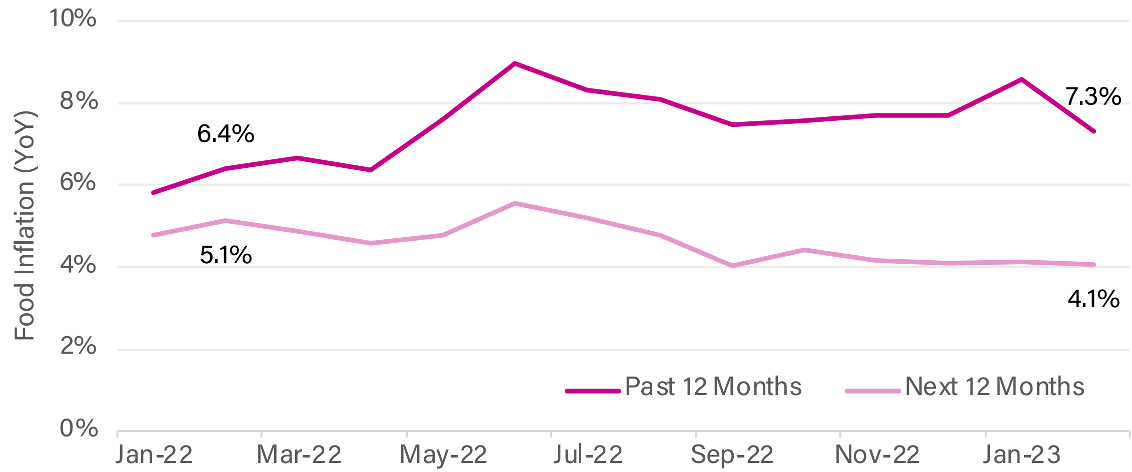


Figure 6. Consumer Estimates of Food Inflation, Jan. 2022 - Feb. 2023



FOOD SECURITY

Are Americans having trouble buying food for their families?

Based on responses to a set of six standardized questions about food bought and eaten in the last 30 days, we estimate the national rate of food insecurity to be about 14.3% for February 2023.[5] **Figure 7** shows that this rate remains within the roughly 14-16% range which we have assessed since January 2022. This consistency in the rate of food insecurity is similarly reflected in other data sources, like the Household Pulse Survey, which have yet to measure a significant uptick in food hardship as a result of factors like high inflation and high credit card debt.

However, **Figure 8** helps depict a more nuanced story of food insecurity as the average number of months that households have been receiving food benefits from the Supplemental Nutrition Assistance Program (SNAP) has steadily risen. Given that 32 states just ended pandemic-related increases to monthly SNAP benefits at the start of March (18 states had previously ended the temporary boost to benefits), we would predict that need among these families will only increase.

Figure 7. Rate of Household Food Inecurity in Last 30 Days, Jan. 2022 - Feb. 2023

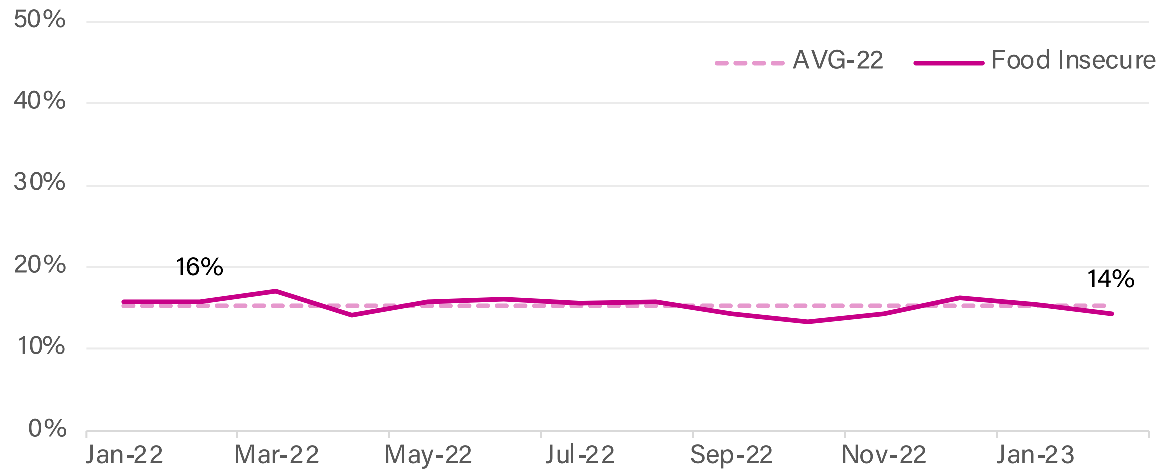
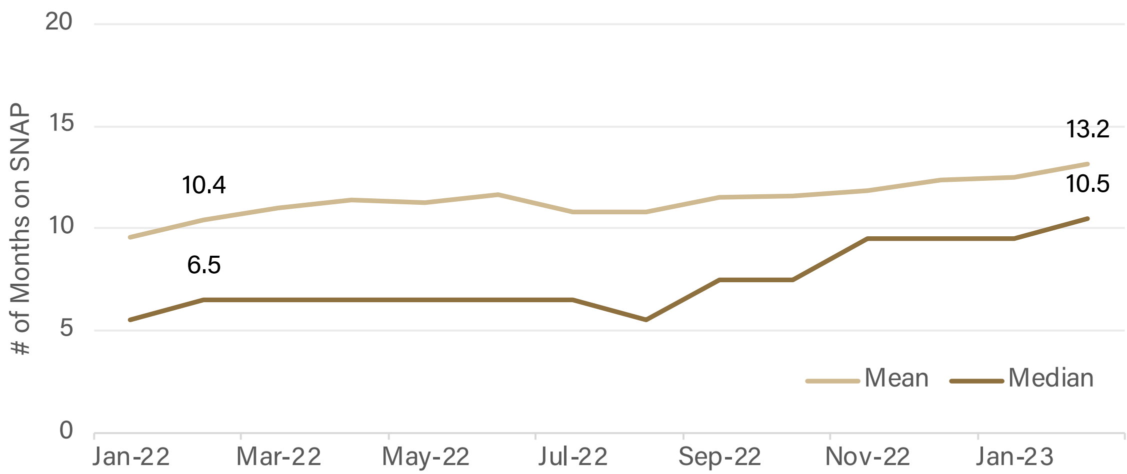


Figure 8. Number of Months SNAP Households have Received Benefits, Jan. 2022 - Feb. 2023

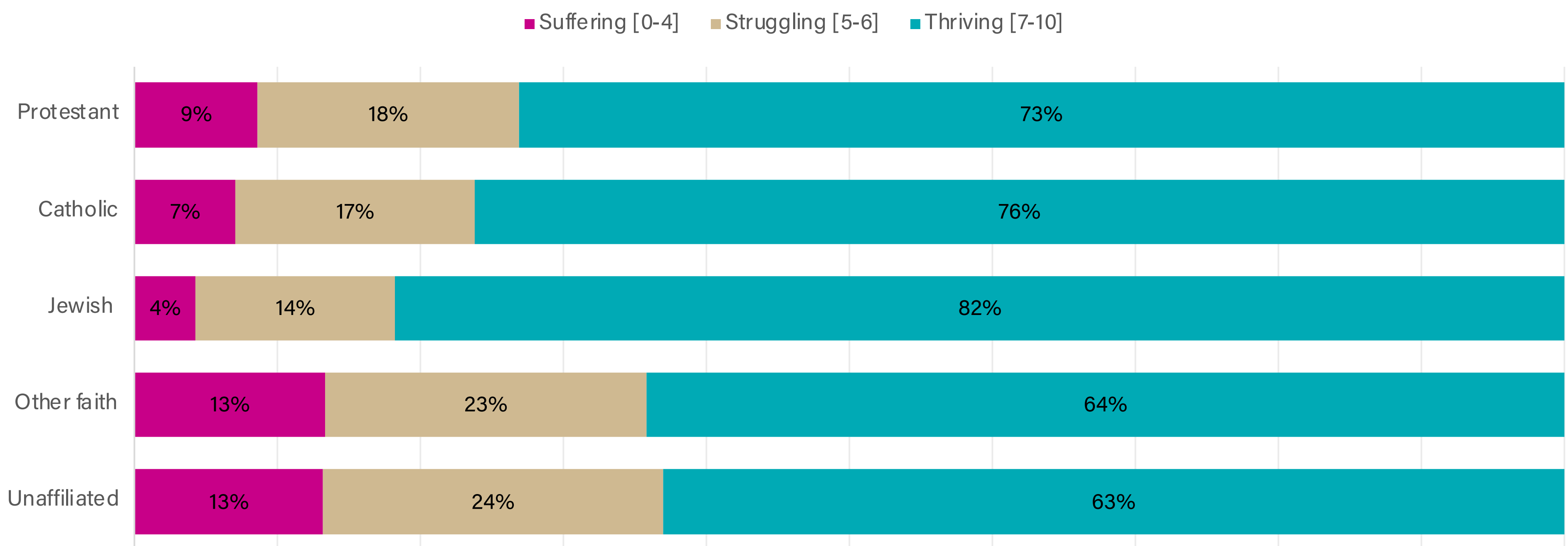


FOOD SATISFACTION

Are Americans satisfied with their diets?

Respondents are asked to score their own diet on a 0-10 scale each month, with top of that scale representing their ideal diet.[6] Scores are then categorized as thriving (7-10), struggling (5-6), or suffering (0-4). Nationally, a majority of people continue to be considered thriving. But, when disaggregated by religious affiliation, Christian and Jewish respondents prove to be doing much better with regards to achieving their ideal diet (**Figure 9**). These results are similarly reflected in **Figure 10 & 11**, which show at least 90% of Christian and Jewish consumers are happy with both their diets and lives. Additionally, those who are unaffiliated with a religion are least likely to be 'very happy' with their lives and diets.

Figure 9. Diet Well-Being Index (0-10 Scale) by Religious Affiliation, Jan. 2022 - Feb. 2023



FOOD SATISFACTION

Figure 10. Rate of Consumer Diet Happiness by Religious Affiliation, Jan. 2022 - Feb. 2023

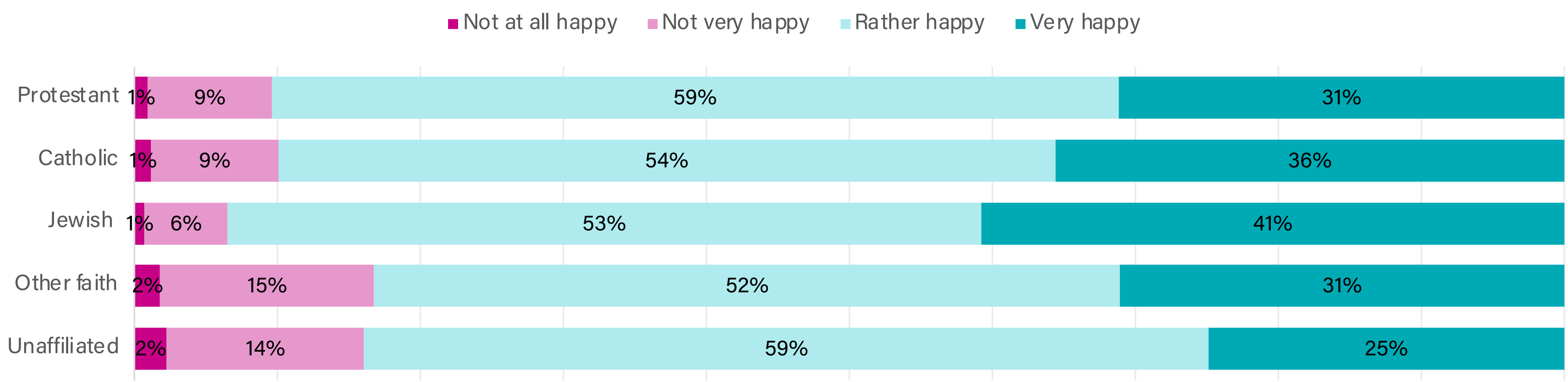
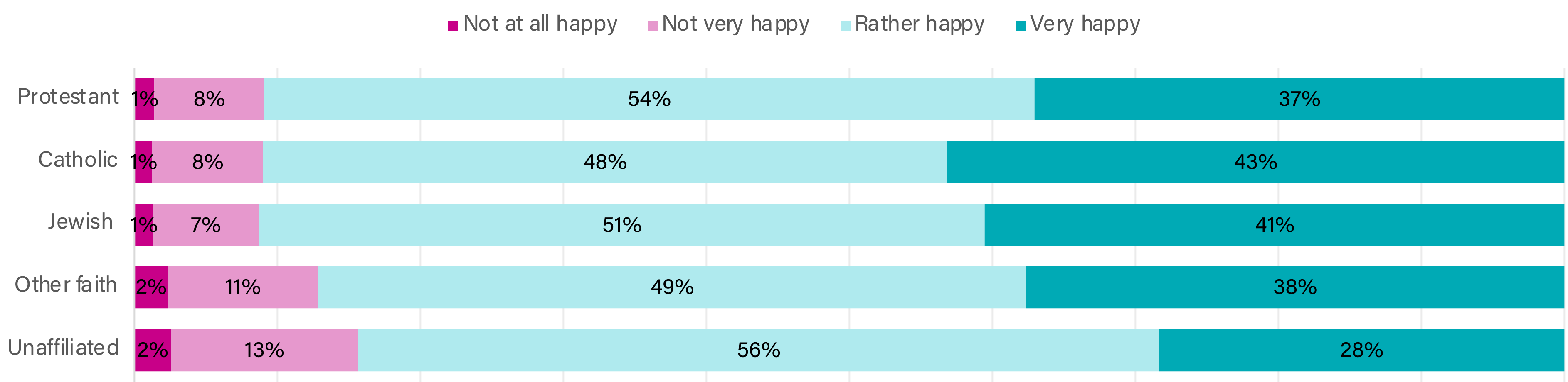


Figure 11. Rate of Consumer Life Happiness by Religious Affiliation, Jan. 2022 - Feb. 2023



CONSUMER BEHAVIORS

How are Americans navigating their food environment?

Of the religious groups we identify, unaffiliated people are the least likely to garden (**Figure 12**). The group identified as other faiths is the most likely to be vegetarian or vegan (**Figure 13**). Notably, this dietary distinction aligns with religions like Hinduism, Buddhism, and Sikhism, which all have strong links to the practice of vegetarianism unlike most Judeo-Christian doctrines.

In addition, we find several differences in shopping and eating habits among Americans based on religious affiliation (**Figure 14**). Again, those who fall under the grouping of other faiths are most likely to chose plant-based proteins over animal proteins. Catholics and other faiths also appear more concerned with labels like those that identify how and where a food was produced. Among these behaviors, there is no clear pattern distinguishing religious from areligious Americans. In fact, Protestant and unaffiliated consumers score similarly across nearly every behavior, while Protestant and Catholic consumers tend to differ in how often they pursue each behavior.

Figure 12. Rate of Gardening by Religious Affiliation, Jan. 2022 - Feb. 2023

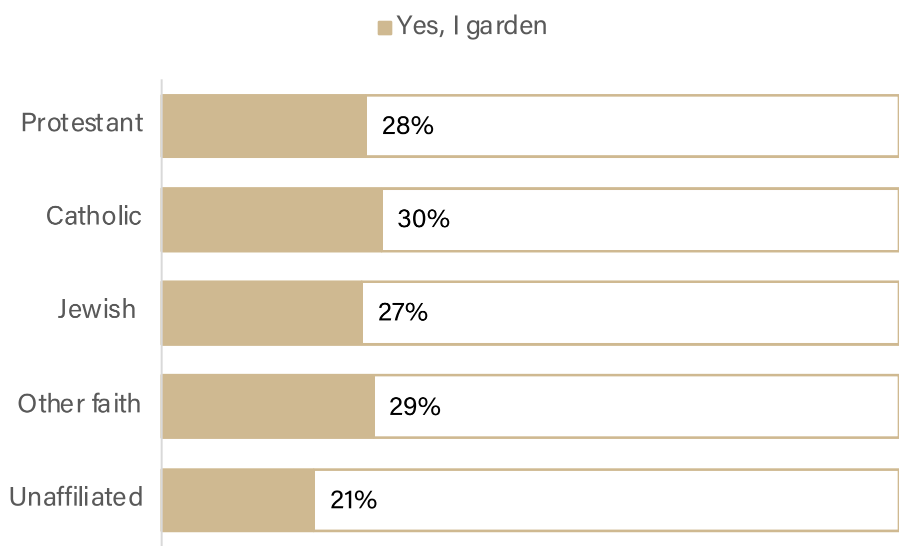
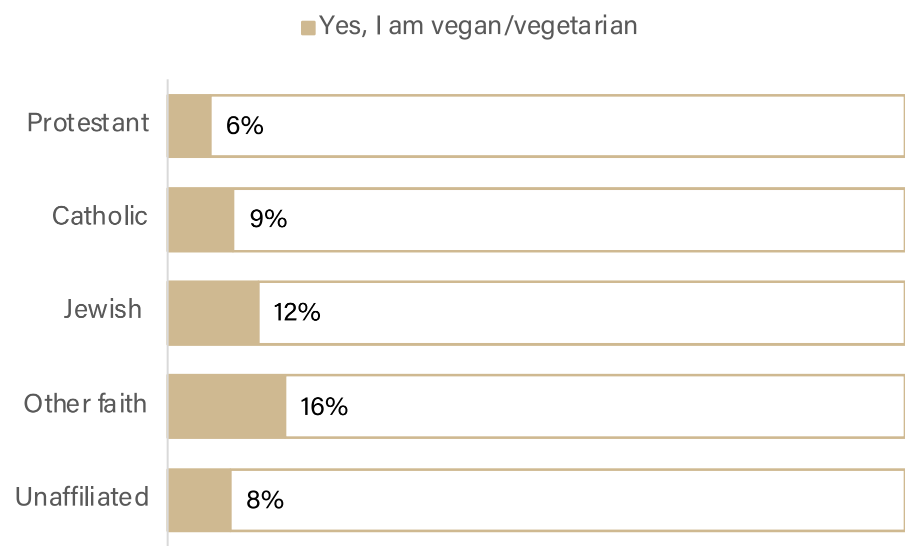


Figure 13. Rate of Vegetarianism by Religious Affiliation, Jan. 2022 - Feb. 2023



CONSUMER BEHAVIORS

Figure 14. Frequency of Consumer Shopping and Eating Habits by Religious Affiliation, Jan 2022 - Feb. 2023

	Protestant	Catholic	Jewish	Other faith	Unaffiliated
Chose generic foods over brand name foods	3.3	3.3	3.2	3.4	3.3
Chose local foods over non-local foods	3.0	3.2	3.0	3.2	3.0
Chose wild-caught fish over farm-raised fish	2.8	3.0	3.3	3.1	2.9
Chose grass-fed beef over conventional beef	2.7	2.9	3.1	3.0	2.8
Chose cage-free eggs over conventional eggs	2.6	2.9	2.9	3.0	2.8
Chose organic foods over non-organic foods	2.5	2.8	2.8	2.9	2.7
Chose plant-based proteins over animal proteins	2.2	2.5	2.5	2.7	2.5
Checked the use-by/sell-by date at the store	4.0	4.0	4.2	4.0	4.0
Checked the nutrition label before buying new foods	3.3	3.5	3.6	3.5	3.3
Checked for natural or clean labels	2.8	3.1	3.0	3.2	2.9
Checked for food recalls	2.8	3.0	3.0	3.0	2.8
Checked where my food originated	2.7	3.0	2.7	3.1	2.8
Checked how my food was produced	2.7	2.9	2.8	3.0	2.7
Checked for GMO ingredients	2.6	2.9	2.9	3.0	2.7
Took steps to reduce food waste at home	3.8	3.8	3.7	3.7	3.7
Recycled food packaging	3.5	3.7	3.8	3.3	3.4
Threw away food past the use-by date	3.1	3.3	3.3	3.4	3.1
Composted food scraps	2.2	2.5	2.0	2.7	2.3
Ate fruits and vegetables without washing them	2.1	2.4	2.1	2.4	2.2
Ate raw dough or batter	1.8	2.1	2.1	2.1	1.9
Ate rare or undercooked meat	1.8	2.0	1.7	2.2	1.9

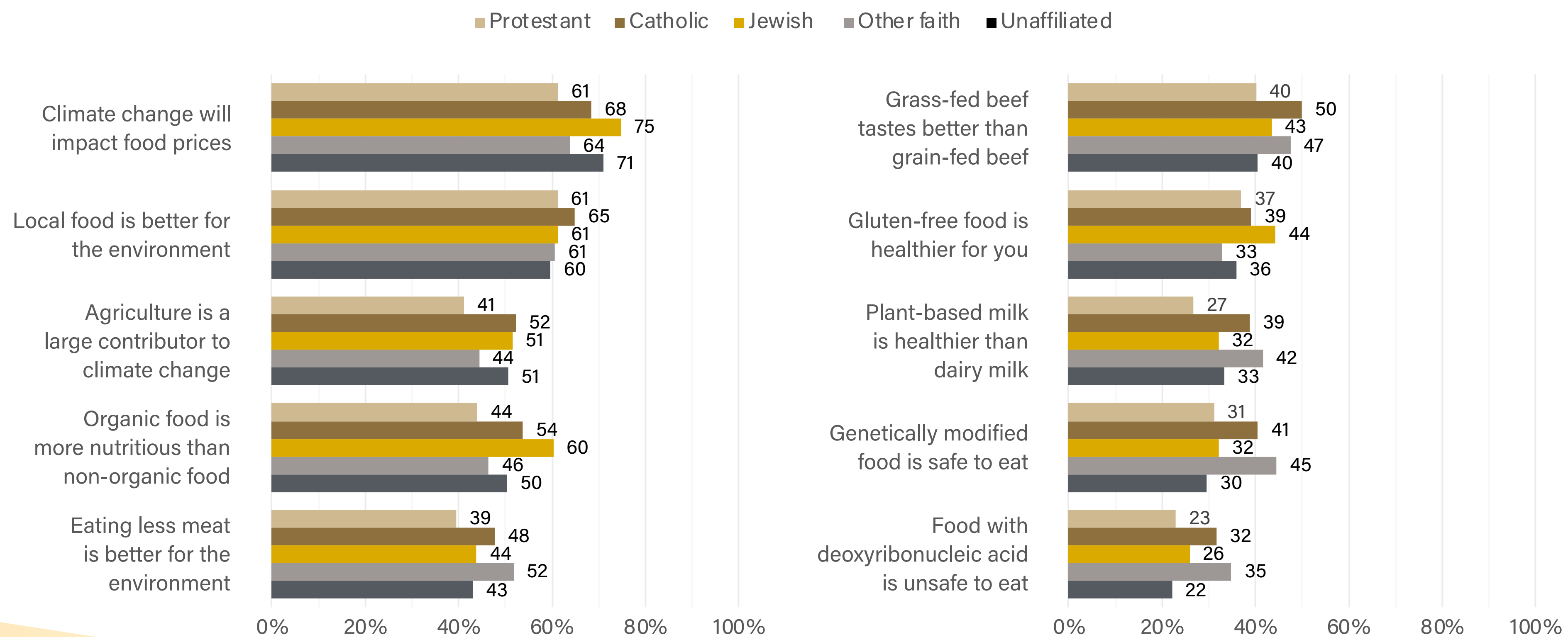
Mean Score	
5	Always
4	Often
3	Sometimes
2	Rarely
1	Never

CONSUMER BELIEFS

What do Americans believe about their food and food system?

We compare consumer agreement with simple statements about the food and nutrition by religious group (**Figure 15**). It is difficult to identify trends or broadly generalize across these groups, which may indicate that religious doctrine informs relatively little of a person's beliefs about food. However, Protestant Americans were typically less likely to agree with any given statement, which contrasts the responses of Catholic Americans. The most agreement across groups is for the notion that 'local food is better for the environment.'

Figure 15. Share of Consumers who 'Somewhat Agree' or 'Strongly Agree' with Claims about Food by Religious Affiliation, Jan. 2022 - Feb. 2023



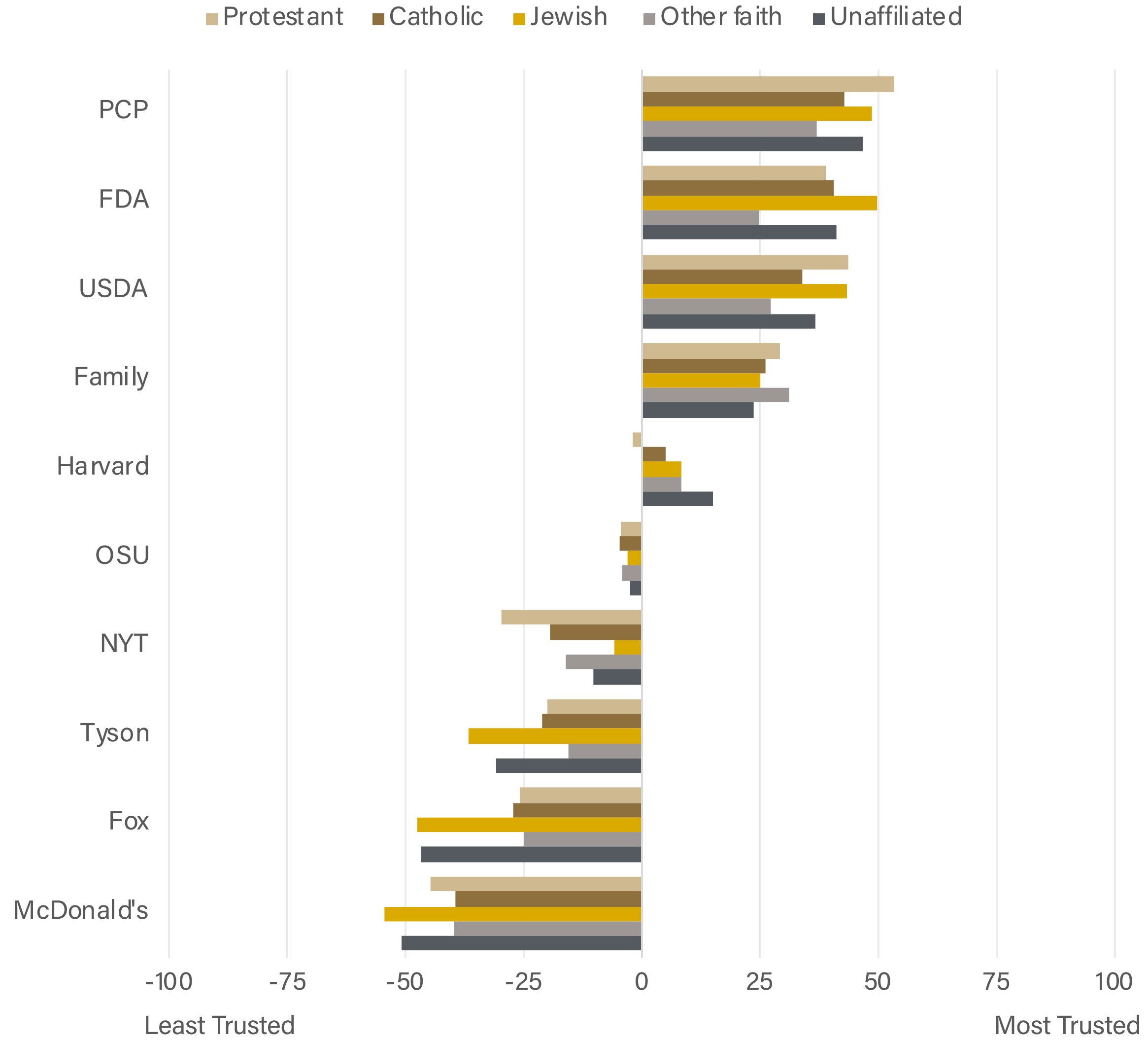
CONSUMER TRUST

Who do Americans trust to inform them about their food system?

We asked respondents to select their five most trusted and five least trusted sources of food-related information and scored these sources on a Trustworthiness Index. **Figure 16** demonstrates that trust in a person, company, or institution can vary significantly across religious groups.

Between these groups, family has the smallest disparity in trust, as most seem to feel that they can trust family to a certain degree. News media has the largest disparity in trust, as Jewish and unaffiliated respondents distrust Fox News much more while Protestants distrust the New York Times to a much greater degree. The difference in trust between Harvard University and Ohio State University is also interesting. On average, Protestants are the only group that distrusts Harvard while Ohio State is distrusted across all groups. In addition, members of other faiths tend to score these surveyed sources of information closer to zero. In other words, these consumers trust the trusted sources less while distrusting the distrusted sources less.

Figure 16. Trustworthiness Index of Food Information by Religious Affiliation, Jan. 2022 - Feb. 2023



FOOD POLICY

Where do Americans stand on food policy?

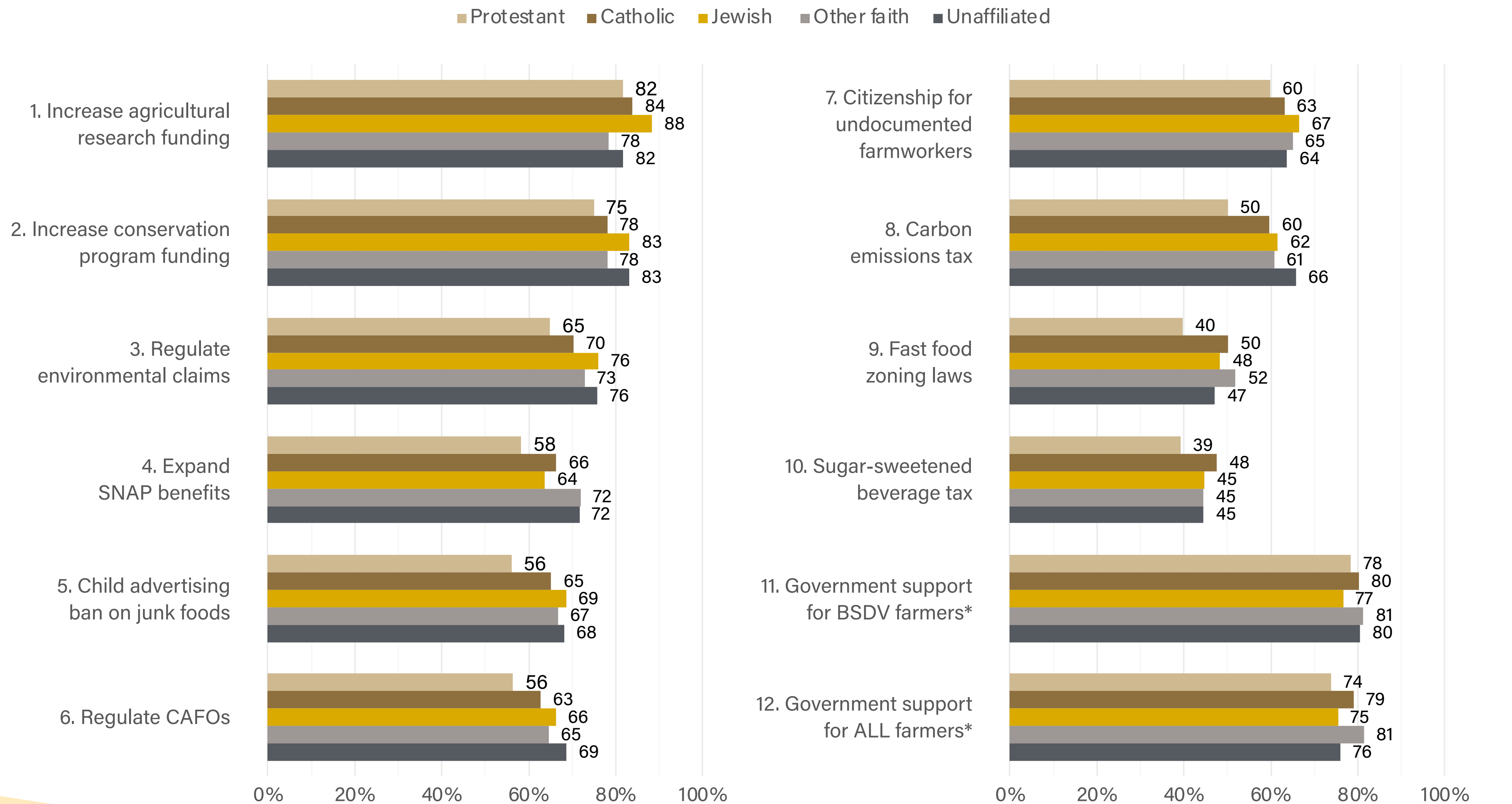
In **Figure 17**, we identify support for several food policies based on the religious affiliation of Americans. Some members of these groups responded in expected ways. For example, Protestants tend to be more conservative, while areligious Americans typically hold more liberal beliefs. Thus, we see that the former group supports government regulation and taxation to a much smaller degree than the latter group. The largest disparity between these two groups is a 16-point gap in support of a carbon emissions tax. Catholic, Jewish, and other faiths also support nearly every policy at a higher rate than Protestants. Importantly, there is broad support among every group for permanently keeping pandemic-related increases to SNAP (see policy question #4) which, as we noted above, expired this month.

Policy Questions:

1. **Increase agricultural research funding** to develop crops more resistant to heat, drought, and flooding through plant breeding and biotechnologies.
2. **Increase conservation program funding** to pay farmers and ranchers to adopt climate-smart practices and help improve environmental outcomes.
3. **Impose new regulations on the environmental claims** food companies can make about their products, such as claims about water, soil, and air pollution.
4. **Permanently extend and expand pandemic-related changes to SNAP** that increase benefits and lower barriers to participation.
5. **Prohibit marketing on TV, via online video streams, etc. of unhealthy food** and beverage products such as junk foods and sodas to children.
6. **Place moratorium on new and expanding CAFOs**, phase out the largest CAFOs, and pay farmers to transition out of operating CAFOs.
7. **Enable undocumented farmworkers and their immediate family members** to obtain lawful immigration status and a pathway to citizenship.
8. **Impose a fee on food producers according to the carbon footprint of their products** unless they take action to reduce their greenhouse gas emissions.
9. **Implement zoning regulations to restrict the number of fast food outlets** and drive-thru facilities near schools, parks, hospitals, and other public areas.
10. **Increase prices of drinks with added sugar** by 25%. Examples of affected beverages include carbonated soft drinks, sports drinks, and energy drinks.
11. **Increase annual funding and technical support** for beginning, socially disadvantaged, and veteran farmers and ranchers.
12. **Increase annual funding and technical support** for agricultural producers, meaning all farmers and ranchers who apply.

FOOD POLICY

Figure 17. Favorable Support for Food and Agriculture Policies by Religious Affiliation, Jan. 2022 - Feb. 2023



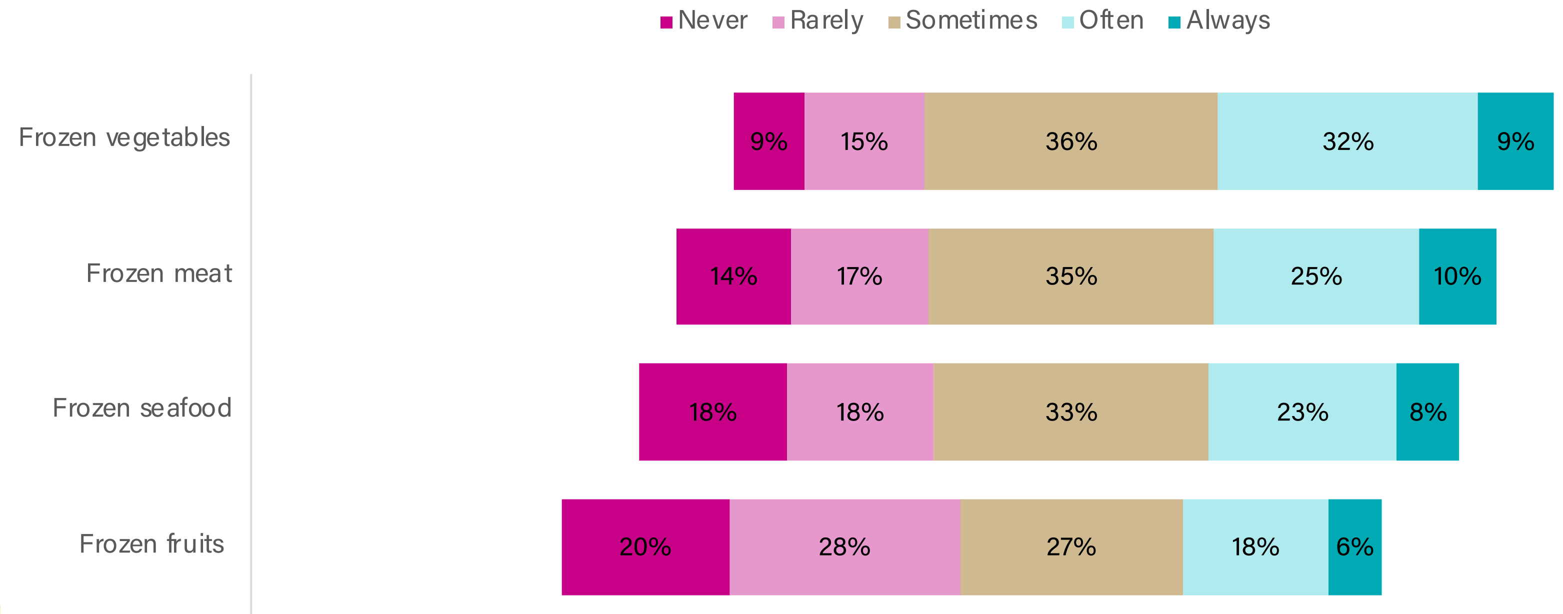
*Each of these two questions are randomly answered by 50% of the sample.

FROZEN FOODS

Do Americans like frozen foods?

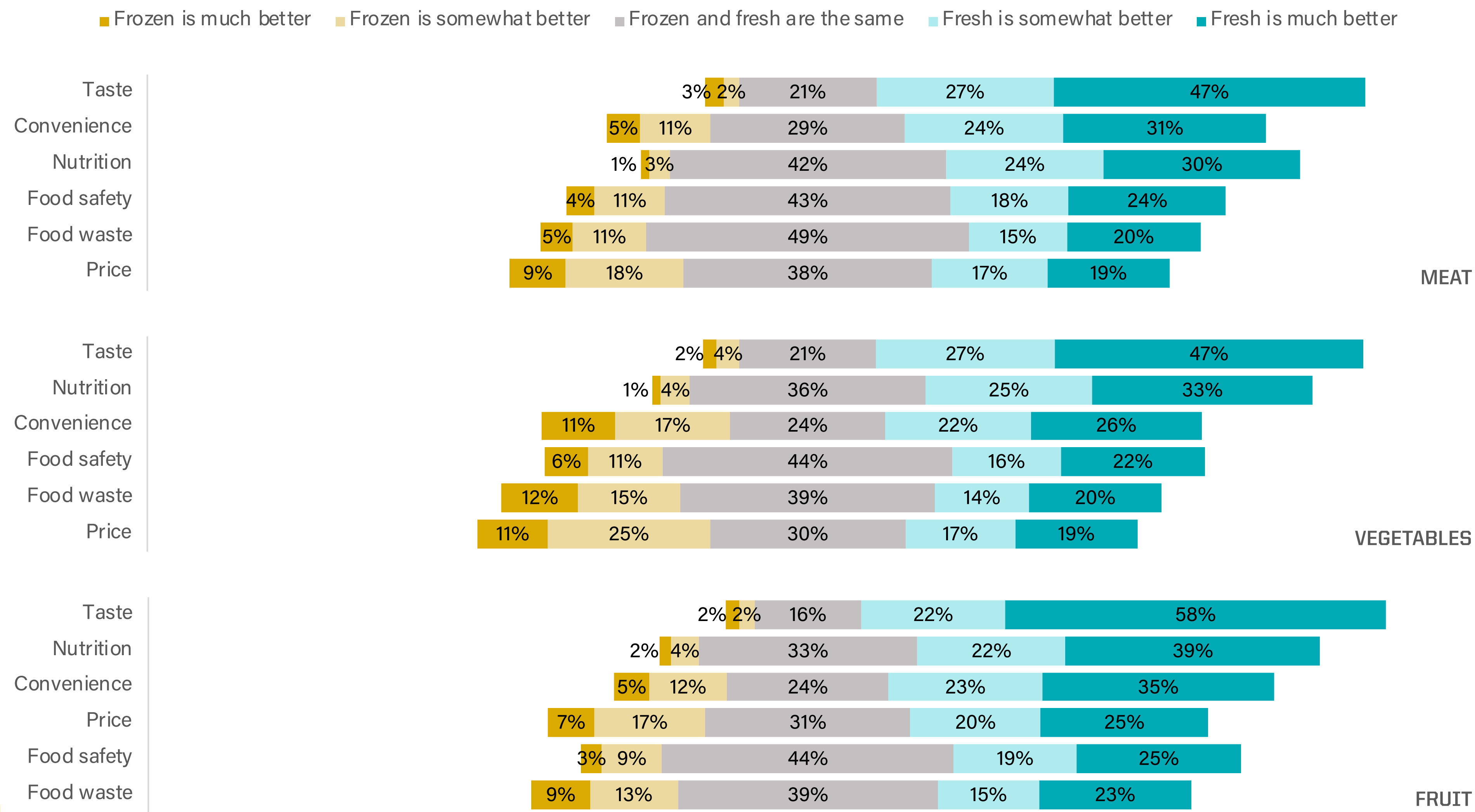
More often than not, Americans are typically buying frozen foods at the grocery store. **Figure 18** reveals that frozen vegetables are the most common food category being purchased. 41% of consumers often or always buy some frozen vegetables, while only 24% of consumers often or always buy frozen fruits. Why do people choose frozen foods? It appears that price is the most important factor as consumers are most likely to say frozen beats fresh on price relative to other factors like taste and food safety (**Figure 19**). In the minds of consumers, fresh foods are usually better when it comes to qualities like taste, nutrition and convenience. Of note, studies suggest that the nutritional profiles of many frozen foods are comparable to their fresh counterparts, which means a significant number of consumers hold misinformed views of frozen foods that may be affecting demand.

Figure 18. Frequency of Frozen Food Purchases During Grocery Shopping, Feb. 2023



FROZEN FOODS

Figure 19. Consumer Preferences for Fresh vs. Frozen Foods, Feb. 2023



ENDNOTES

1 Data were collected from an online panel maintained by the firm Dynata over a three-day period from February 20-23, 2023. The eligible population included U.S. adults ages 18+. A weighting method called iterative proportional fitting—or raking—was applied to ensure a demographically balanced sample by age, sex, race, census region, income, and SNAP participation. Every respondent from the previous month was re-contacted and asked to take the survey again. About 30% of January's sample participated this month, thus the rest of the sample was filled in with a new pool of respondents. Data collection for every survey begins on the third Monday of each month, unless otherwise dictated by holidays or extenuating circumstances, while this report is released on the second Wednesday of the following month.

2 Sample sizes: Protestant (n=4,186); Catholic (n=4,599); Jewish (n=789); Other faith, including Mormon, Orthodox, Muslim, Buddhist, Hindu, and Something else (n=3,152); Unaffiliated, including Atheist, Agnostic, and Nothing in particular (n=4,685).

3 The Sustainable Food Purchasing (SFP) Index is a self-reported measure of food purchasing designed to assess how well consumer shopping habits align with healthy diets from sustainable food systems, as described by the EAT-Lancet Commission on Food, Planet, Health. A top score of 100 reflects consumer food purchasing that aligns with a set of key recommendations for better nurturing human health and supporting environmental sustainability. The SFP Index includes six components—Nutrition, Environment, Social, Economic, Security, and Taste—correlating with the different strategies for achieving food systems transformation.

4 Food at home (FAH) refers to food sales meant for home or off-site consumption and the value of donations and non-market acquisitions, which is acquired from outlets such as grocery stores, convenience stores, direct sales, etc. Food away from home (FAFH) refers to food sales meant for immediate consumption, federal food programs, and food furnished as an ancillary activity, which is acquired from outlets such as restaurants, bars, schools, etc.

5 High or marginal food security (i.e., food secure): 0-1 reported indications of food-access problems; little or no indication of change in diet or food intake. Respondents who reported an annual household income above 185% of the Federal poverty line were also screened as having high food security. This determination was made according to research by Ahn et al. (2020), which demonstrates that using a modified income-based screening procedure for internet surveys better approximates the government estimates of food insecurity. Low food security (i.e., food insecure): 2-4 reported indications of reduced quality, variety, or desirability of diet; little or no indication

ENDNOTES

of reduced food intake. Low food security (i.e., food insecure): 2-4 reported indications of reduced quality, variety, or desirability of diet; little or no indication of reduced food intake.

6 This scale is based on the Cantril Scale used in Gallup's World Poll to assess well-being and happiness around the world. Thus, we use the same validated conceptual labels—thriving, struggling, and suffering—to group responses.