



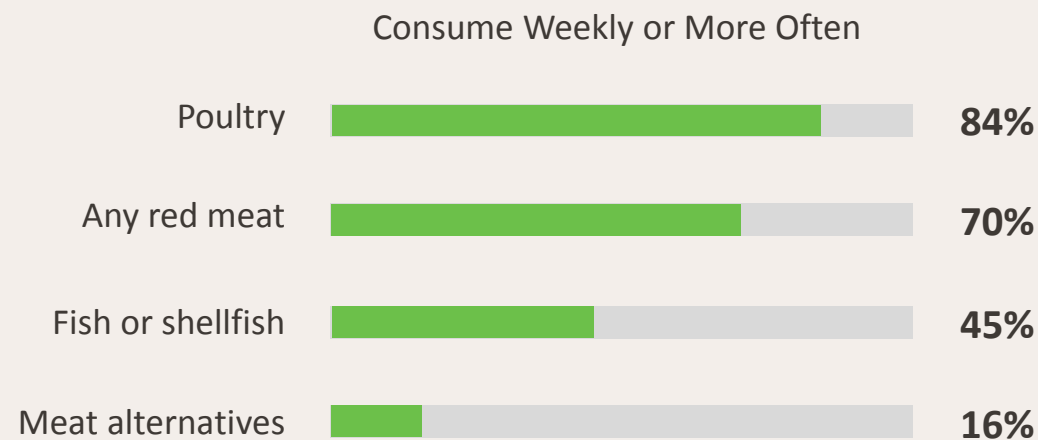
Plant-Based Protein & Soy

A U.S. Consumer Perspective

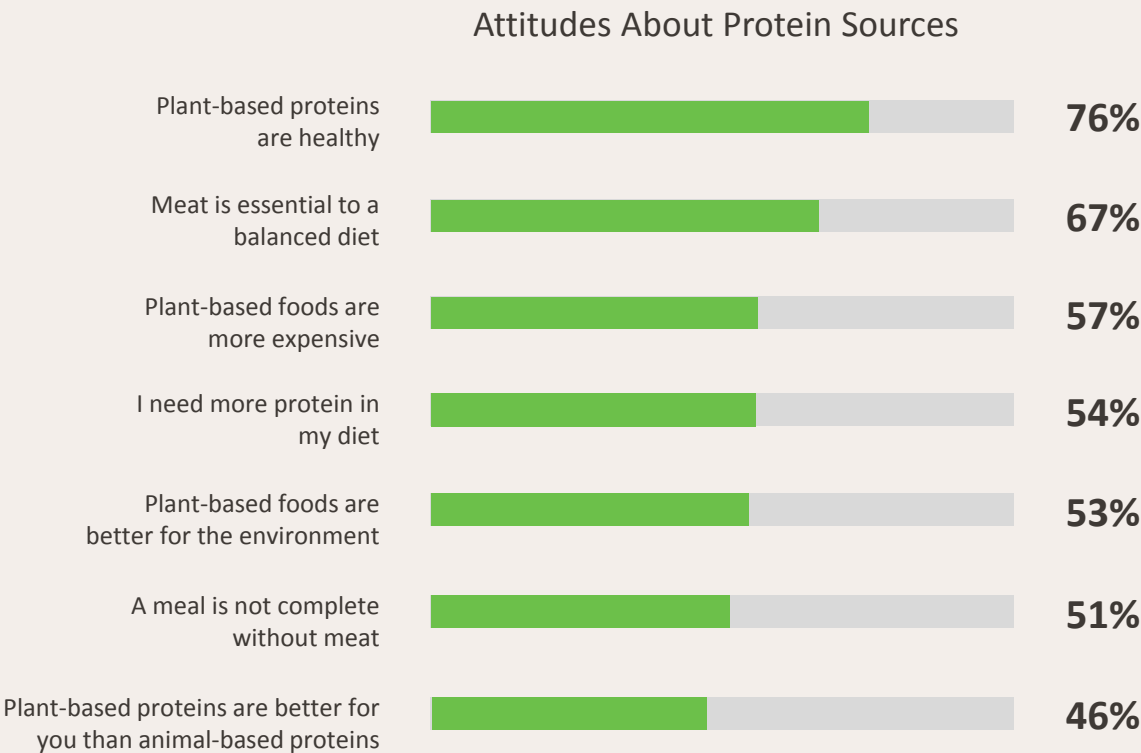


What We Know: Recent Consumer Studies

In the U.S., meat-based protein is consumed consistently more often than plant-based protein. (Mintel; 1/18)



Consumers are conflicted about protein sources. (Mintel; 1/18)





Consumers eating plant-based foods mostly in prepared meals (Mintel, January 2018)

Females eat more plant-based dairy alternatives, desserts

Men most likely to view animal-based protein (especially meat) as essential



Millennials are the most likely to consume plant-based protein, though interest crosses generations. (Mintel, January 2018)

Females and ethnic minorities also report higher levels of consumption

Higher levels of consumption also correlate with higher household incomes, education



Interest in eating more plant-based protein is increasing. (NPD Group, 2018)

33% of U.S. consumers now self-identify as “flexitarians” – emphasize plant-based over animal-based meals but consume both.

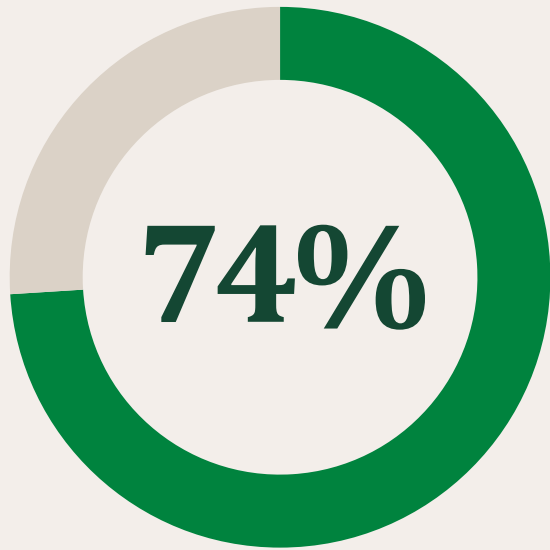
52% typically eat at least one plant-based meal per day.



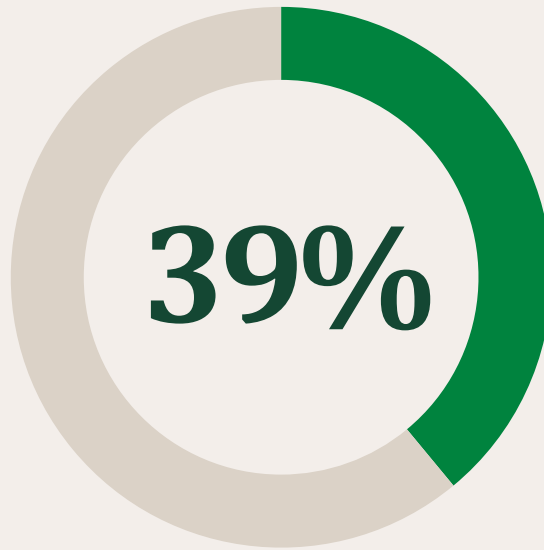
Most consumers are open to consuming plant-based alternative protein and recognize health and environmental benefits, but will not waver when it comes to taste. (Mintel, January 2018)

How and Where Do Soy Foods Fit In?

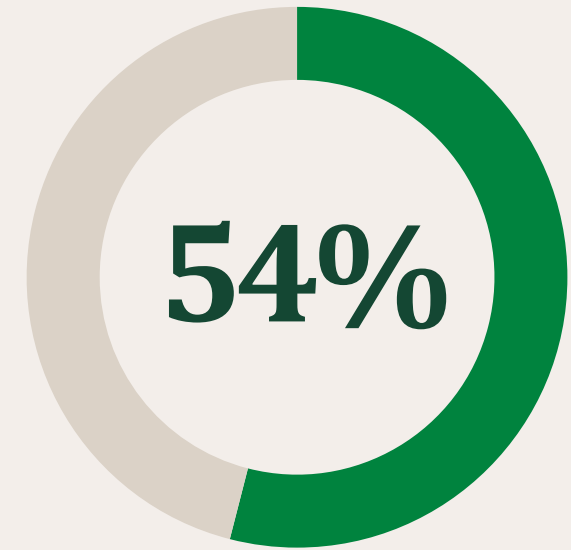
United Soy Board Consumer Attitudes Tracking Study: January 2019



Nearly three-quarters (74%) currently view soy foods as “healthy” (40% “very healthy”).



About four in ten (39%) are aware of specific health benefits of including soy foods in their diets.



Over half (54%) of those aware of soy’s health benefits say they specifically seek out soy foods due to their perceived nutritional benefits.

What We Wanted to Learn:

Soy Protein Perceptions and Messaging Study, April 2019

1

Quantify and identify consumers eating plant-based foods as replacements for “center-of-the-plate” animal proteins

2

Identify reasons why consumers say they are trying to eat more plant-based foods

3

Measure consumer perception of soy protein against other plant-based “center-of-the-plate” protein sources

4

Measure consumer awareness of the benefits of soy as a plant-based alternative

5

Measure the effectiveness of consumer marketing messages supporting soy as an ingredient in plant-based foods

Methodology

Technique

Consumer online study

Target

- U.S. consumers, age 16-49
- Current diet:
 - Mostly plant-based
 - Mostly animal-based
 - Consumes both
- Excluded: those consuming a largely meat-based diet with no future interest in consuming plant-based protein alternatives

Sample Distribution

Total U.S.

Sample Size/Quotas

N=1,000

Balanced for age, gender, ethnicity and region

Questionnaire Length

8 minutes

Study Conducted

April 2019

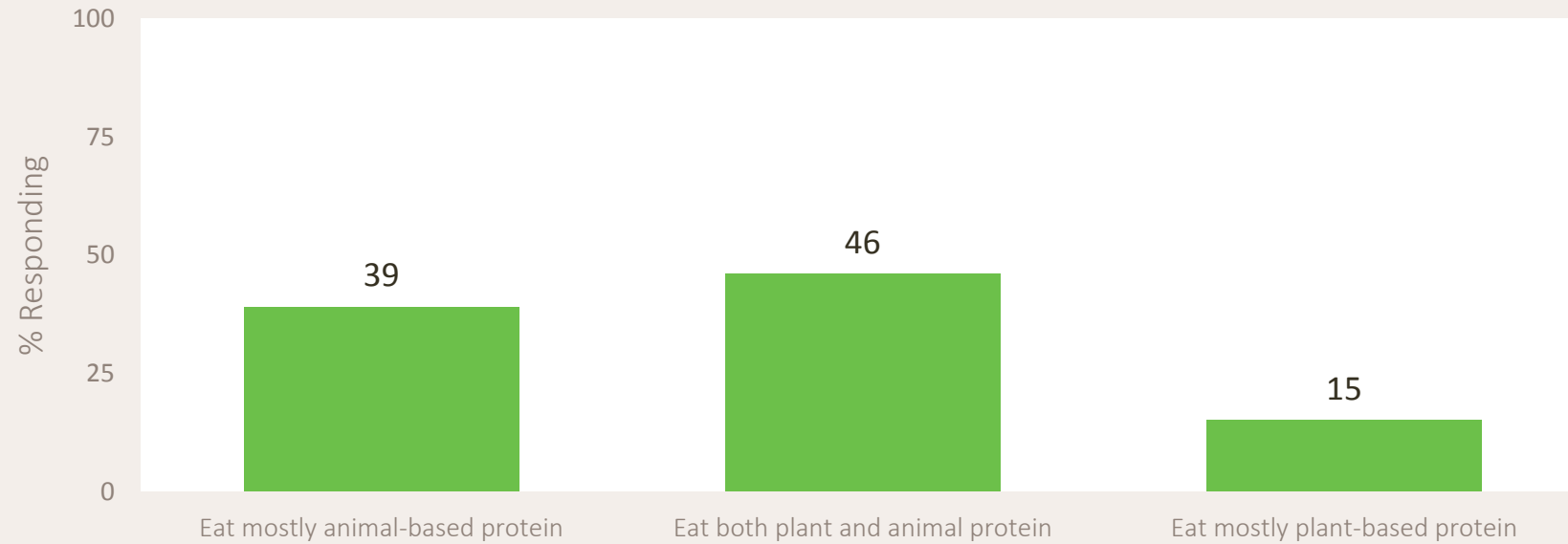


Detailed Findings:

A Snapshot View

Current Dietary Habits

(Base = 1,027)



Most consumers (85%) eat animal-based protein

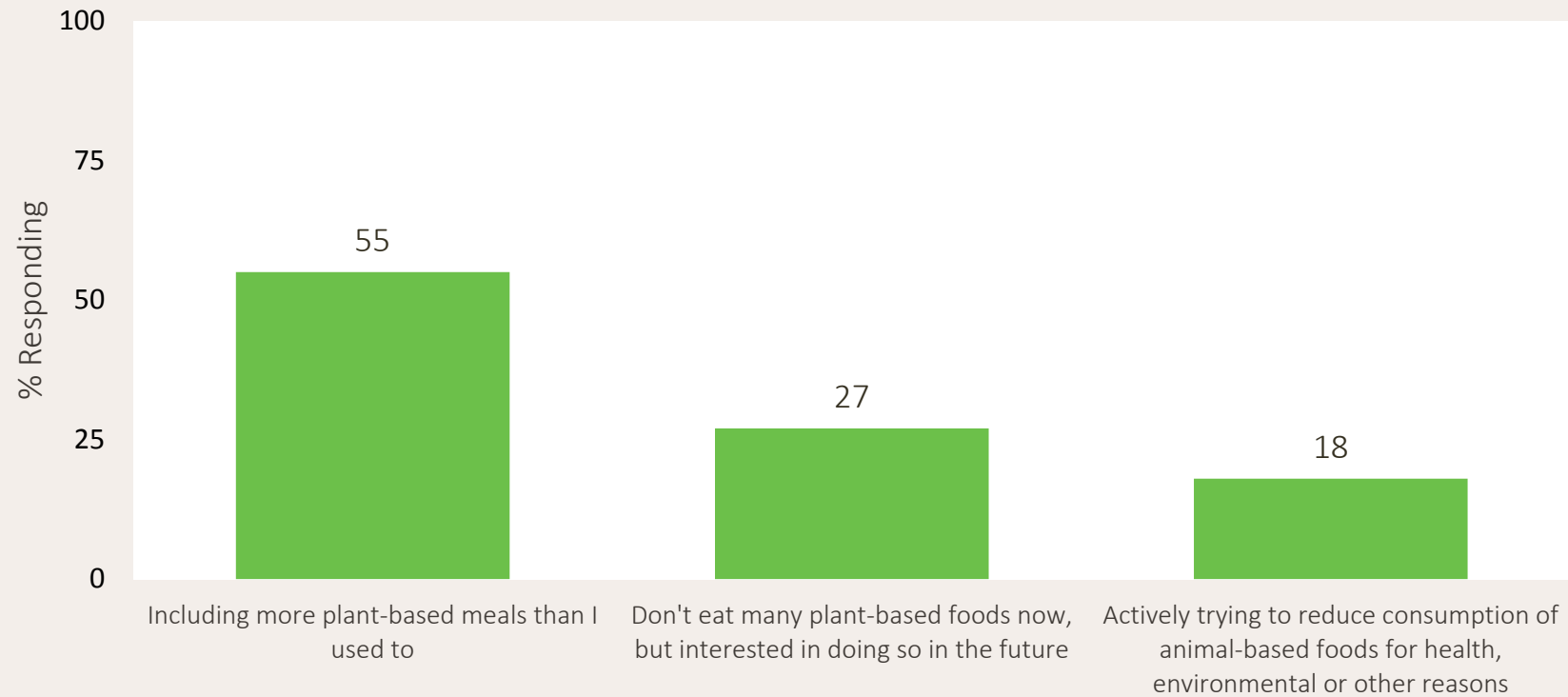
- A sizeable group (46%) say they eat both
- Males are most likely to say they eat a mostly animal-based protein diet

Those currently consuming the most plant-based proteins are females and those under age 40

Q: Which of the following statements best describes your current dietary habits?

Approach Toward Plant-Based Foods

(Base = 1,027)



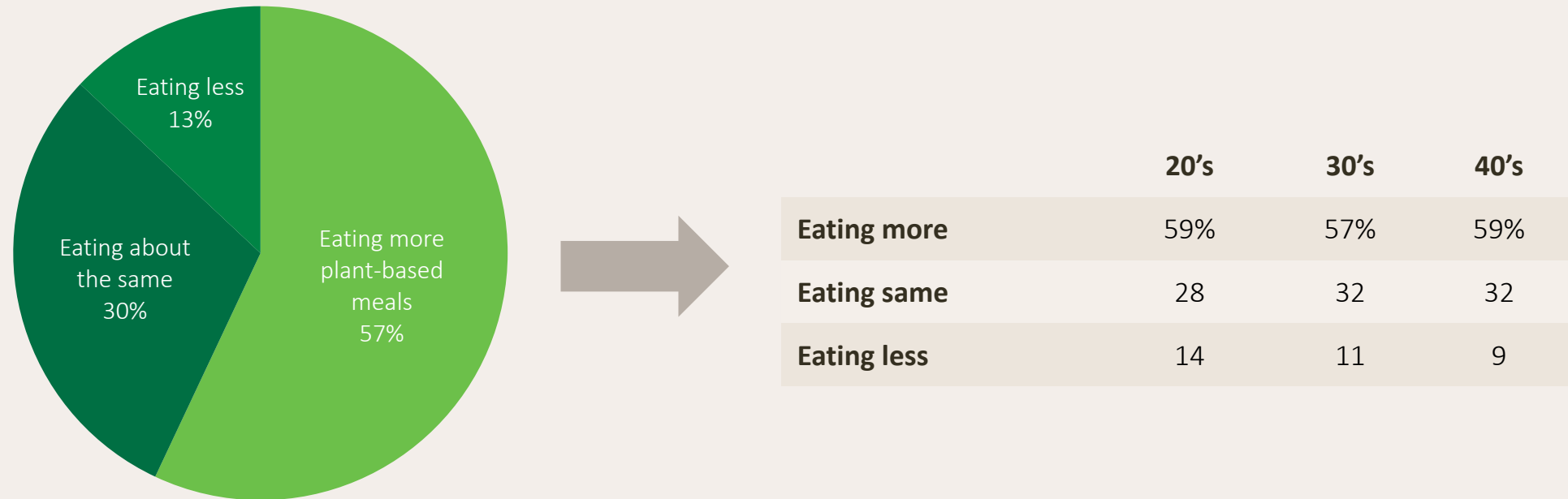
Diets are evolving

- Most consumers are including more plant-based meals than they used to, or say they want to so in the future
- Nearly two in ten (18%) are actively working to reduce their consumption of animal-based protein, especially those under age 40

Q: Which of the following statements best reflects your feelings about plant-based foods?

Change in Consumption of Plant-Based Meals vs. Past Two Years

(Base = 1,027)

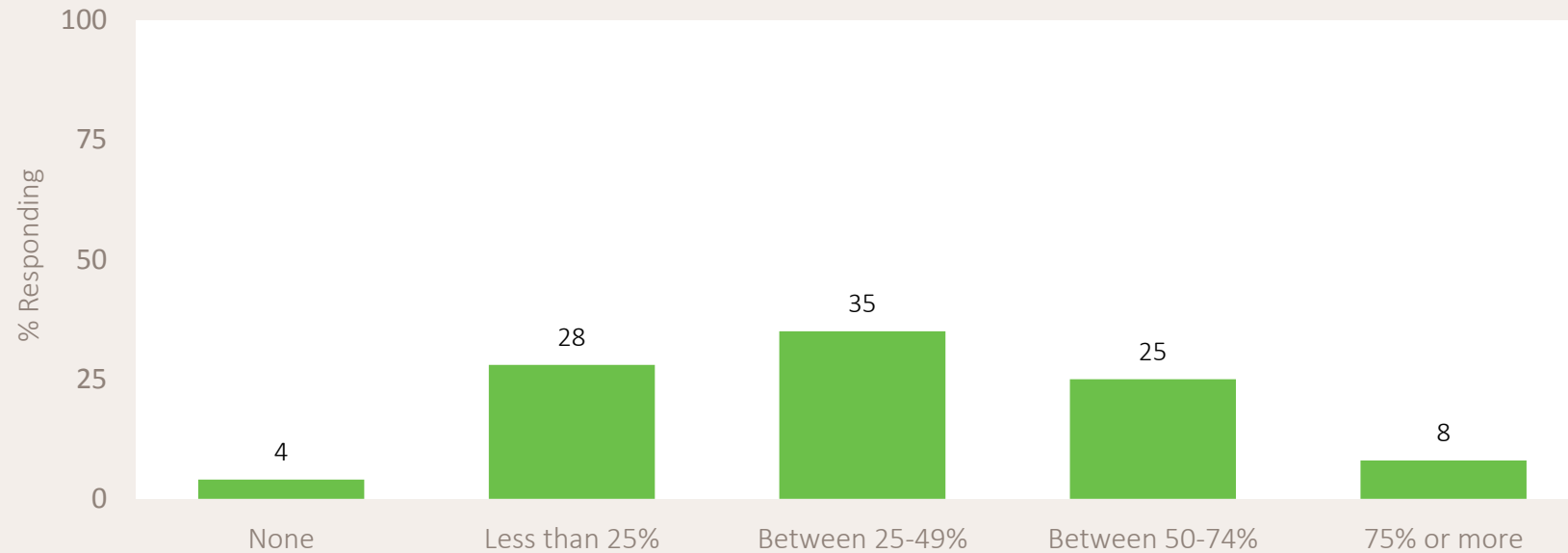


Consumers in all age groups are eating more plant-based meals than two years ago

Q: Would you say that you are consuming more, fewer or about the same number of plant based main dishes or meals today vs. a year or two ago? Again, by plant-based meals we mean those which incorporate protein from plants, such as soy, beans/legumes, etc. rather than from meat, fish, poultry or eggs.

Percentage of Plant-Based Main Dish Meals in Past Week

(Base = 1,027)



In a typical week, very few consumers (4%) never substitute a plant-based protein for an animal-based main dish

- Females, and those under age 30 report eating the most plant-based main dish meals
- Sample sizes are small, but minorities report eating more plant-based meals in a typical week than non-Hispanic Caucasians

Q: Think about the main-dish meals you've consumed over the past week. (By main-dish, we mean a full meal, rather than a snack.) About what percentage of those meals incorporate a plant-based protein such as soy, beans/legumes, etc. rather than an animal-based protein such as meat, fish, poultry or eggs?

Reasons for Incorporating Plant-Based Meals in Diet

(Base = 1,027)

	Total	Late Teens	20's	30's	40's
Improve overall health/nutrition	60%	61%	55%	60%	66%
Help with weight control	45	49	47	38	50
Like the taste	30	34	25	32	33
Improve quality of protein in diet	30	31	30	31	29
Save money	26	23	29	26	25
Help protect environment/sustainability	24	26	26	27	19
Prevent illness	23	24	23	22	24
Increase amount of protein in diet	23	31	20	22	22
Concerned about animal welfare	19	15	17	24	20
Address specific health concerns	17	14	21	14	20

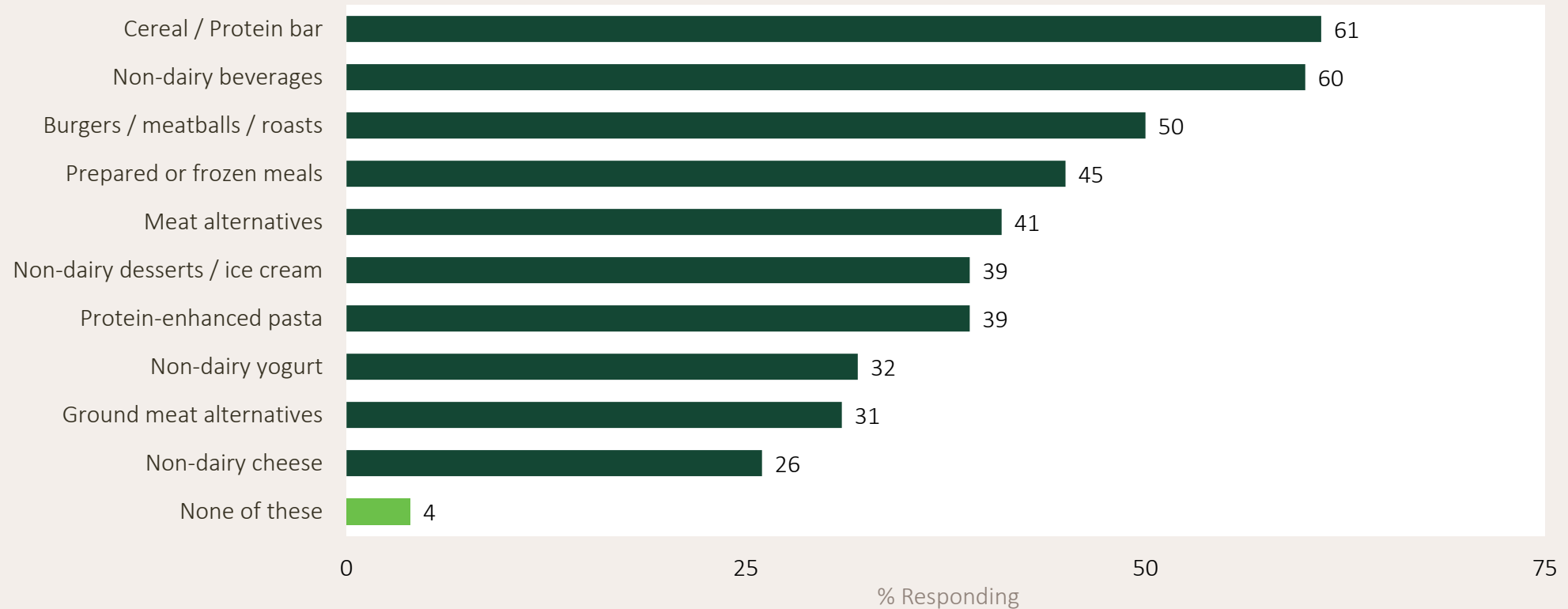
The desire to improve overall health and nutrition is the top motivator for consuming plant-based meals across all age groups

- Older adults are most motivated by health and nutrition benefits
- Females are more concerned about weight control
- Those in their late teens, especially males, are most interested in increasing the amount of protein in their diet
- Consumers in their 40's cite environmental concerns as a motivator less often than their younger counterparts

Q: Which of the following reasons describe why you eat plant-based main dish meals at least occasionally?

Plant-Based Prepared Foods Tried

(Base = 1,027)



- Cereal/protein bars and non-dairy beverages are the plant-based foods tried by the most respondents
- Fifty percent have tried plant-based burgers, meatballs and roasts
- Very few (4%) say they've never tried any of plant-based foods on the list

Q4: There are many prepared foods available today which contain plant-based protein. Which of the following have you tried before?

Consumption Frequency of Plant-Based Prepared Foods

(Base = Tried Food Before; Sample size varies by food item)

	Weekly or More Often	Monthly	Less Often	Never
Cereal/protein bar	58%	25%	16%	1%
Non-dairy beverage	56	19	23	3
Non-dairy yogurt	46	24	27	3
Prepared/frozen meal	43	33	22	2
Ground meat alternatives	40	30	26	4
Non-dairy cheese	38	24	31	7
Meat alternatives	38	29	29	4
Protein-enhanced pasta	38	37	23	2
Burgers/meatballs/roasts	35	33	28	4
Non-dairy dessert/ice cream	29	34	34	3

Cereal/protein bars and non-dairy beverages are also the plant-based foods consumed most frequently, with over half of all consumers consuming these foods weekly or more often

Q: Here are the prepared foods containing plant-based protein you say you've tried before. About how often do you eat them?

Plant-Based Proteins Aware Of/Tried

(Base = 1,027)

	Aware (Base = Total)	Tried (Aware of Protein)
Soy-based	65%	81%
Bean/legume-based	51	80
Chickpea-based	48	71
Quinoa-based	47	69
Wheat (gluten)-based	45	77
Rice-based	41	78
Oat-based	37	69
Chia-based	33	55
Pea-based	29	67
Hemp-based	25	49
Pumpkin-based	16	59
None of these	6	—

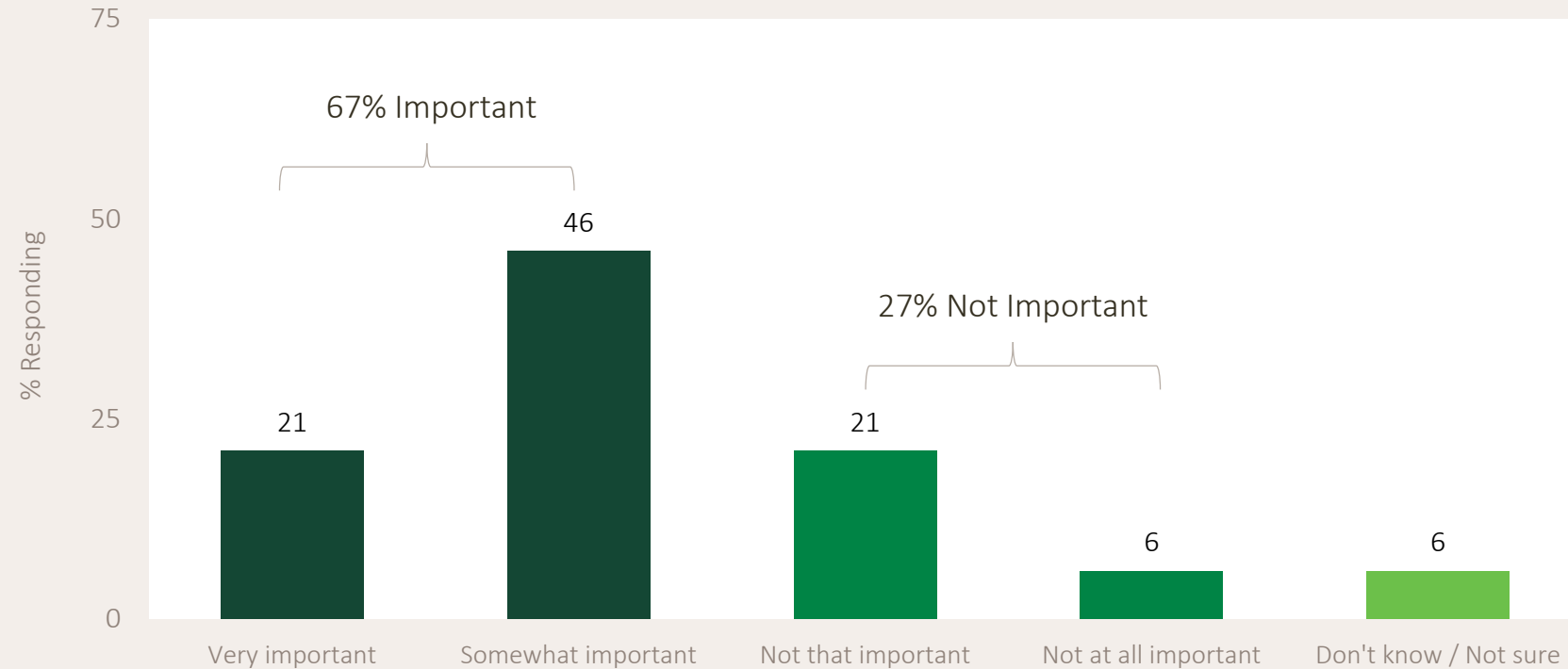
Among the most commonly available plant-based proteins, awareness and trial is highest for soy

- Nearly two-thirds (65%) aware of soy-based protein and over eight in ten (81%) say they've tried it
- Awareness of soy-based protein is highest among those over 40, while trial rates are similar across all age groups

Q: Here are some different types of plant-based proteins used by food companies in food products. Which of these have you seen or heard of before? Have you tried a food containing the type of plant-based protein before?

Importance of “Complete” Plant-Based Protein

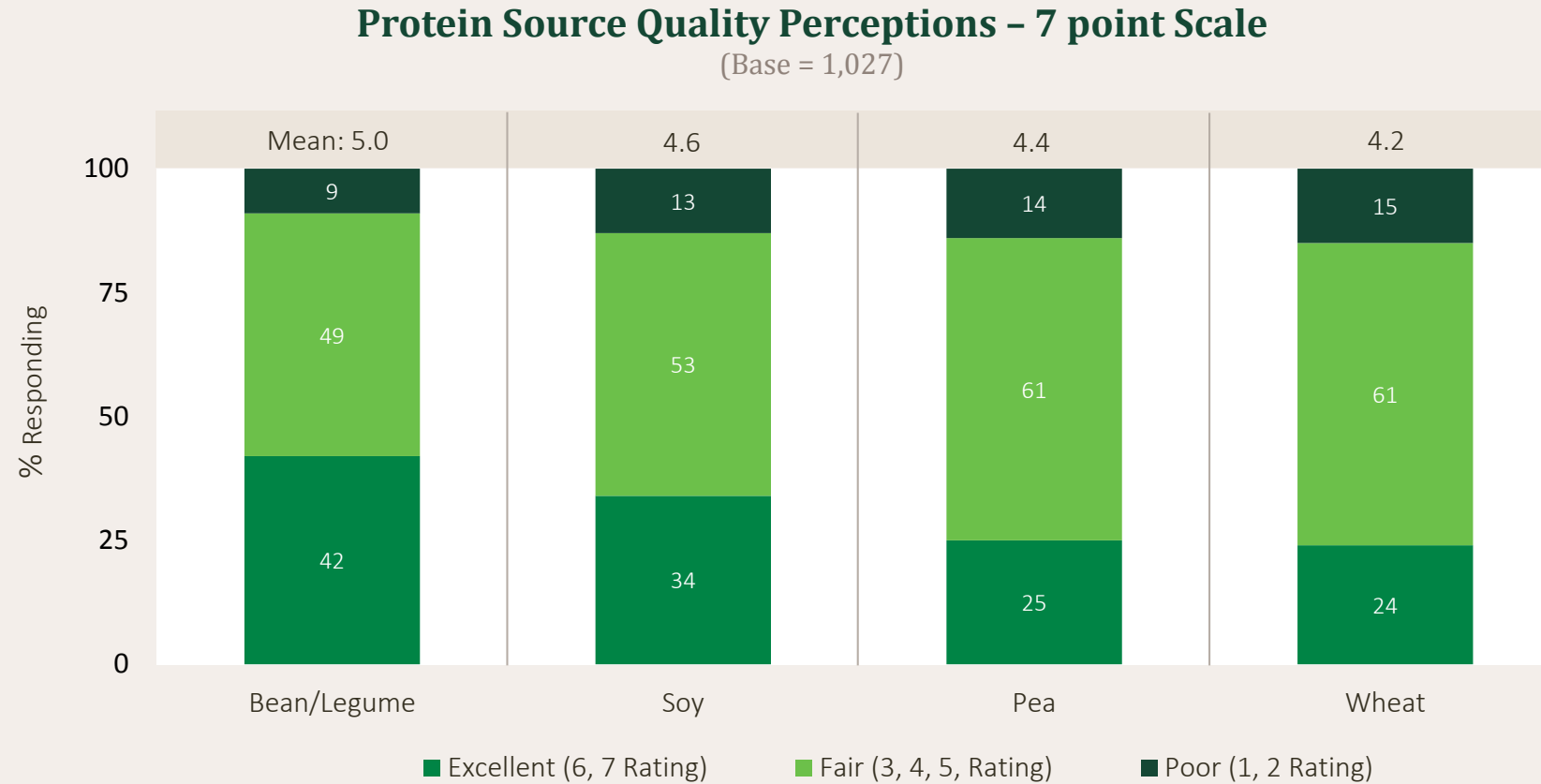
(Base = 1,027)



About two-thirds (67%) say consuming a complete plant-based protein is important to them, and two in ten believe it's very important.

Those who eat the most plant-based meals (females, younger consumers) are most likely to say consuming complete plant-based protein is “very important”

Q: How important is it to you that the plant-based protein you consume be a complete protein? (A complete plant-based protein contains all 9 essential amino acids, offering nutrition comparable to animal-based proteins.)

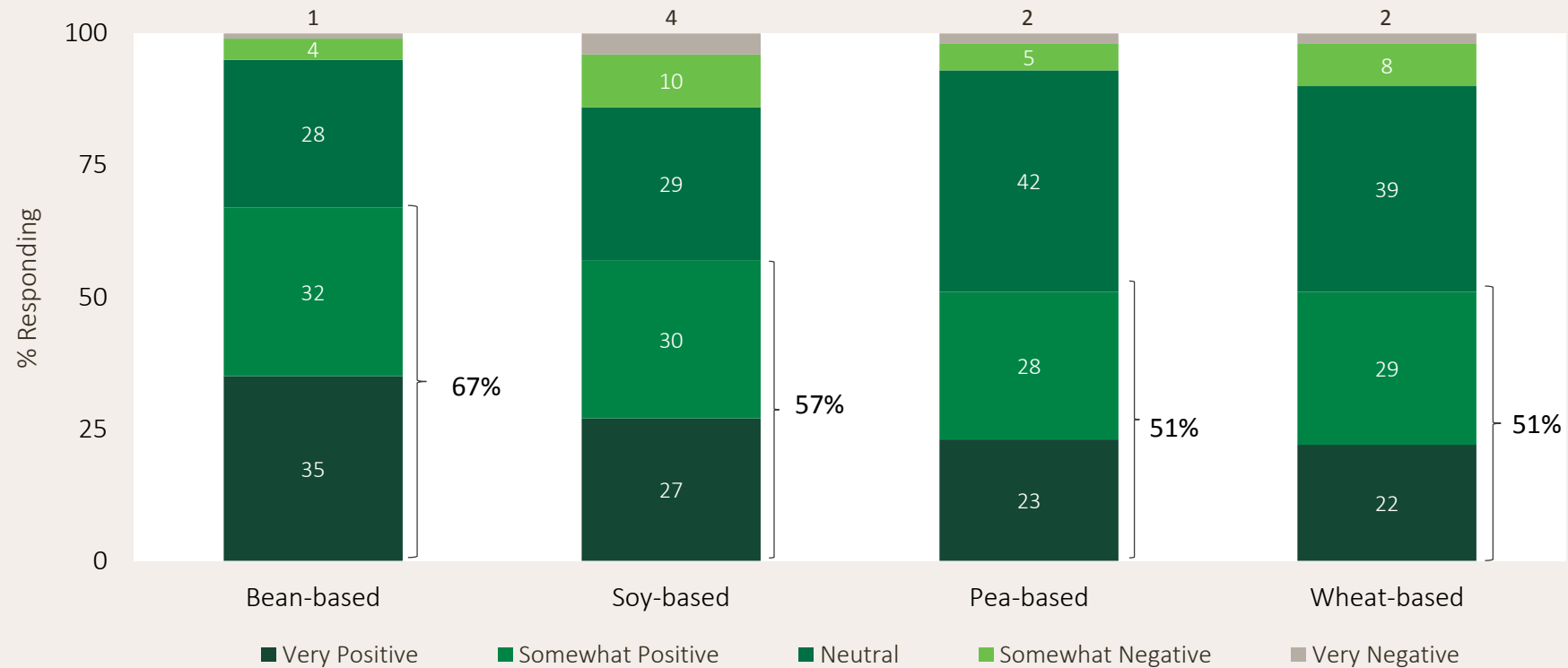


Among the most common plant-based proteins, consumers rate the overall quality of bean/legume highest (42% excellent), followed by soy (34%)

Q: Based on anything you know, how would you rate each of these plant-based proteins as a protein source?

Overall Perception of Plant-Based Proteins in Food Products

(Base = 1,027)*



Consumers also view foods containing bean-based and soy-based protein in food products more positively than those containing pea or wheat-based protein, which are rated more neutral

While few view any of these proteins in foods negatively, negative ratings of soy-based proteins are higher than others

- Reasons cited most often are concerns about hormones (females, respondents over 30) and taste (males)

*Don't know responses not included.

Q: Based on anything you know, if a food product you buy contains one of the plant-based proteins below, is this a positive, neutral or negative factor in your mind?

Most Impactful Soy Messages

(Base = 1,027 Rated Statement a 6 or 7 on 7pt scale)

	Ranked First	Ranked Top 3
Soy is a complete plant-based protein offering nutrition most equivalent to the protein found in meat	23%	45%
Soy is an affordable plant-based protein	17	39
Soy is the only protein source that the FDA allows to make a heart health claim	13	32
Soybeans are grown in the U.S. and eating soy supports U.S. farmers	10	29
Non GMO and organic soy options are widely available	9	21
Soy is the original plant-based protein and has been enjoyed for thousands of years	9	22
Soybeans are sustainably grown in the U.S. and can be sourced from existing farmland that is already dedicated to crop production	8	27
Consuming soy-based protein more often helps reduce over-use of natural resources	8	28
Soy is a widely consumed plant-based protein, available in the greatest number and variety of food products	5	18

Consumers were provided with information about soy protein and asked to rate each in terms of its impact on their future consumption interest.

No one message about soy is compelling to all respondents, but “soy is a complete protein equivalent to meat” and “soy is an affordable protein source” resonate most overall

Those who rarely or never eat soy, and those who currently eat a mostly animal-based diet also express the most interest in “soy as a complete plant-based protein, similar to meat”

- Younger consumers respond more to information about affordability, reducing over-use of natural resources and U.S. grown

Q: Which of these statements make you most interested in consuming more soy-based protein in the future?

Summary

Summary

Current Diet

The majority of consumers currently include both animal and plant-based proteins in their diet

- Males of all ages are more likely to eat mostly animal-based protein diets
- Only 15% eat a mostly plant-based diet
 - Females and respondents under age 40 are more likely to consume a mostly plant-based diet

Only 4% of consumers say they never substitute animal-based protein for plant-based protein

57% of respondents say they are eating more plant-based meals than two years ago

- Improving health and nutrition most motivating reason across all demographics
- Younger consumers cited environmental concerns more frequently than older consumers, while those over 40 are most likely to cite specific health concerns

Summary

Plant-based Protein Consumption

1 Trial rates are highest for cereal/protein bars and non-dairy beverages (six in ten have tried), followed by plant-based burgers/meat alternatives (half have tried).

2 Soy-based protein has the highest level of consumer awareness (65%) compared to other plant-based proteins

3 Eight in ten of those aware have tried soy, similar to previous USB research

4 Awareness of soy-based protein is highest among those over age 40, while trial rates are similar across all age groups

5 Those under age 40 eat plant-based protein most frequently, similar to previous USB research

Summary

Plant-based Protein Perception, Priorities

Two-thirds (67%) say consuming a “complete” plant-based protein is important to them

- A complete plant-based protein was defined as containing all 9 essential amino acids, offering nutrition comparable to animal-based proteins
- Consuming a “complete” protein similar in nutrient value to meat is most important to those who eat the most plant-based meals (females, younger consumers)

Consumers ranked the protein quality of beans and legumes highest, followed by soy, pea and wheat

- 14% had a negative perception of soy protein, followed by wheat, pea and bean
- Older females view soy slightly less positively (due to hormone/breast cancer concerns), similar to previous USB research
- Males, while still viewing soy positively, are most likely to mention taste issues

Key Findings

Most Impactful Soy Messaging

“Soy is a complete protein most equivalent to meat,” and “soy is an affordable plant protein” appeal to the largest group of respondents overall, with small differences by age and gender

- Those over age 30 find messaging about soy as a complete protein and the heart health claim message more compelling than those under 30, with the exception of young males, who also find the complete protein messaging motivating
- Younger consumers respond more to the information about affordability, “U.S. grown” and ability to help reduce environmental impact

Those who rarely or never eat soy express the most interest in “soy as a complete protein most equivalent to meat” message

Key Findings

Net Takeaway

While the majority of main dish meals in the U.S. are currently animal-based, the trend towards increased plant-based alternatives is clear

- Soy foods are well positioned to benefit from the increased interest and growth in plant-based protein alternatives
- “Soy is a complete protein most equivalent to meat,” and “soy is an affordable plant protein” are messages with broad-based consumer appeal

But, taste remains key:

“Most consumers are open to consuming plant-based alternative protein and recognize health and environmental benefits, but will not waver when it comes to taste.” (Mintel, January 2018)