The Food Waste Project

Understanding behaviors and attitudes, assessing knowledge levels, and raising awareness

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HEALTHY PEOPLE • HEALTHY PRODUCTS • HEALTHY PLANET

Introduction

In the United States, about 40% of food is wasted throughout the supply chain. Approximately half of the waste occurs at the consumer level. Because little has been done to address this inefficiency in the U.S., our group designed a survey to better understand the drivers of consumer food waste and used the results to inform a public awareness campaign.

Social and Economic Impacts

- With a population expected to reach 438 million by 2050, meeting the food demand will require more inputs from the planet's finite resources
- Food-producing agriculture uses half of all available land in the U.S.
- 25% of all fresh water used for food production in the U.S. is wasted as a result of avoidable food waste.
- Food Waste is responsible for approximately 2% of national energy consumption
- It is estimated that we spend over $1.3 billion transporting food waste to landfills where it decomposes to form methane, a highly volatile greenhouse gas.
- One in six Americans suffers from food insecurity, meaning they are not able to secure consistent availability to safe and nutritious food.

Objectives

- Understand the behaviors, attitudes, and knowledge of food waste at the consumer level
- Craft an effective public awareness campaign to inform the public and help consumers to reduce their food waste

Environmental Impacts

The environmental impacts of food waste can be divided into two primary categories: upstream and downstream. Upstream impacts occur before food is discarded. These impacts include decreased water and land quality as well as greenhouse gas emissions emitted during the production, storage, manufacturing, distribution, and retail stages of the supply chain. We use 70% of our nation's fresh water supply and 50% of our land to grow food. To then waste 40% of that food is unsustainable.

Downstream impacts occur after food has been thrown away and taken to landfills. Food decomposes in landfills anaerobically (without the presence of oxygen). This process creates significant emissions of methane, a greenhouse gas 25 times more powerful than carbon dioxide. One quarter of methane emissions in the United States results from food decomposing in landfills.

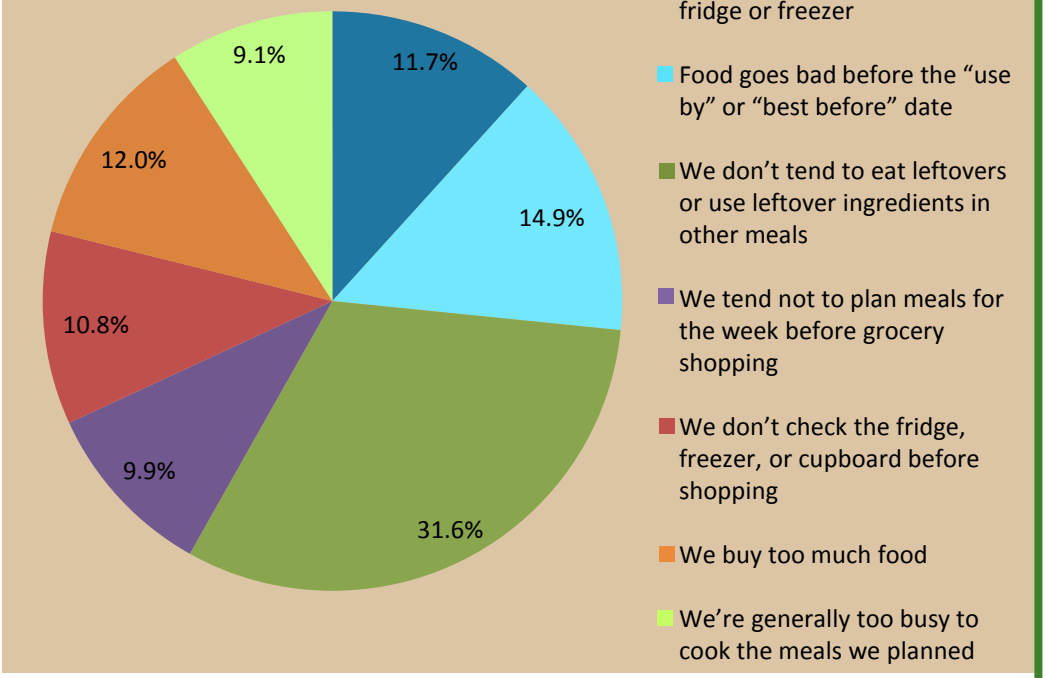
Survey Results

We decided that a survey would be the best method to investigate the drivers of food waste at the consumer level. Our survey was designed to elicit the behavioral drivers of food waste as well as knowledge of and attitudes toward the problem. The survey was distributed online via SurveyMonkey and was completed by 1,185 adult residents of California.

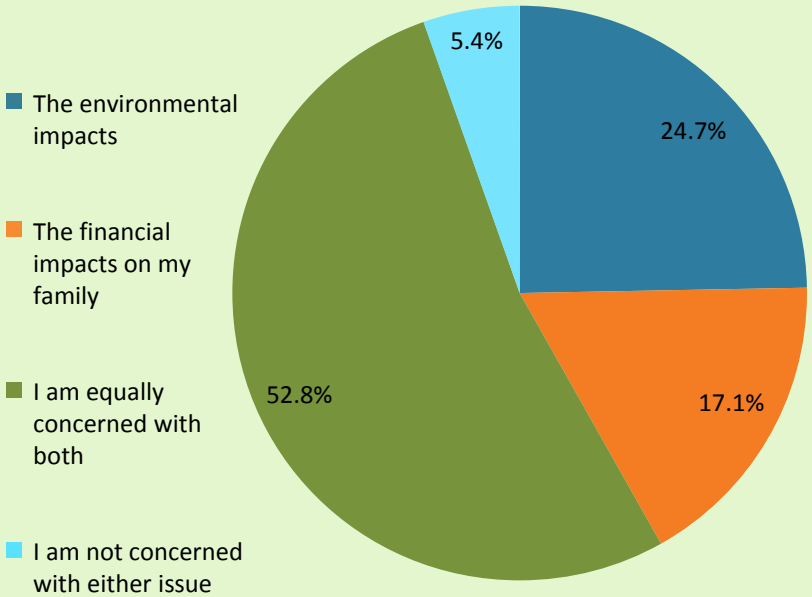
Using the data from our survey we were able to craft a campaign against food waste using a website, Twitter account, and short film to drive our customized message for consumers in California. The report will go into further detail on how we designed this campaign.

WHY DO YOU WASTE FOOD?

As the figure shows, the responses were fairly evenly distributed. This breakdown indicated that it would be beneficial to address all of the reasons for consumer food waste in our awareness campaign, instead of only highlighting a few.



ARE YOU MORE CONCERNED WITH THE ENVIRONMENTAL OR FINANCIAL IMPACTS OF FOOD WASTE?

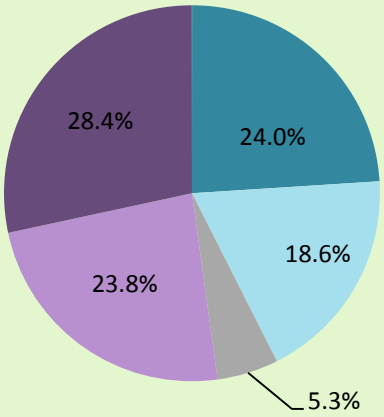


Our results indicate that both issues were important to most people. Based on these results, we chose to include information about both the financial and environmental impacts of food waste in our campaign.

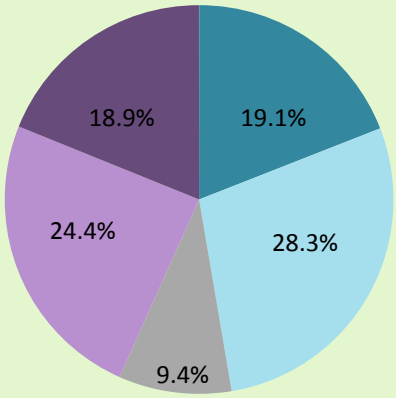
HOW WILLING ARE YOU TO TRY . . .

We wanted to assess the how willing people were to adopt certain practices to help reduce their waste in order to identify targets for our messaging. We asked respondents to indicate their willingness to adopt new behaviors or to indicate that they already practice these activities (and how consistently they do so). Our results indicate that very few respondents were unwilling to try these measures in order to reduce their food waste footprints. We believe this is indicative of the need to use campaigns like ours to direct consumers towards behaviors that are conducive to limiting food waste and provide them with the tools to do so.

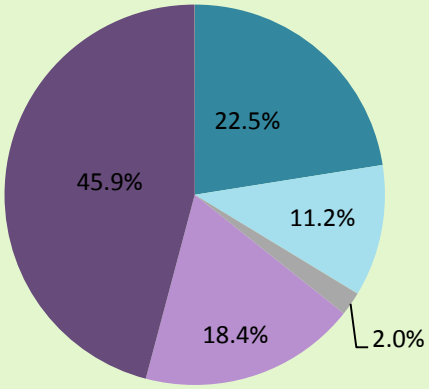
Writing a shopping list based on a menu plan

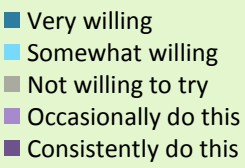


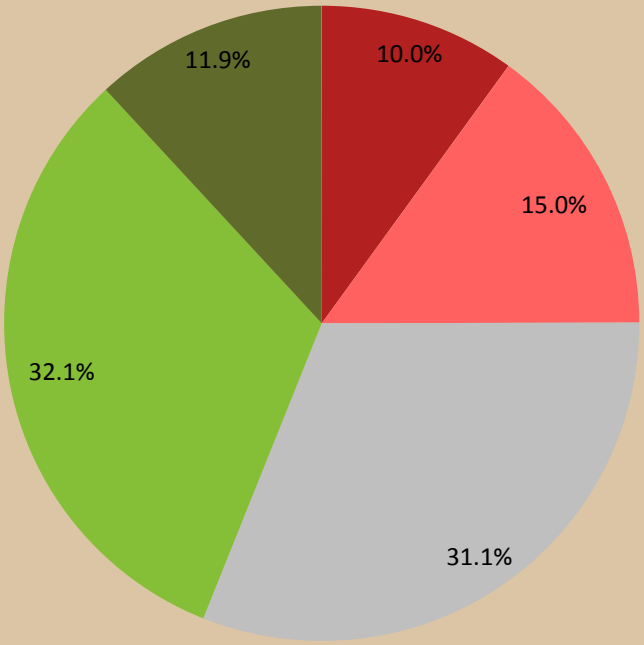
Planning a weekly menu



Using leftover food for other meals







DO YOU AGREE WASTING FOOD CONTRIBUTES TO CLIMATE CHANGE?

While a plurality of respondents agreed with this statement, over 50% did not agree (either disagreed or were neutral) which indicates an opportunity to educate people about the environmental implications of food waste.

Campaign

Based on the results of our survey, we created a public awareness campaign to bring the issue of food waste to consumer consciousness. Our campaign consists of a short film, an informational website, branding logo, and several infographics which convey helpful facts.

Film

We were selected to participate in UCSB's Green Screen Program. This program partners film students with environmental students to write and produce environmental films. Our narrative film, entitled *I Am The 40%*, follows our main character, a two-legged carrot, on a journey through the food supply chain.

Website

Our website (www.TheFoodWasteProject.com) will relay a variety of information as well as showcase our narrative film. This information includes recent news relating to food waste, a resources section that highlights smartphone apps and additional literature pertaining to food waste and our Twitter feed.

Conclusions

Addressing the problem of food waste will undoubtedly be in the best interest of the state of California as well as the entire country. Food waste has both indirect and direct influences on climate change, unsustainable use of water and other natural resources, food insecurity of individuals, and the amount of disposable income we retain. In light of growing environmental awareness and a tough economic climate, refining our food system to reduce food waste is a necessary step in order to increase efficiency and reduce impacts.

Selected References

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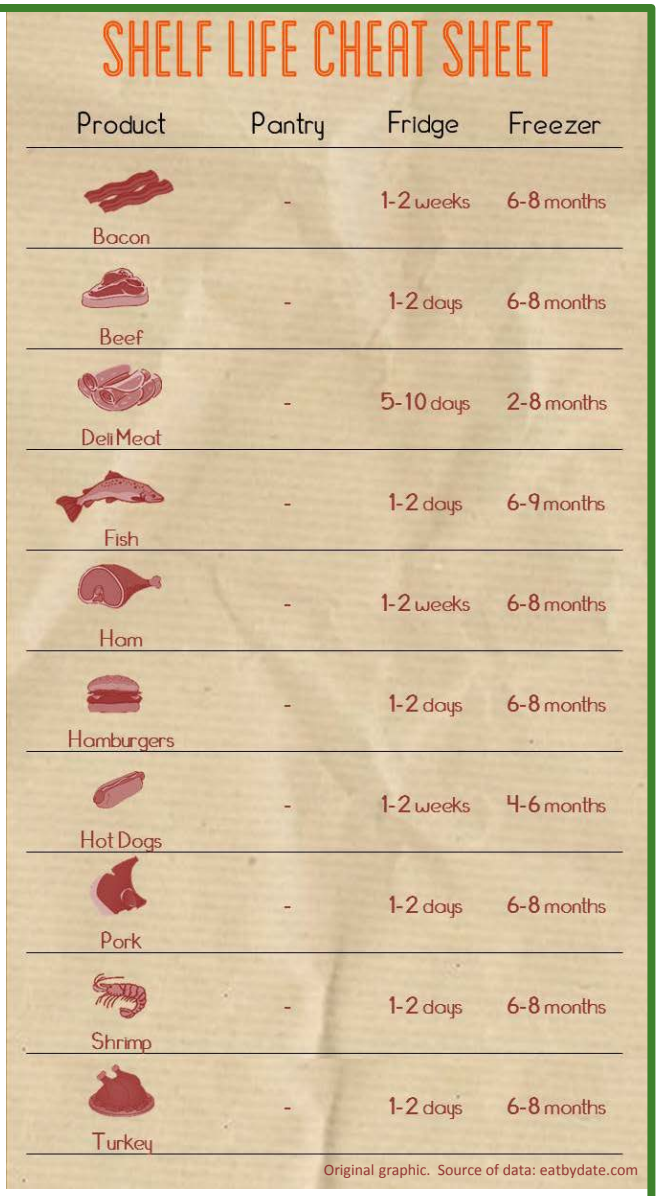

Infographics are useful for communicating information in a way that puts information into context by combining both facts and visuals. This graphic displays information about the shelf life of various food products past their sell-by dates.

Acknowledgements

We would like to thank our faculty advisor Gary Libecap as well as Professor Sarah Anderson for their invaluable guidance. Our film could not have been completed without Chris Jenkins and Michelle Musser.