

# 2022 FROZEN FOOD WASTE STUDY

**AFFI** AMERICAN  
FROZEN FOOD  
INSTITUTE



## Methodology

- Online survey
- September 2022
- 1,548 U.S. consumers
- Modeled to the U.S. Census
  - Age, income, region, ethnicity, etc.
- Filters:
  - Purchase frozen food at least a few times a year



# Frozen Food Waste Study 2022

Gaining an understanding of:

- Consumer practices surrounding freezing food at home
- Food waste concerns, attitudes and behaviors among U.S. consumers
- The role of frozen food in curbing food waste

Commissioned by:



Conducted by:





# Frozen food enjoys very high household engagement

## 97%

Of Americans purchase from the frozen food department at least 1x a year

## 92%

Of Americans freeze food at home, including leftovers

## Frozen food (bought frozen and frozen at home) consumption segmentation

### 39% High frequency consumers

- Daily
- Every few days

### 32% Medium frequency

- Weekly

### 29% Low frequency

- Every few weeks at most

Consumers who never buy frozen food were discontinued from the survey

# Freezer capacity greatly impacts frozen food engagement



Available freezer space at home	SMALL FRIDGE WITH SMALL FREEZER COMPARTMENT	LARGE FRIDGE WITH FREEZER DRAWER OR COMPARTMENT	MULTIPLE LARGE FRIDGES WITH FREEZER DRAWERS OR COMPARTMENTS	CHEST FREEZER OR STANDALONE FREEZER
All	19%	69%	20%	26%
Light consumers	24%	67%	17%	20%
Core consumers	17%	70%	25%	31%
SNAP eligible	28%	61%	9%	16%
Lower income	28%	64%	13%	16%
Middle income	16%	71%	18%	30%
High income	16%	70%	28%	27%

■ Significantly over indexes ■ Significantly under indexes

Core (high-frequency) frozen food consumers are much more likely to have additional freezer space in the form of multiple large fridge/freezer combinations or an additional chest freezer. More at-home freezer capacity is also related to higher income. Core frozen food households are more likely to purchase frozen food from the grocery store, freeze items themselves and recognize the benefits of frozen food relative to preventing food waste and saving money.

# Household engagement is high across frozen food categories

## Purchase engagement and frequency across frozen food categories

	No, never	Yes, occasionally	Yes, frequently	Total purchase
<b>Frozen plain vegetables</b> (Peas, broccoli, etc.)	7%	49%	44%	<b>93%</b>
<b>Frozen meat and poultry</b> (Chicken nuggets/breast, meatballs, sausage, etc.)	8%	47%	45%	<b>92%</b>
<b>Frozen fruit</b> (Berries, mango, etc.)	9%	51%	40%	<b>91%</b>
<b>Frozen pizzas/flat breads</b>	9%	44%	47%	<b>91%</b>
<b>Frozen prepared potatoes/onions</b> (French fries, onion rings, etc.)	11%	48%	41%	<b>89%</b>
<b>Frozen entrees, such as single or family meals</b> (Lasagna, pasta, etc.)	13%	51%	36%	<b>87%</b>
<b>Frozen seafood</b> (Fish sticks, tilapia, salmon, shrimp, etc.)	18%	48%	34%	<b>82%</b>
<b>Frozen prepared vegetables</b> (Cream spinach, etc.)	25%	47%	28%	<b>75%</b>



# Greater freezer capacity relates to buying across more categories

% buy frequently	Overall %	SMALL FRIDGE WITH SMALL FREEZER COMPARTMENT	LARGE FRIDGE WITH FREEZER DRAWER OR COMPARTMENT	MULTIPLE LARGE FRIDGES WITH FREEZER DRAWERS OR COMPARTMENTS	CHEST FREEZER OR STANDALONE FREEZER
Frozen plain vegetables	44%	46%	46%	52%	55%
Frozen meat and poultry	45%	45%	45%	54%	52%
Frozen fruit	40%	40%	41%	49%	48%
Frozen pizzas/flat breads	47%	47%	48%	54%	51%
Frozen prepared potatoes/onions	41%	42%	43%	48%	47%
Frozen entrees (single or family meals)	36%	38%	38%	43%	39%
Frozen seafood	34%	34%	34%	46%	38%
Frozen prepared vegetables	28%	28%	29%	39%	30%

■ Significantly over indexes ■ Significantly under indexes

# Middle-high income households are most likely to highly engage across frozen categories

% buy frequently	Overall %	SNAP-ELIGIBLE HOUSEHOLDS	LOW-INCOME HOUSEHOLDS	AVERAGE-INCOME HOUSEHOLDS	HIGH-INCOME HOUSEHOLDS
Frozen plain vegetables	44%	34%	38%	45%	47%
Frozen meat and poultry	45%	49%	44%	47%	43%
Frozen fruit	40%	37%	35%	40%	43%
Frozen pizzas/flat breads	47%	52%	46%	48%	46%
Frozen prepared potatoes/onions	41%	40%	41%	43%	39%
Frozen entrees (single or family meals)	36%	38%	33%	37%	37%
Frozen seafood	34%	37%	36%	33%	34%
Frozen prepared vegetables	28%	27%	27%	27%	31%

■ Significantly over indexes ■ Significantly under indexes

In addition to buying frozen food, the vast majority of consumers freeze food at home

**92%**

Of Americans freeze food (including leftovers) at home at least 1x a year

- 8% Never
- 17% Every so many months
- 25% Every so many weeks
- 28% Weekly
- 17% Every few days
- 5% Daily



Freezes something weekly or daily (23%)

- 29%** SNAP-eligible households
- 24%** Low-income households
- 18%** Average-income households
- 27%** High-income households

- 12%** Low frequency consumers
- 13%** Average consumers
- 39%** Core consumers

Freezing leftovers or items purposely bought to freeze goes hand-in-hand with higher reliance on frozen foods overall.



# 86%

Of Americans buy food in bulk with the purpose of freezing it to use over time

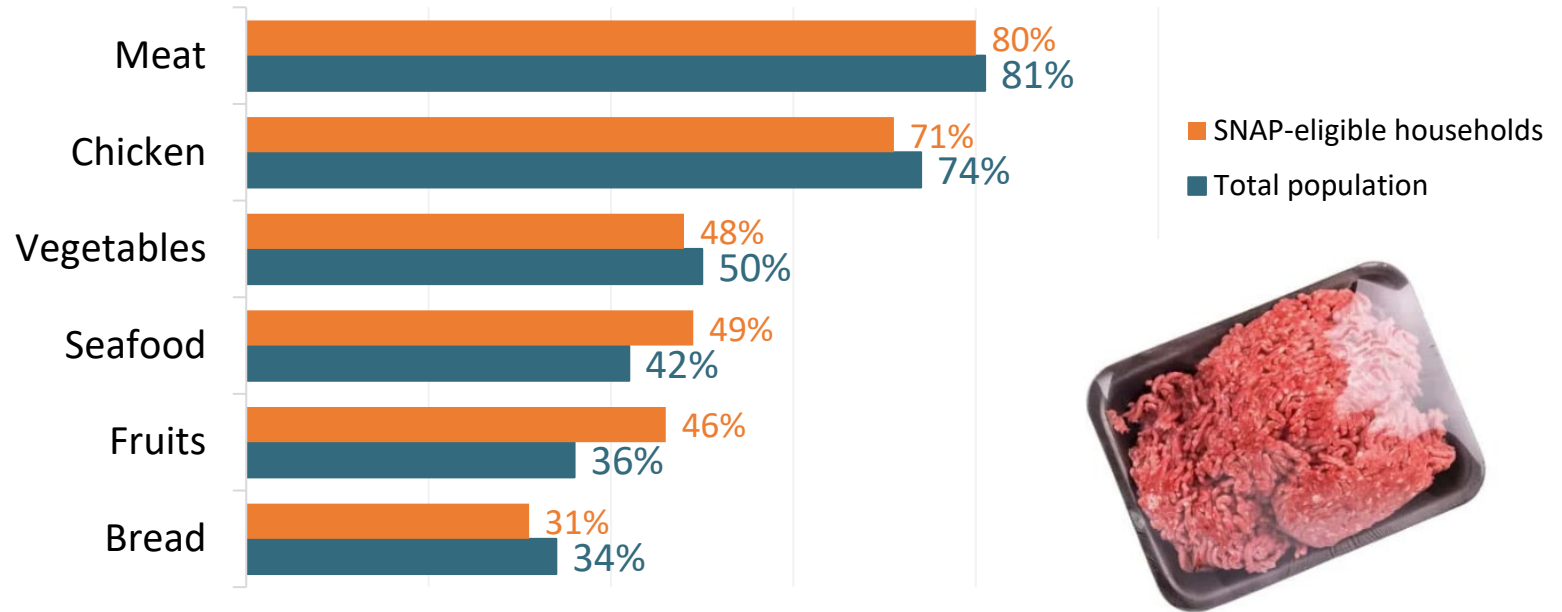
32% Do so frequently

54% Occasionally

This behavior is the same among SNAP-eligible households, at 85%



## Meat/poultry tops list of foods bought in bulk to freeze/use over time



### Frequently buy in bulk with the purpose to freeze (32%)

31% Gen Z

39% Millennials

28% Gen X

25% Boomers

27% Low frequency consumers

29% Average consumers

38% Core consumers

30% SNAP-eligible households

# Food waste is a universal concern

86% of SNAP-eligible consumers say they cannot financially afford to waste food

	Very much disagree	Somewhat disagree	Somewhat agree	Very much agree	Total agreement
Wasting food irritates me	3%	9%	37%	51%	<b>88%</b>
I am concerned about food waste	4%	10%	43%	44%	<b>87%</b>
It bothers me to see others waste food	3%	11%	37%	49%	<b>86%</b>
I am concerned about the economic impact of food waste	4%	12%	44%	40%	<b>84%</b>
I am concerned about the environmental impact of food waste	5%	15%	44%	37%	<b>81%</b>
Personally, I cannot financially afford to waste food	6%	17%	37%	40%	<b>77%</b>

Food waste is a bigger financial burden to lower-income households, of whom **82%** say they cannot financially afford to waste food versus **61%** of affluent households



**Concerned about food waste (87%)**

**81% Gen Z** (but 48% very much agree)

**85% Younger Millennials**

**86% Older Millennials**

**90% Gen X**

**90% Boomers**

**83% Low frequency consumers**

**89% Core consumers**



# Wasting food is also a source of irritation

Cross-population the economic impact of food waste is more important, but among Gen Z and Millennials, the environmental impact is more important

Consumers who eat frozen foods daily or every few days have a much higher level of concern but also irritation over food waste. Additionally, they recognize both the economic and environmental sides of food waste and 45% highly agree that they cannot financially afford to waste food – making them highly motivated frozen food shoppers.

% Very much agree	All	Gen Z	Millennials	Gen X	Boomers	Low freq.	Core Cons.	SNAP eligible	Low income	High income
Wasting food irritates me	<b>51%</b>	49%	48%	53%	56%	45%	60%	50%	48%	54%
It bothers me to see others waste food	<b>49%</b>	50%	45%	52%	51%	44%	56%	55%	48%	51%
I am concerned about food waste	<b>44%</b>	48%	43%	44%	44%	39%	52%	47%	45%	47%
I am concerned about the economic impact of food waste	<b>40%</b>	43%	40%	39%	39%	36%	49%	46%	43%	41%
Personally, I can't financially afford to waste food	<b>40%</b>	37%	40%	46%	35%	36%	45%	51%	46%	32%
I am concerned about the environmental impact of food waste	<b>37%</b>	45%	42%	33%	35%	33%	45%	46%	39%	41%

■ Significantly over indexes ■ Significantly under indexes

# Consumers believe food waste is a bigger issue for fresh than frozen

	Very much disagree	Somewhat disagree	Somewhat agree	Very much agree	Total Agreement
Freezing foods (including leftovers) is a good way to reduce food waste	2%	7%	44%	47%	<b>91%</b>
Freezing foods is a good way to save money	2%	7%	47%	44%	<b>91%</b>
Buying frozen food is a good way to save money	3%	14%	48%	36%	<b>84%</b>
Buying frozen food is a good solution to limit the amount of food waste for my household	4%	14%	49%	34%	<b>83%</b>
The short shelf life of fresh fruits and vegetables is a significant reason why my household has food waste	5%	19%	52%	25%	<b>77%</b>



Consumers see frozen, whether items bought frozen or freezing items themselves, as a good way to reduce food waste and to save money, especially as the shorter shelf life of fresh foods is a significant contributor to food waste.





# Frozen, whether store-bought or at home, solves for food waste and saving money

Consumers who eat frozen foods daily or every few days highly identify with the idea that frozen food can be a solution to save money as well as limit food waste. They extend these benefits to both store-bought frozen items and items frozen at home.

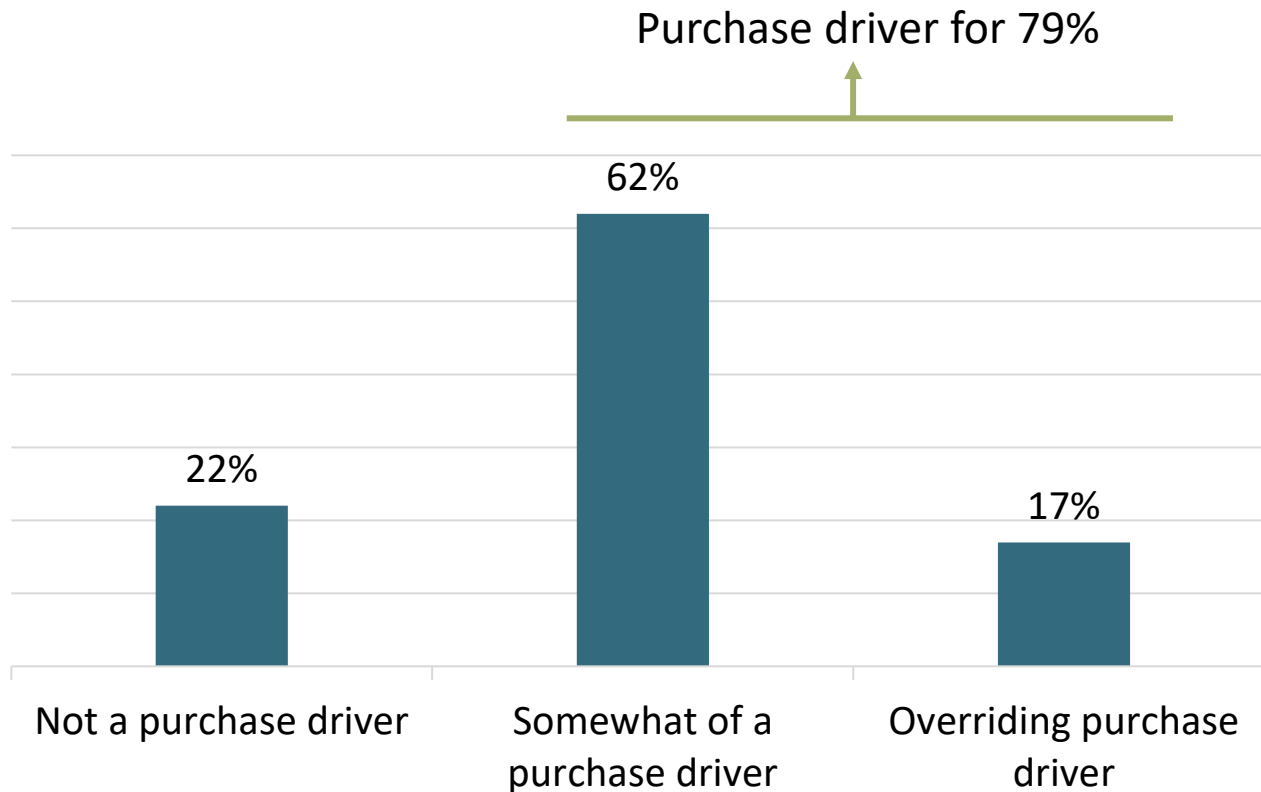
% Very much agree	All	Gen Z	Millennials	Gen X	Boomers	Low freq.	Core Cons.	SNAP eligible	Low income	High income
Freezing foods (including leftovers) is a good way to reduce food waste	<b>47%</b>	<b>37%</b>	46%	50%	47%	<b>38%</b>	55%	49%	45%	47%
Freezing foods is a good way to save money	<b>44%</b>	<b>39%</b>	45%	47%	<b>38%</b>	<b>33%</b>	54%	46%	42%	44%
Buying frozen food is a good way to save money	<b>36%</b>	43%	38%	36%	<b>27%</b>	<b>27%</b>	44%	43%	38%	37%
Buying frozen food is a good solution to limit the amount of food waste for my household	<b>34%</b>	36%	35%	35%	<b>29%</b>	<b>25%</b>	41%	37%	39%	33%

■ Significantly over indexes ■ Significantly under indexes



# Ability to take out exact portions is a big purchase driver for frozen food

Thinking about meal ingredients such as fruits, vegetables, seafood or meat you bought frozen, is the **ability to only use/take out however much you need** a purchase driver for you?



High-frequency (core) consumers are more likely to rate the ability to portion out exactly how much is needed as an overriding purchase driver, at 22% versus 17% overall.

- 11% Low frequency consumers
- 14% Average consumers
- 22% Core consumers

The importance of the ability to portion also rises along with the concern about food waste.



# Frozen food **ingredients** provide flexibility

Consumers leverage frozen ingredients to adjust for mood, time crunches and to avoid spending more on restaurant meals

**Having frozen meal ingredients (frozen fruits, vegetables, seafood, meat) on hand helps to...**

**92%** Have more food on hand without the worry of it spoiling before you can use it

**91%** Prepare more meals at home (vs. getting takeout, delivery or eating out)

**91%** Have more flexibility in preparing what you are in the mood for

**90%** Save money because of being able to use food over time (vs. waste it)

**89%** Avoid wasting food when plans to prepare a meal go awry

**89%** Take out exactly as much as I need for the meal and prevent cooking too much



9 in 10 frozen food consumers agree that frozen food allows having a backup plan without the risk of spoilage as well as adjusting the meal lineup for mood or plans going awry. Equally as many believe frozen saves money over time because of using more of it.

These advantages are widely recognized, regardless of income or consumption frequency.

Frozen **meal solutions** help save money and are an answer when shoppers are out of time or not in the mood to cook

**Having meal entrees or pizza in your freezer helps to... (% yes)**

- 91%** Prepare more meals at home  
(vs. getting takeout, delivery or eating out)
- 88%** Prepare a meal at home when not in the mood to prepare a meal from scratch
- 87%** Prepare a meal at home when running out of time to cook from scratch
- 85%** Provide different options to different members of the household



During the first year of the pandemic, life was very home-centric and 80%+ of meals were prepared at home. Many more people worked from home, schooling was virtual and most evening/weekend activities were cancelled. In the fall of 2023, consumer mobility has, by and large, resumed to pre-pandemic levels. With it, meal preparation plans are affected more often by running out of time or not being in the mood to cook. Frozen meal solutions are an often-used alternative to restaurant meals, while providing flexibility to have different options according to mood and preference.



# Frozen meal ingredient and meal solutions agreement among SNAP-eligible consumers

SNAP-eligible % yes

## Having frozen meal ingredients on hand helps to...

- 88%** Have more food on hand without the worry of it spoiling before you can use it
- 87%** Prepare more meals at home (vs. getting takeout, delivery or eating out)
- 87%** Have more flexibility in preparing what you are in the mood for
- 86%** Save money because of being able to use food over time (vs. waste it)
- 86%** Avoid wasting food when plans to prepare a meal go awry
- 84%** Take out exactly as much as I need for the meal and prevent cooking too much

## Having meal entrees or pizza in your freezer helps to...

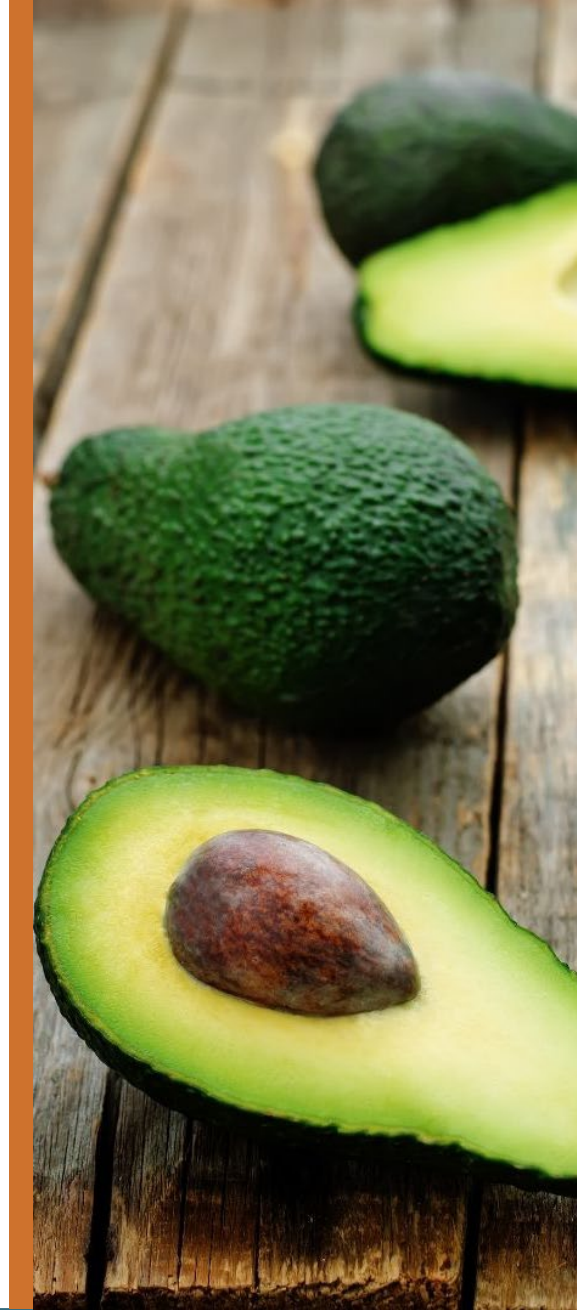
- 88%** Prepare more meals at home (vs. getting takeout, delivery or eating out)
- 86%** Prepare a meal at home when not in the mood to prepare a meal from scratch
- 87%** Prepare a meal at home when running out of time to cook from scratch
- 81%** Provide different options to different members of the household

# Fresh item spoilage is easily the number one reason for discarding fresh fruit/vegetables

## What are the reasons for throwing out fresh fruit or vegetables?

Item spoilage (bruised, rotten, etc.)	79%
Purchased too much and could not finish it	32%
Past the date on the package	27%
Never ripened properly or overripened	25%
Could not freeze	20%
Too little left to keep	16%
Did not like it	14%
Did not know how to use/prepare it	3%

Having purchased too much is a reason for discarding fresh fruit and vegetables for 32%, in contrast to the 9 in 10 frozen food consumers who point to being able to take out as much as needed as a major purchase advantage.



# 58%

Of Americans are more likely to throw away certain fresh fruits or vegetables than others



## Soft fruits, especially bananas and berries, have a higher likelihood of being discarded

### What fresh fruit and vegetables do you end up having to throw away more often?

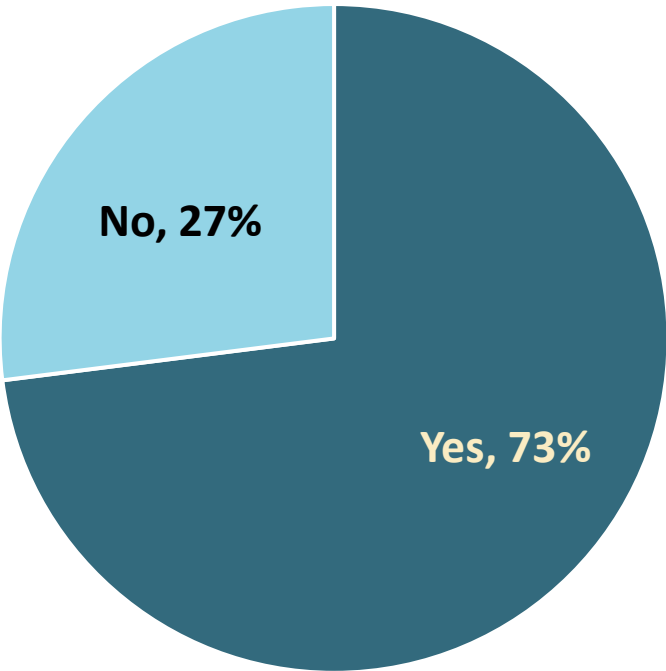
Bananas	58%
Berries	38%
Spinach or other leafy greens	32%
Avocados	29%
Potatoes	22%
Peaches	21%
Broccoli or cauliflower	18%
Onions	17%
Mangoes	15%
Carrots	15%
Corn	8%





# Consumers take to the frozen food equivalent to prevent food waste

If you throw out some fresh fruit/vegetables, do you at least sometimes buy the frozen counterpart to prevent food waste?



**Substituting fresh by frozen to prevent wasting food:**

**67%** Low frequency consumers

**72%** Average consumers

**79%** Core consumers

**73%** SNAP-eligible consumers



The majority of consumers never or rarely discard frozen produce, but when they do, the #1 reason is freezer burn.

**What are the reasons for throwing out frozen fruit or vegetables?**

Freezer burn	66%
Passed the date on the package	34%
Quality deterioration other than freezer burn	26%
Too little left to keep	21%
No space in the freezer	16%
No easy re-close option on the package	15%
Portion was too large or package contained too much	12%

Two-thirds of consumers point to freezer burn as the reason for discarding frozen fruit and vegetables. One-third throws away frozen fruit/vegetables because of the use-by date on the package.

# Prepared food item waste

**When buying restaurant meals, do you typically end up throwing away uneaten food?**

**18%** Yes, frequently

**46%** Yes, occasionally

**37%** Never



## **% Frequently throw away uneaten food**

**33%** Gen Z

**26%** Millennials

**40%** Gen X

**53%** Boomers

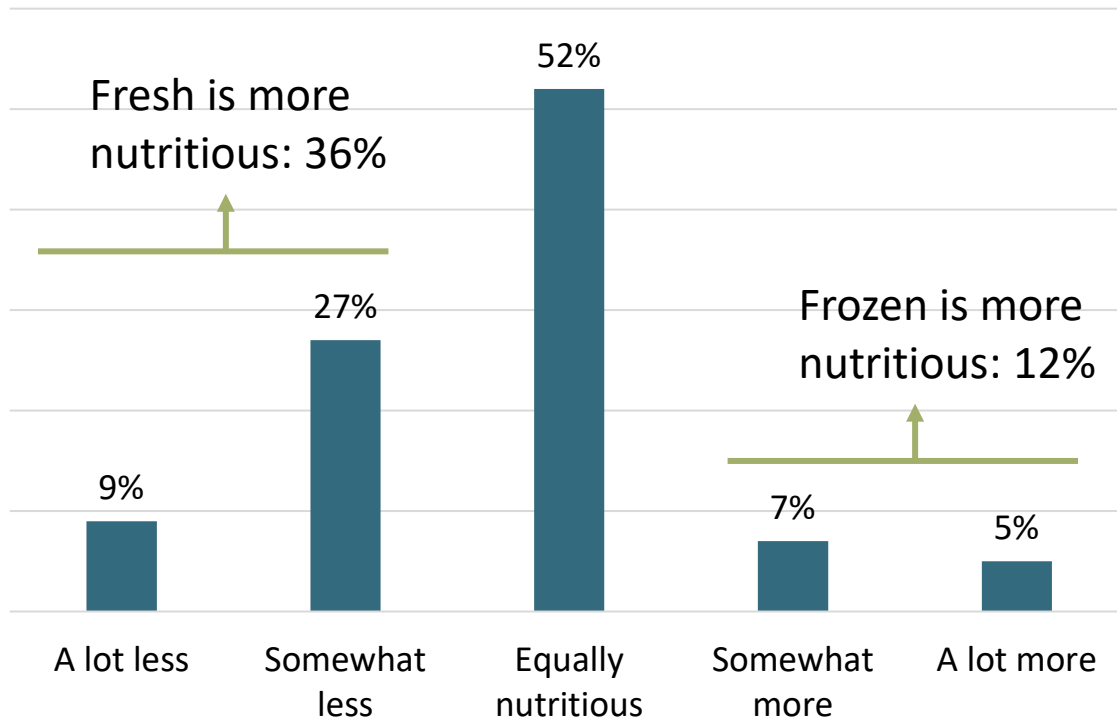
**34%** Low frequency consumers

**37%** Average consumers

**38%** Core consumers

# Fresh foods have a nutritional edge in consumers' minds

Compared to fresh foods,  
I believe frozen foods are... nutritious



Frozen is perceived as more nutritious (12%)

11% Gen Z

14% Millennials

12% Gen X

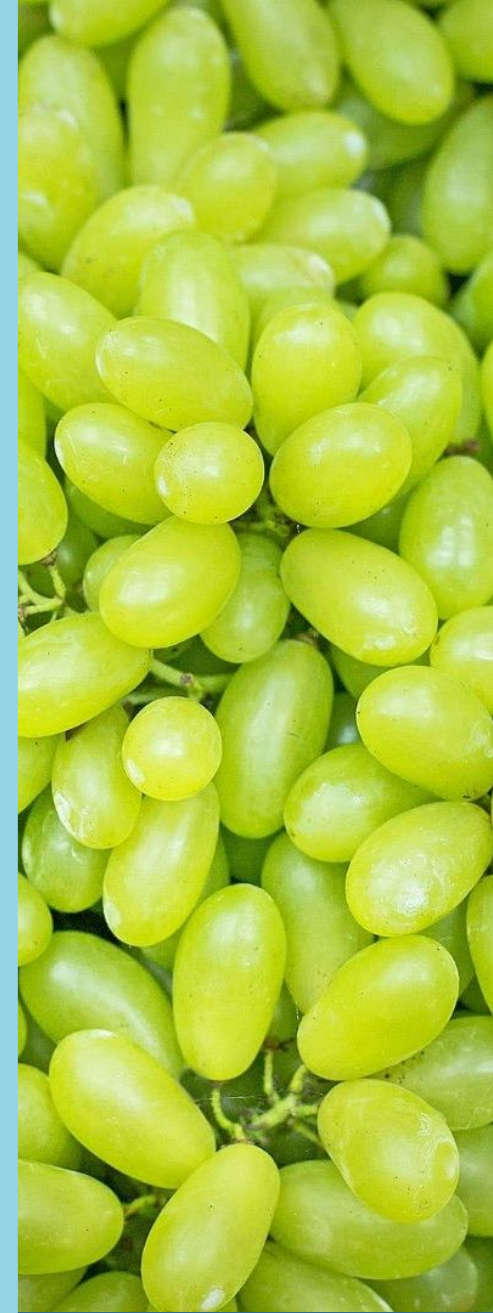
8% Boomers

8% Low frequency consumers

10% Average consumers

17% Core consumers

13% SNAP consumers  
(7% somewhat more and  
6% a lot more)



# Key takeaways

Both store-bought frozen foods and the practice of freezing food at home enjoy very high, cross-population household engagement in the U.S.

86% of U.S. shoppers buy food in bulk with the specific purpose of freezing it in smaller portions to use over time. This is especially popular for meat and poultry.

The financial and economic impact of food waste is a universal concern, while younger consumers are more concerned about the environmental side of it as well

Food waste is a bigger issue for fresh than frozen, with 77% of consumers pointing to the short shelf-life of fresh as a contributor to waste.

Buying frozen foods and freezing items at home are both seen as solutions to reduce waste and save money.

Frozen foods are seen as being a great solution when out of time to cook, not in the mood to cook or save money versus eating restaurant food.

Many consumers report at least sometimes substituting the frozen food counterpart of fruits and vegetables to prevent food waste.

Item spoilage, especially for soft fruits, is the main reason for waste. Frozen food is a solution to 79% who routinely discard fresh fruit and vegetables.

While not discarded often, when frozen fruits and vegetables are tossed, freezer burn is the main reason.