



METEORIC RISE IN FLEXITARIAN EATING AND HOW HPP CAN PLAY A ROLE



BARB STUCKEY

President & Chief Innovation Officer, Mattson



What You Need to Know About the Meteoric Rise in Flexitarian Eating

TODAY'S PRESENTATION



1. About Me



2. What We Do & Why We're Interested In This Topic

3. What does Flexitarian Mean?

4. Proprietary Consumer Research

5. How HPP Can Tap Into This Trend



6. Q&A

BARB STUCKEY

President & Chief Innovation Officer
MATTSON

Author

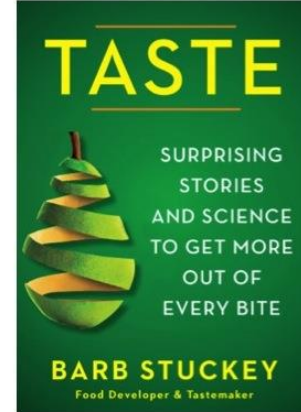
TASTE: Surprising Stories & Science About Why Food Tastes Good

Instructor

The Fundamentals of Taste at San Francisco Cooking School

Forbes Contributor

I write about the business of food



SAN FRANCISCO
COOKING SCHOOL



MATTSON: WHO WE ARE

INNOVATION & DEVELOPMENT

DRIVEN
BY STRATEGY

ENABLED
BY INSIGHTS



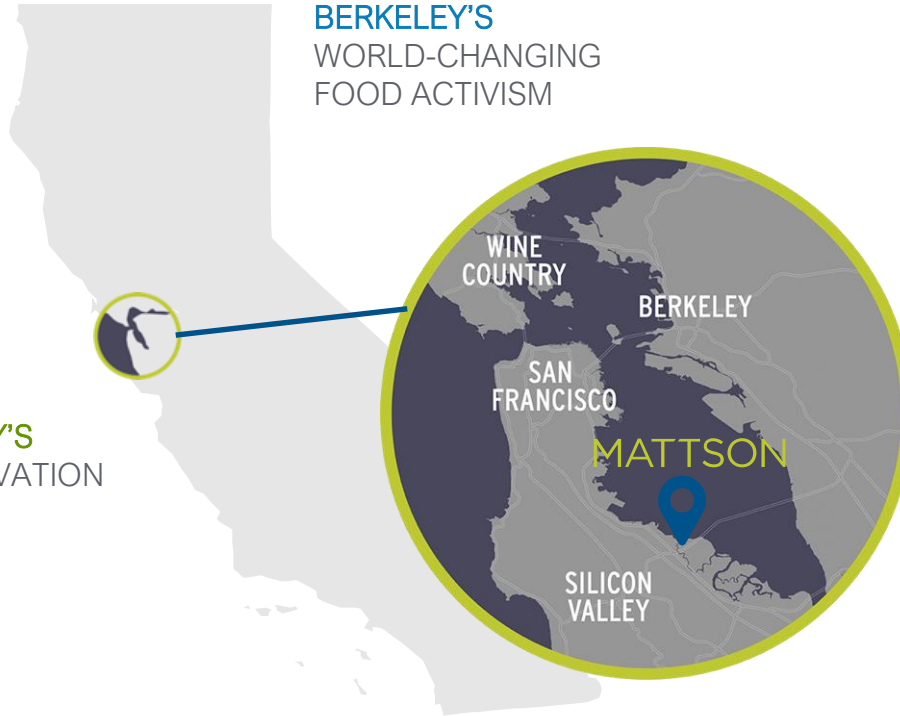
WE ARE LOCATED AT THE EPICENTER OF FOOD TRENDS

**CALIFORNIA
WINE COUNTRY'S**
ASPIRATION FOOD
AND BEVERAGE

SAN FRANCISCO'S
VIBRANT CULINARY
SCENE

SILICON VALLEY'S
SPIRIT OF INNOVATION

BERKELEY'S
WORLD-CHANGING
FOOD ACTIVISM



WE TRANSFORM
HOLISTIC THINKING
& CONSUMER INSIGHTS
& FOOD TRENDS
INTO VIABLE BUSINESS OPPORTUNITIES

WE BELIEVE...

A person wearing a white lab coat is shown from the chest down, stirring a large metal pot with a white spatula. The person is also holding a white spatula in their other hand. The background is slightly blurred, suggesting a kitchen or laboratory setting. The text "A GREAT PRODUCT IS YOUR ULTIMATE COMPETITIVE ADVANTAGE" is overlaid in the center of the image in a bold, white, sans-serif font.

**A GREAT PRODUCT
IS YOUR ULTIMATE
COMPETITIVE
ADVANTAGE**

PRODUCT DESIGN & DEVELOPMENT

10,000 SQUARE FEET OF
DEVELOPMENT SPACE

30 MEMBERS OF CULINARY, R&D,
SCALE-UP TEAM

PILOT PLANT

REGULATORY INPUTS,
COPACK SEARCH &
COMMERCIALIZATION





Mattson Facility in Northern CA



Bakery Concepts—Purchase Intent and Key Measures

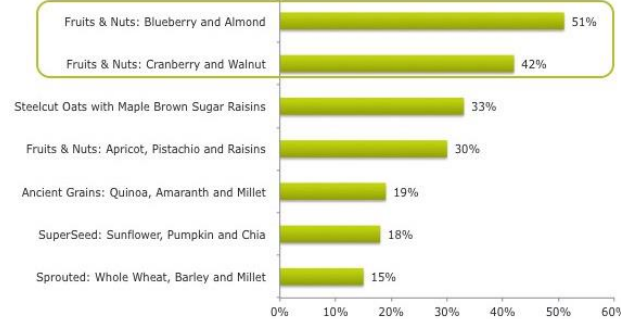
- **Morning Bakes**, **Snack Crisps**, and **Toasted Duets** were the top three performing concepts. These concepts exceeded all Mattson purchase intent norms and had the highest expected purchase frequency compared to **Daybreak Bakes**.
- **Daybreak Bakes** was the least favored concept and scored below two of the three purchase intent norms.

	Mattson Norms	BAKERY CONCEPTS			
		Morning Bakes	Snack Crisps	Toasted Duets	Daybreak Bakes
Sample Size	n/a	73	73	73	73
Purchase Intent					
Definitely would buy	20%	42%	42%	34%	26%
Probably would buy		35%	31%	38%	30%
Top 2 Box	60%	77%	73%	72%	56%
Might or might not buy		13%	15%	23%	29%
Probably would not buy		7%	10%	4%	11%
Definitely would not buy		3%	1%	1%	4%
Weighted Purchase Intent*	70	92	92	87	61
Uniqueness (% Top 2 Box)		65%	52%	42%	65%
Ranking		Ranked 2nd	Ranked 1st	Ranked 3rd	Ranked 4th

*See Appendix for WPI Calculation Blue=Meets/Exceeds Norm

Daybreak Bakes — Frequency of Use by Variety

Q. How often would you expect to buy each of the following varieties of Daybreak Bakes? (% very/somewhat often)



Mattson Facility in Northern CA

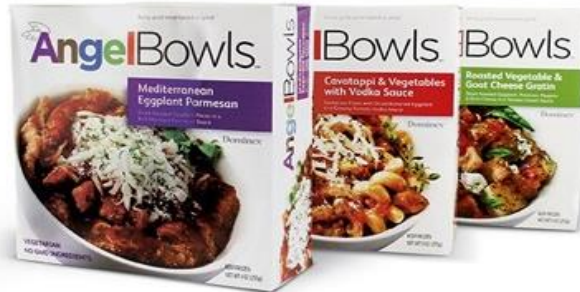
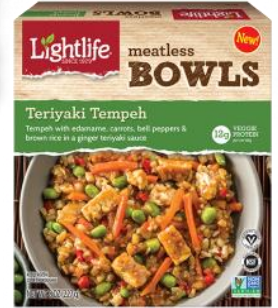


HOW WE GOT INTERESTED IN PLANT-BASED FOOD



CONSUMER INSIGHTS & PRODUCT DEVELOPMENT ACROSS PLANT-BASED FOOD CATEGORIES

vega™



MATTSON

2017
HPP SUMMIT
Hosted by Universal Pure

HPP EXPERIENCE

YEARS OF EXPERIENCE EXPLORING HPP ACROSS CATEGORIES



- Juices
- Coffee Beverages
- Plant-Based Beverages
- Deli Meats + Cheese
- Salad Dressing
- Salsa
- Potatoes
- Pasta Sauces
- Baby Food
- Sausage
- And others

WHAT IS FLEXITARIAN?

Flexible

+

Vegetarian

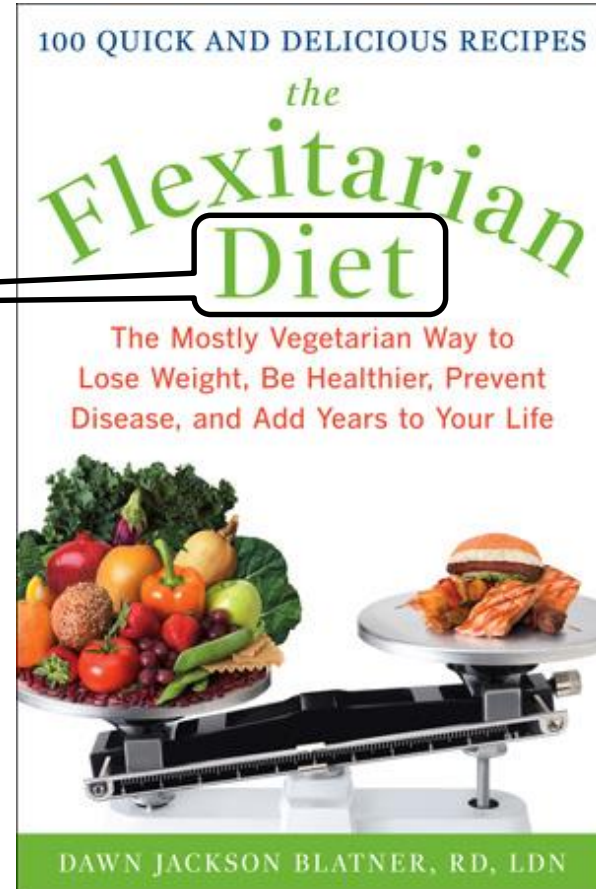
=

Flexitarian

THE ORIGIN OF THE WORD

Originally
a cookbook
and
diet.

Publication Date:
Oct 2008!!



BUT A DIET REQUIRES COMMITMENT

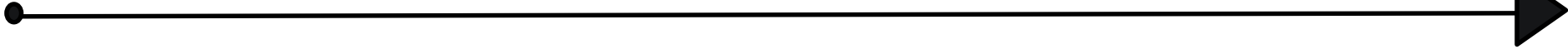
Omnivore:
I Eat A
Wide Variety
of Foods

I Eat A
Wide Variety
of Foods But
Trying To Eat
LESS Meat,
Dairy, Pork,
Chicken, etc.

I Eat Mostly
Vegetarian, but
Occasionally
Eat Meat, Dairy,
Pork, Chicken,
etc.

I am a
Vegetarian:
No
Meat, Pork,
Chicken, etc.

Vegan:
I eat No
Animal
Products



And you?

BUT A DIET REQUIRES COMMITMENT

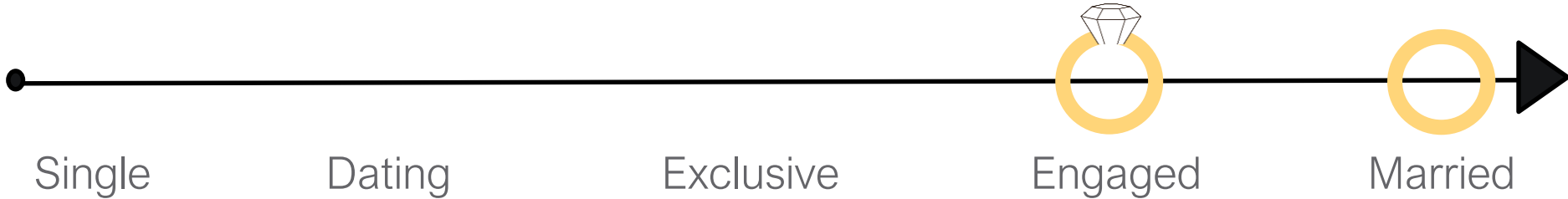
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I eat No
Animal
Products



Single

Dating

Exclusive

Engaged

Married

FLEXITARIANISM REQUIRES NO COMMITMENT

I Eat A
Wide Variety
of Foods But
Trying To Eat
LESS Meat,
Dairy, Pork, etc.

+

I Eat Mostly
Vegetarian, but
Occasionally
Eat Meat, Dairy,
Pork, etc.

Just a desire to eat LESS _____.

It lets you dabble,
play the field,
try things on for size.
be “flex-curious”

The ability to FLEX in and out
is why the behavior is growing!!

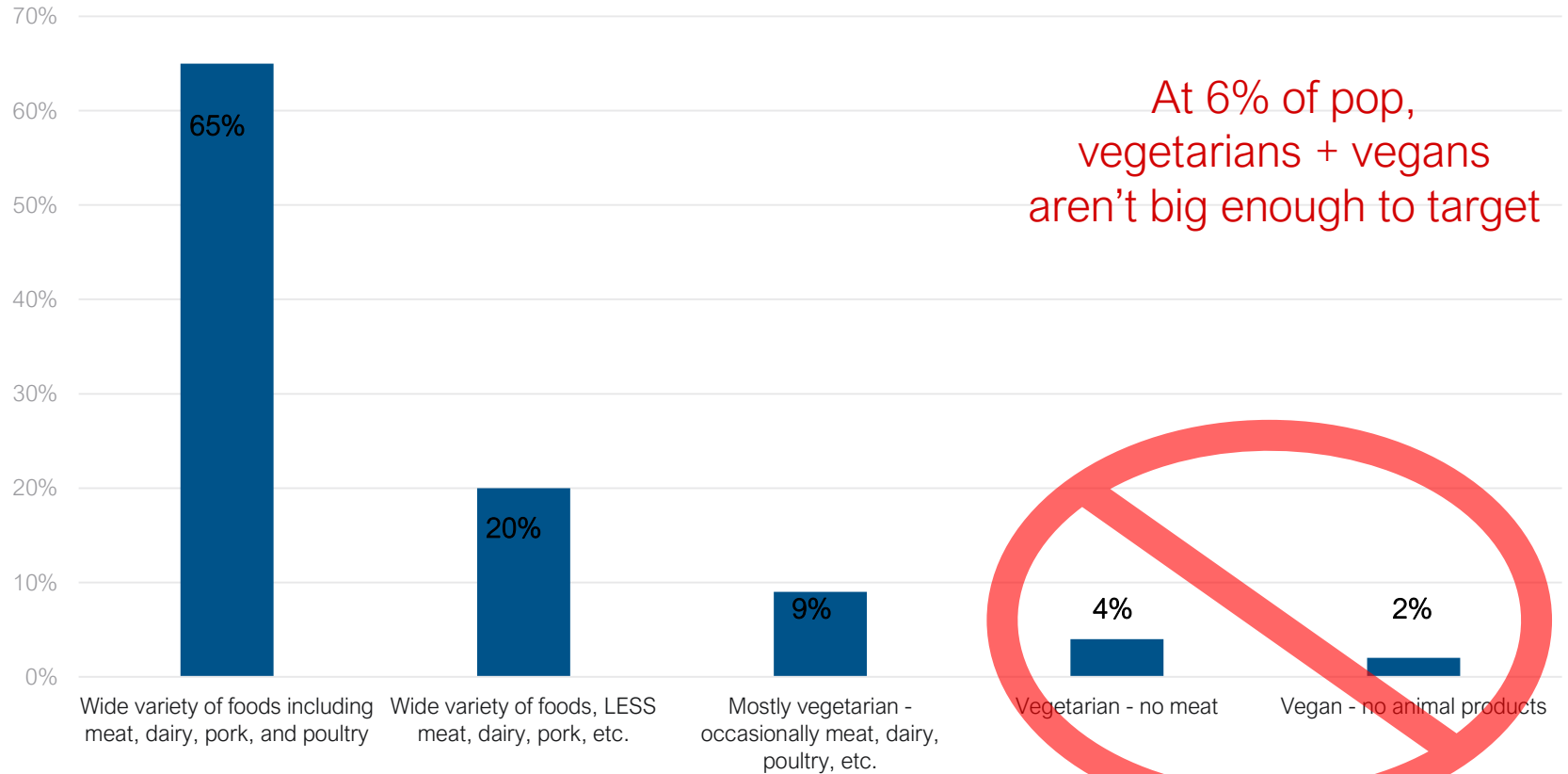
FLEXITARIAN RESEARCH RESULTS

METHODOLOGY

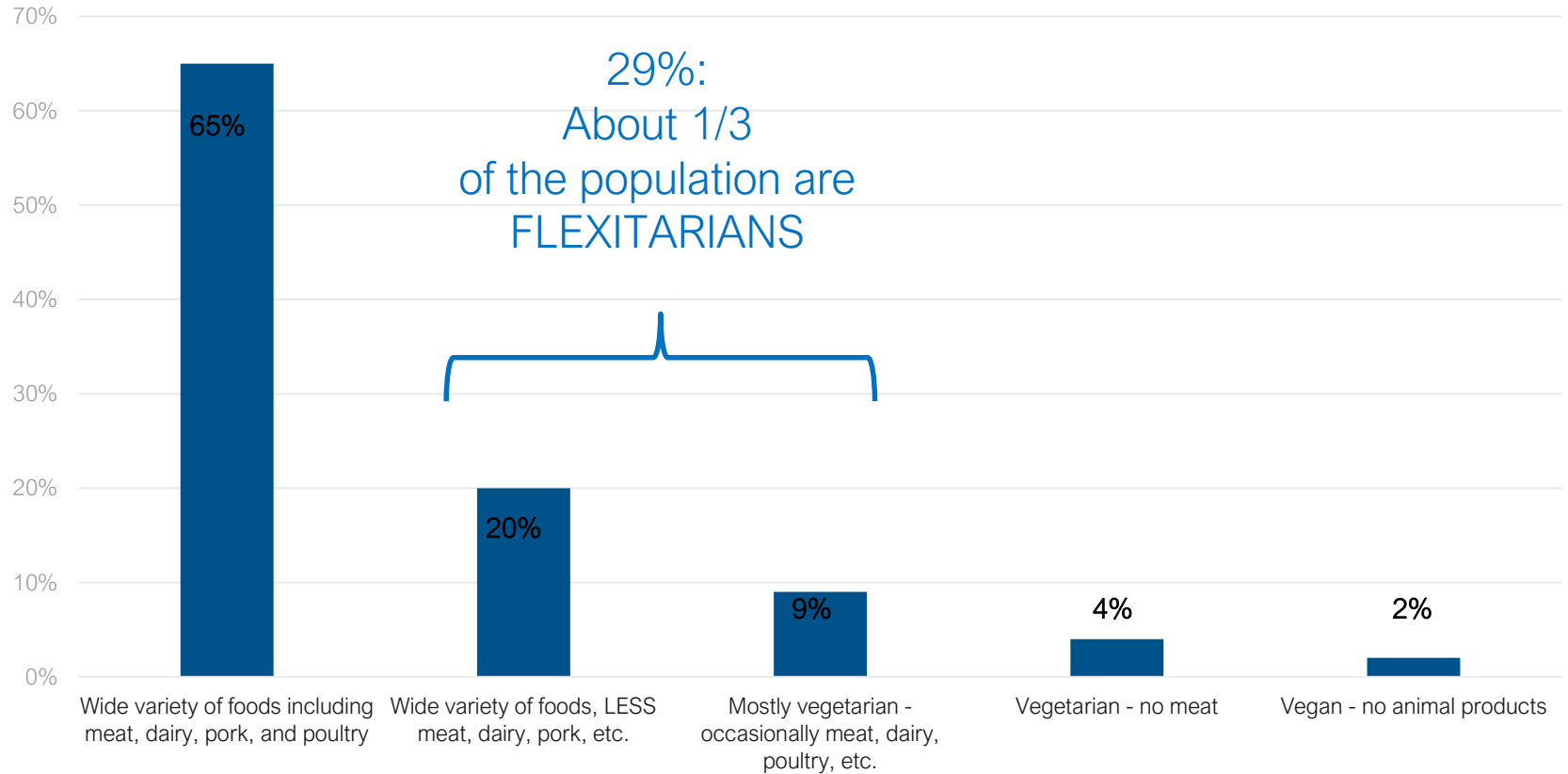
- Mattson proprietary study on eating trends, behaviors, and beliefs to understand consumers opinions on plant-based food.
- Online survey fielded June 4-23, 2017
 - Sent to 1,000s of gen pop consumers in Mattson's database
 - Survey link was posted on social media sites
- n=1163 consumers completed survey



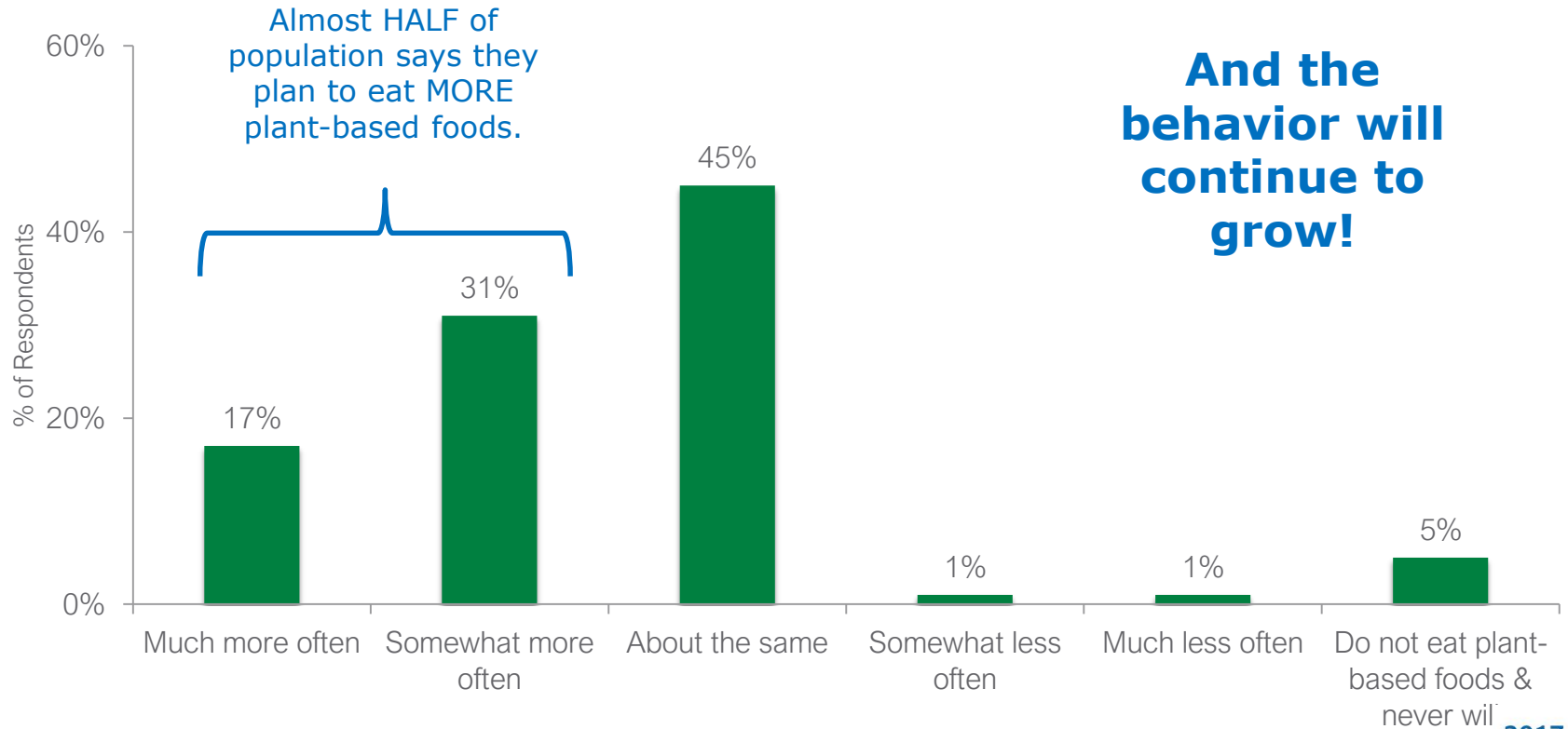
Q. WHICH BEST DESCRIBES THE WAY YOU EAT?



Q. WHICH BEST DESCRIBES THE WAY YOU EAT?



Q. IN THE YEAR AHEAD, HOW OFTEN DO YOU EXPECT TO EAT PLANT-BASED FOODS?



Improve Your
infrastructure

?

+

Hell, Yes!

Raise Your
Taxes

-

Not in My Backyard

THE DIFFERENCE BETWEEN POSITIVE AND NEGATIVE



+ 48% of population says they plan to eat MORE plant-based foods.

- 29% of population admits to trying to eat LESS of what they LOVE!

THIS IS THE DIFFERENCE BETWEEN POSITIVE AND NEGATIVE

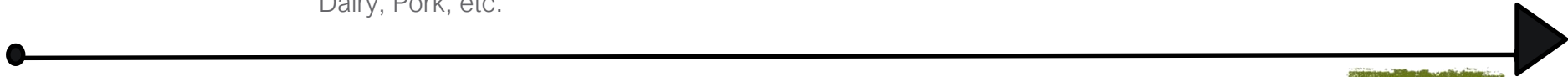
Omnivore:
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I am a
Vegetarian:
No
Meat, Pork,
Chicken, etc.

Vegan:
I eat No
Animal
Products



Eating Vegan at Panera

Dining out vegan can be tricky, but at Panera, we think it should be easy for you to eat the way you want.

At Panera, items designated as vegan have no animal sources: no meat, fish, shellfish, milk, egg or honey products, and no enzymes and rennet from animal sources.

THIS IS THE DIFFERENCE BETWEEN POSITIVE AND NEGATIVE

Vegetarian:	Lacto Vegetarian:	Lacto-Ovo Vegetarian:	Vegan:
No Meat, Fowl, Pork	No Meat, Fowl, Pork, Dairy	No Meat, Fowl, Pork, Dairy, Eggs	Only plant-based foods





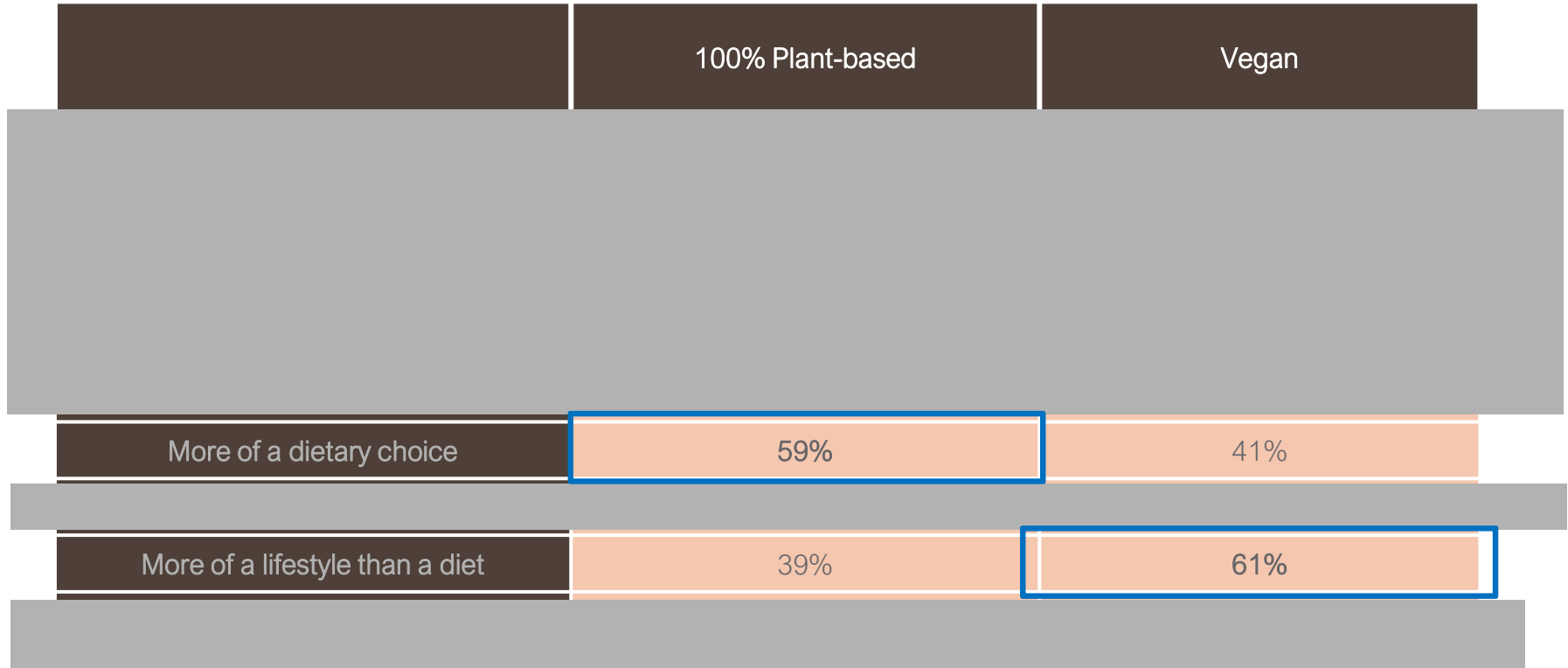
Positivity matters when it comes to what people eat!

Q. WHAT COMES TO MIND FOR EACH STATEMENT...

Consumers were forced to pick 1:

100% Plant-based	Vegan
83%	17%
79%	21%
76%	24%
73%	27%
68%	32%

Q. WHAT COMES TO MIND FOR EACH STATEMENT...



Q. WHAT COMES TO MIND FOR EACH STATEMENT...



100% Plant-based

Means making choices
at the table

More of a dietary choice

59%

More of a lifestyle than a diet

39%

Q. WHAT COMES TO MIND FOR EACH STATEMENT...



More of a dietary choice

More of a lifestyle than a diet

Vegan

Means making ethical choices... which are hard, and sometimes naked

41%

61%

+

Plant Based

=

Celebration

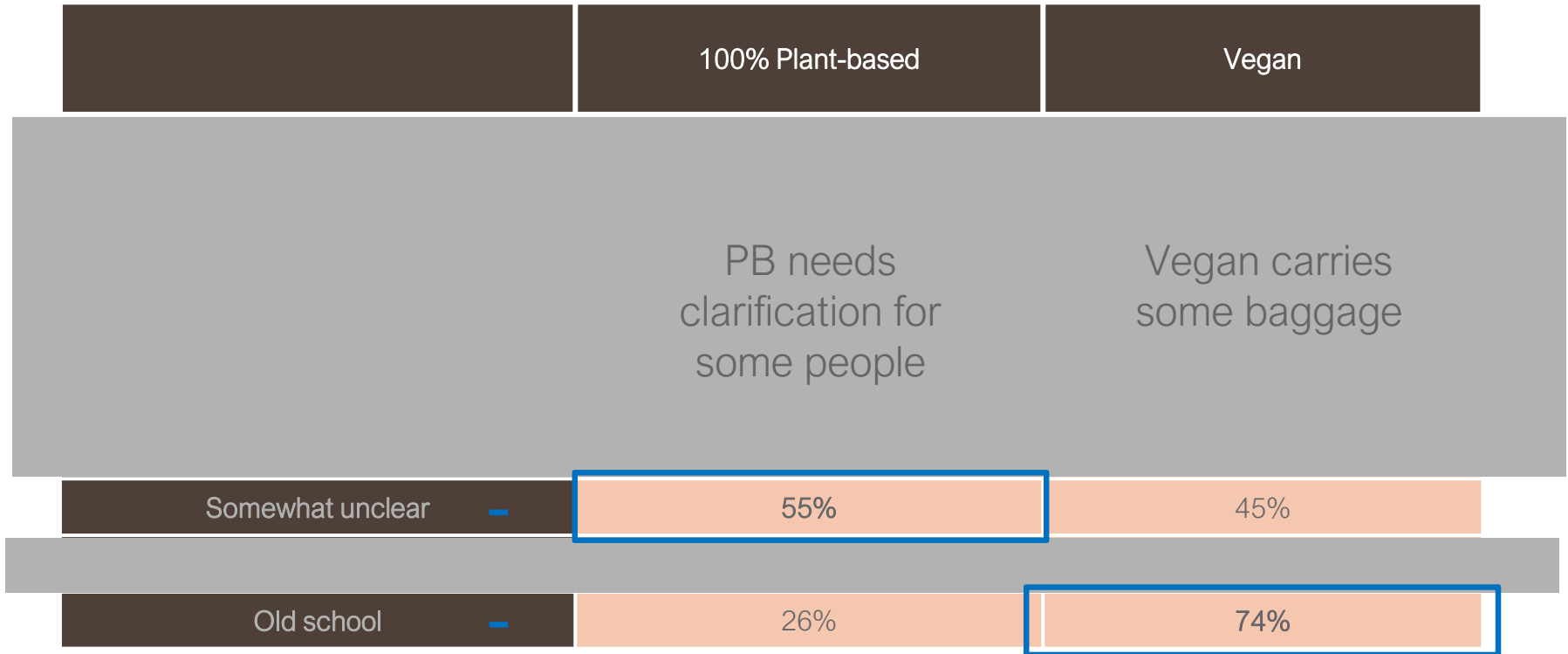
-

Vegan

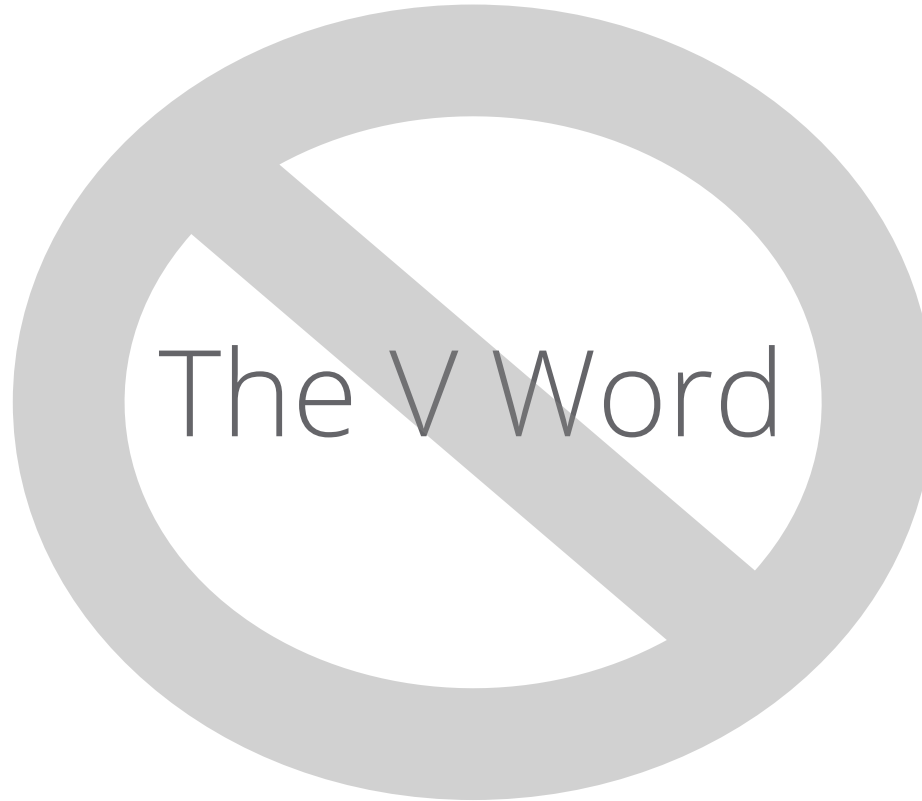
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Deprivation

Q. WHAT COMES TO MIND FOR EACH STATEMENT...



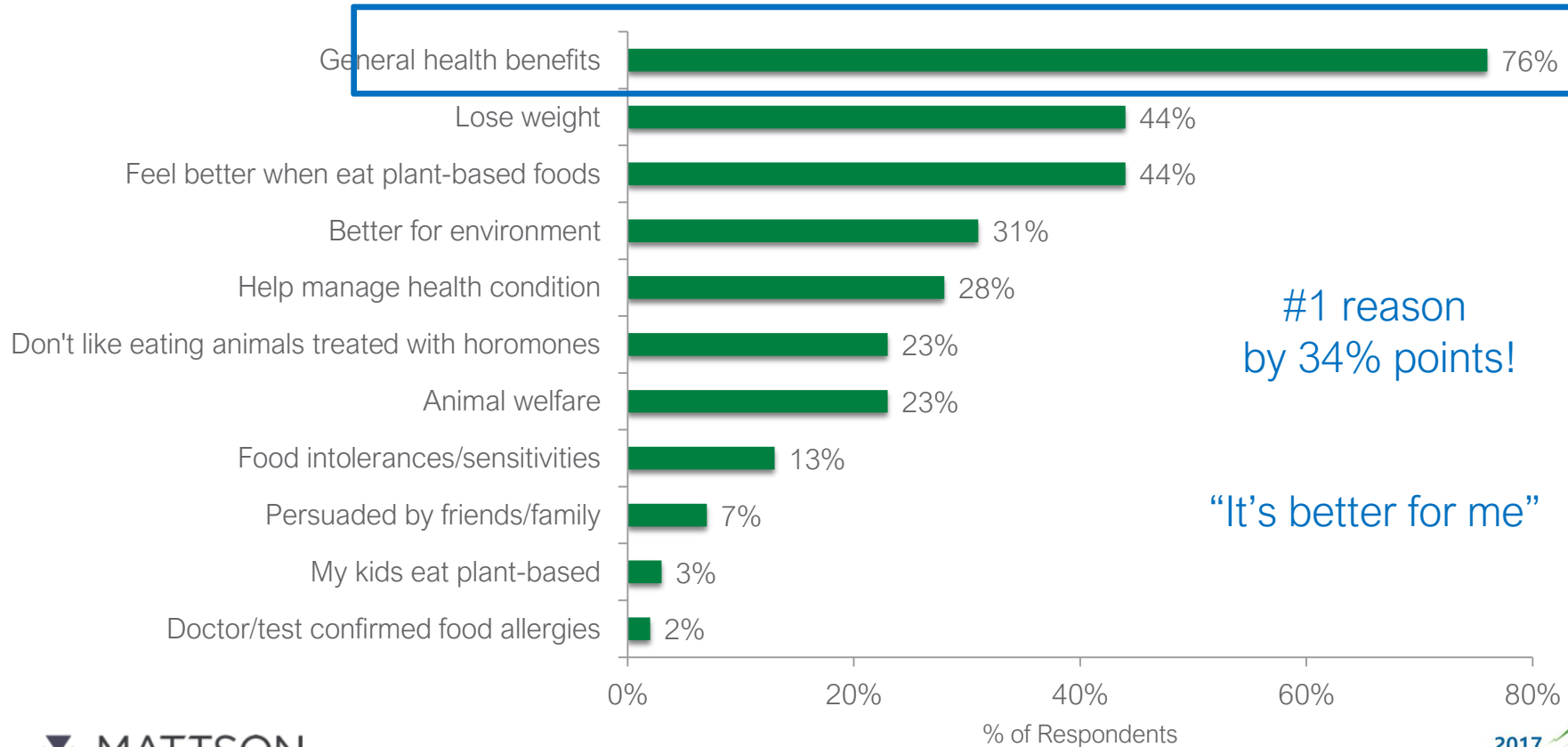
ABOLISH IT FROM YOUR VOCABULARY!



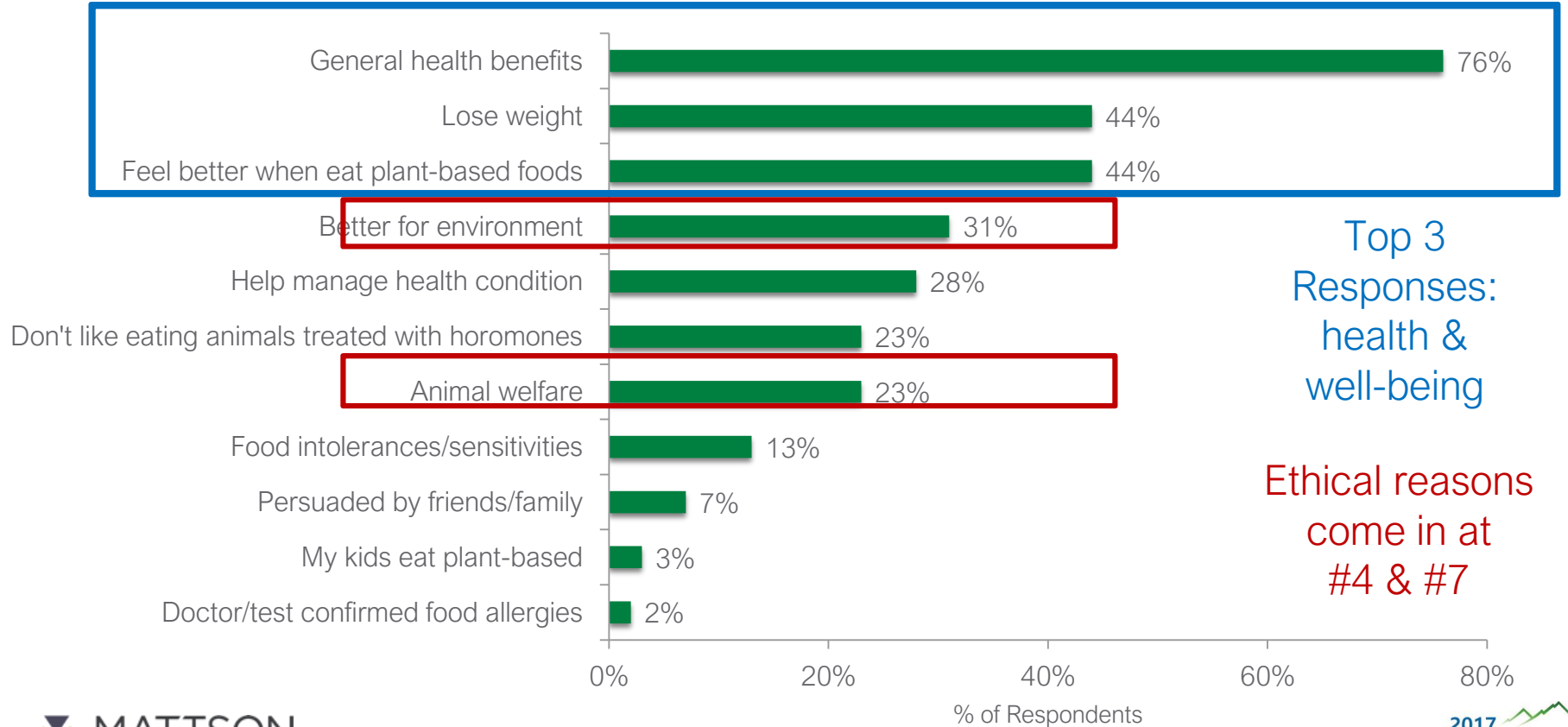
ABOLISH IT FROM YOUR VOCABULARY!

100%
Plant Based

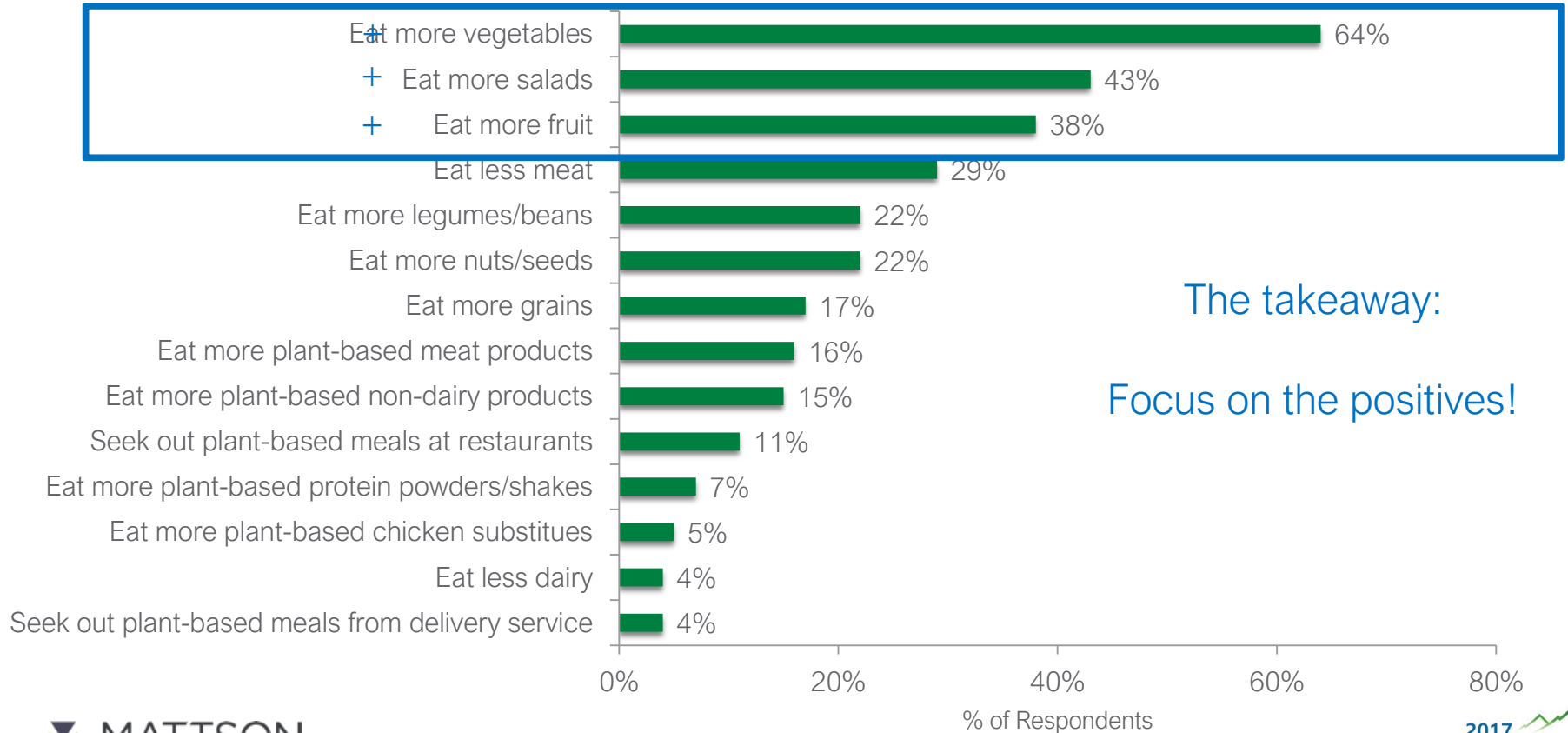
Q. TOP 3 REASONS FOR CHOOSING TO EAT PLANT-BASED FOODS MORE OFTEN?



Q. TOP 3 REASONS FOR CHOOSING TO EAT PLANT-BASED FOODS MORE OFTEN?



Q. TOP 3 THINGS YOU'LL DO TO INCREASE CONSUMPTION OF PLANT-BASED FOODS AT HOME?



GENERATIONAL REASONS FOR EATING PB FOODS MORE OFTEN

Gen Z

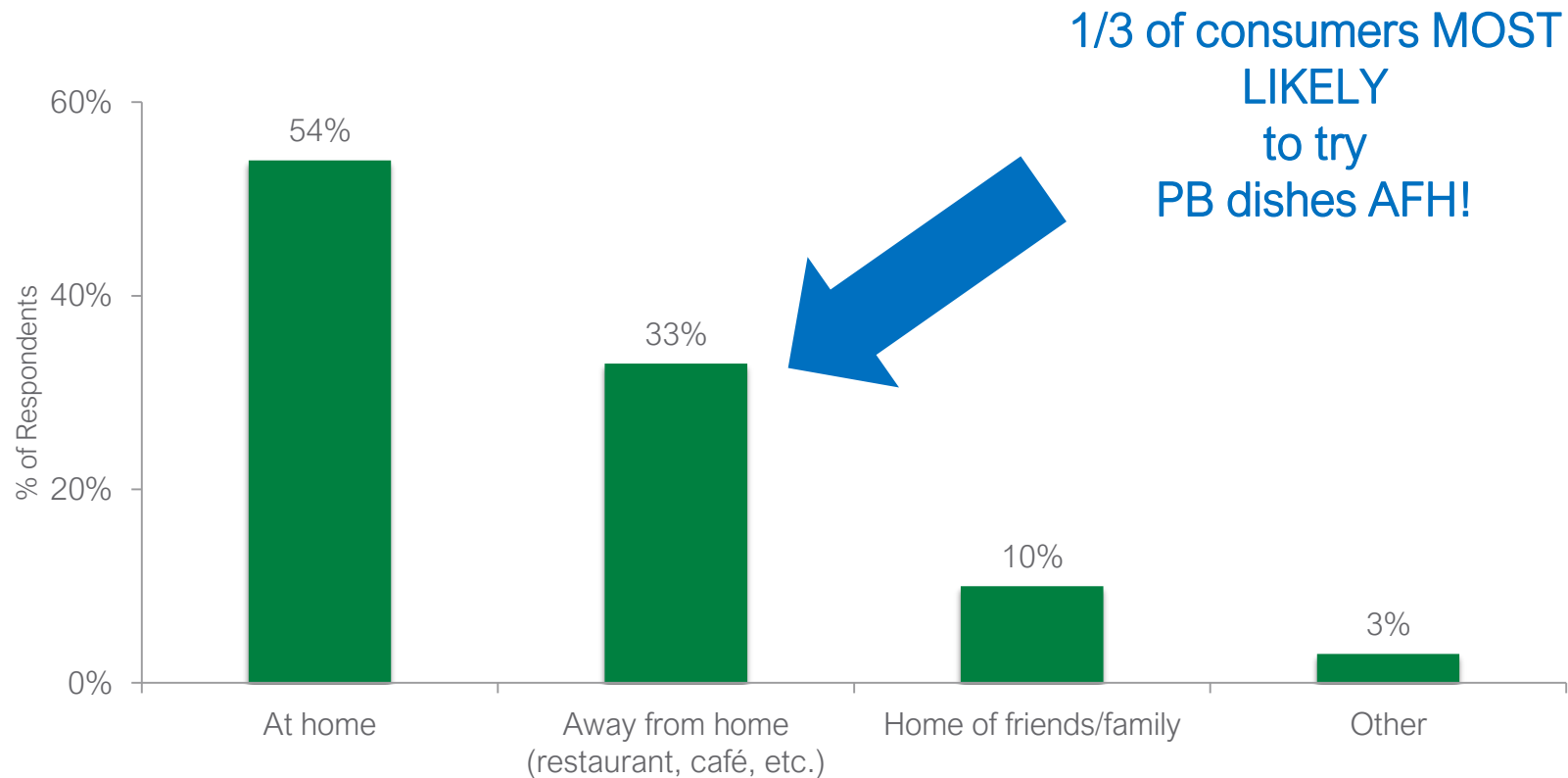
Millennial

Gen X

Baby Boomer

Greatest Gen

Q. WHERE ARE YOU MOST LIKELY TO TRY A PLANT-BASED DISH?



THE CLOSER TO FAMILIAR, THE BETTER

Use meaty terms!!

Steak Sauce

Chicken Fried

“Crab” Cakes

Menu Item	% of Consumers Who Want to Try
Applewood Smoked Porto’house with chard and garlic, polenta, and V1 steak sauce Restaurant: Plant	52%
Hot “Chicken” Fried Steak with avocado puree, sliced heirloom tomatoes Restaurant: Plum Bistro	49%
“Crab” Cakes: hearts of palm, granny smith apples, with horseradish aioli. Restaurant: Crossroads Kitchen	46%
Tomato “Tuna” with pickled ginger pears, avocado mousse, pomegranate crème fraiche Restaurant: Elizabeth’s Gone Raw	37%
Wood-Roasted Carrot, kimchee “Reuben,” pumpernickel, sauerkraut puree Restaurant: Vedge	33%

THE CLOSER TO FAMILIAR, THE BETTER

Use meaty terms!!

Steak Sauce

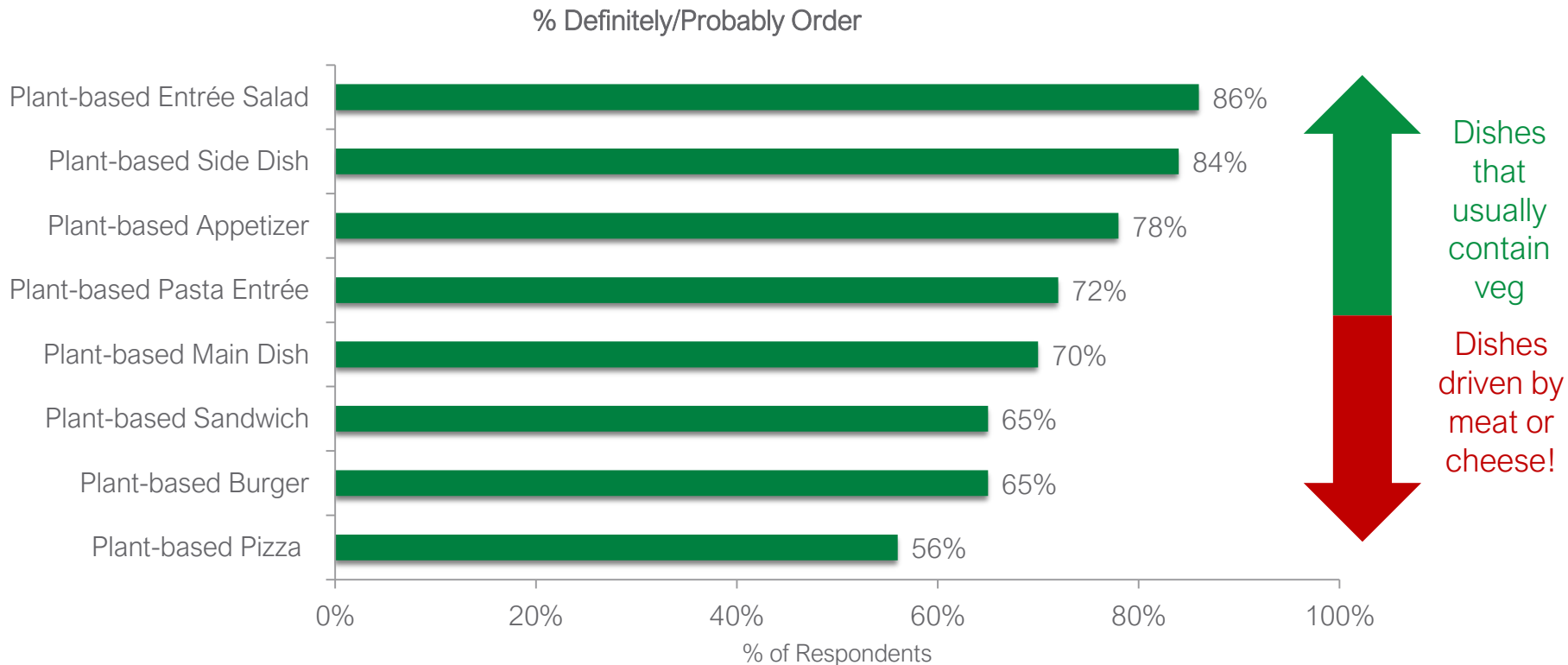
Chicken Fried

“Crab” Cakes

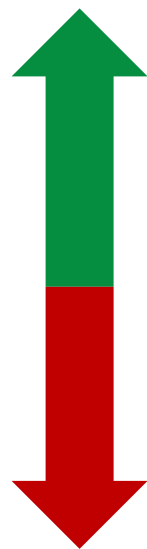
And anything

“In Quotes”

Q. HOW LIKELY TO ORDER PLANT-BASED ____ FROM YOUR TRUSTED RESTAURANT?

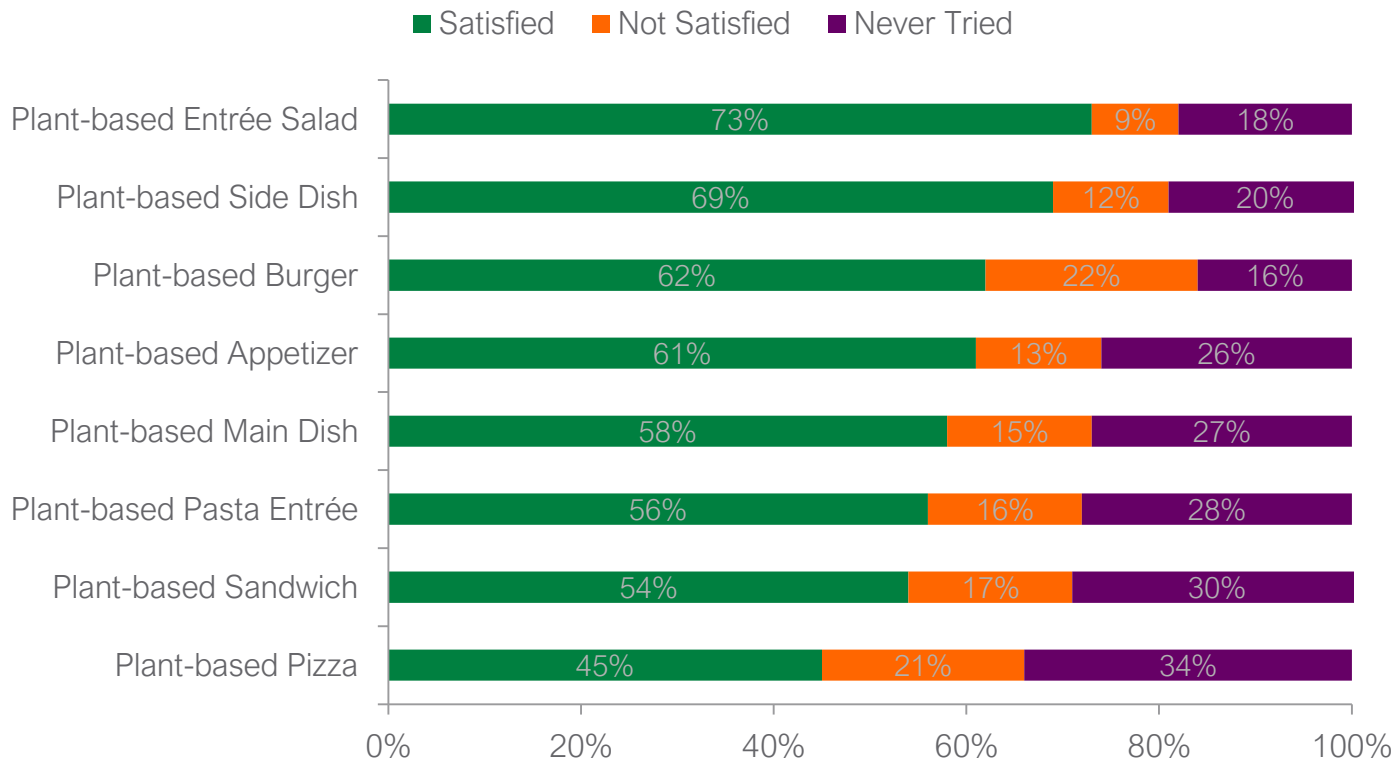


Q. OF THE PLANT-BASED FOODS YOU'VE TRIED IN THE PAST, HOW SATISFIED WERE YOU?



Dishes
that
usually
contain
veg

Dishes
driven by
meat or
cheese!





Let's see what we can learn
from testing 2 different
versions of the same
concept

Note: concepts rotated
to avoid order bias...

Black Bean Burger Concept Test

THE BLACK BEAN BURGER CONCEPT SHOWN TO CONSUMERS



The Black Bean Burger

A delicious burger that starts with a custom crafted black bean patty made with black beans and roasted vegetables and a blend of spices, tender on the inside and slightly crusted on the outside by grilling. Served on a toasted multigrain bun.

The Black Bean Burger comes with your choice of toppings: non-dairy cheddar, pepper jack, or mozzarella cheese, non-dairy Parmesan ranch or mayo, pickles, lettuce, tomato, onion, ketchup, or mustard.

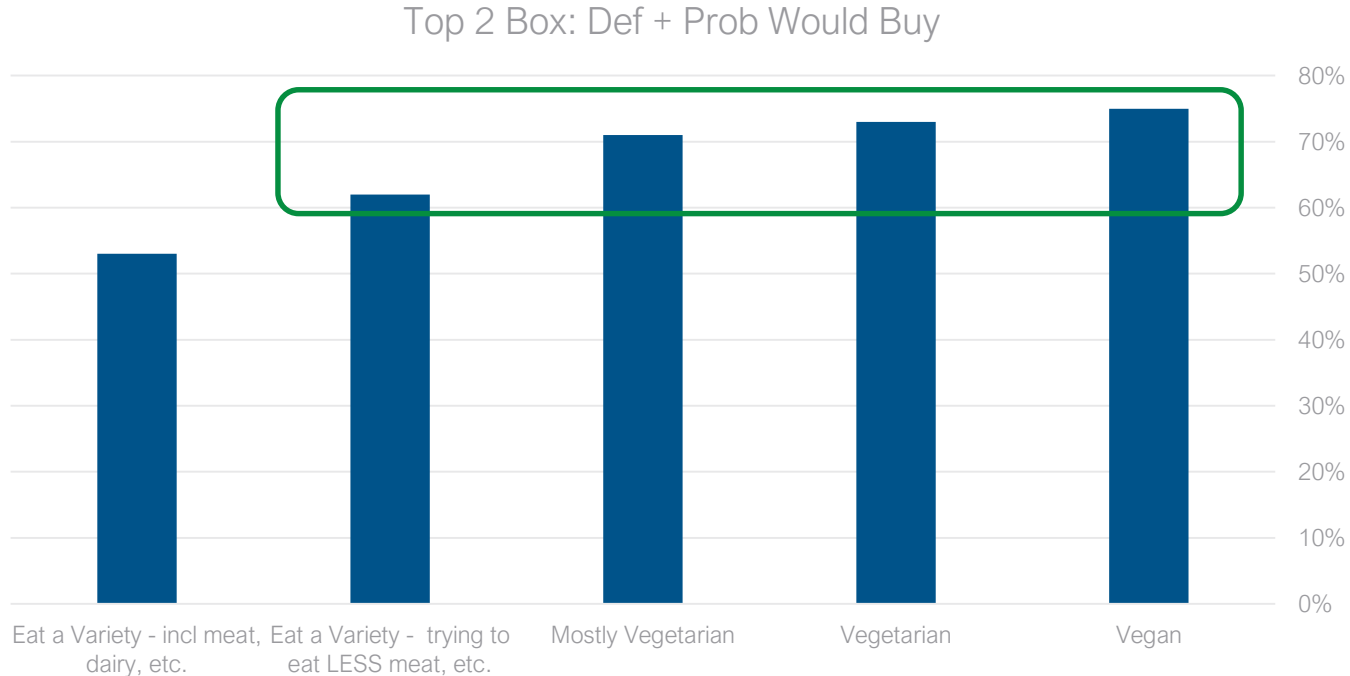
Q. HOW LIKELY WOULD YOU BE TO BUY THE BLACK BEAN BURGER?

	TOTAL SAMPLE
	N=1,148
Definitely buy	31%
Probably buy	26%
TOP 2 BOX (60%)	57%
Might/might not buy	20%
Probably not buy	14%
Definitely not buy	9%
Weighted purchase intent	55

Did not meet our norms...

But what if we put this on the menu JUST for Flexitarians and Vegetarians?

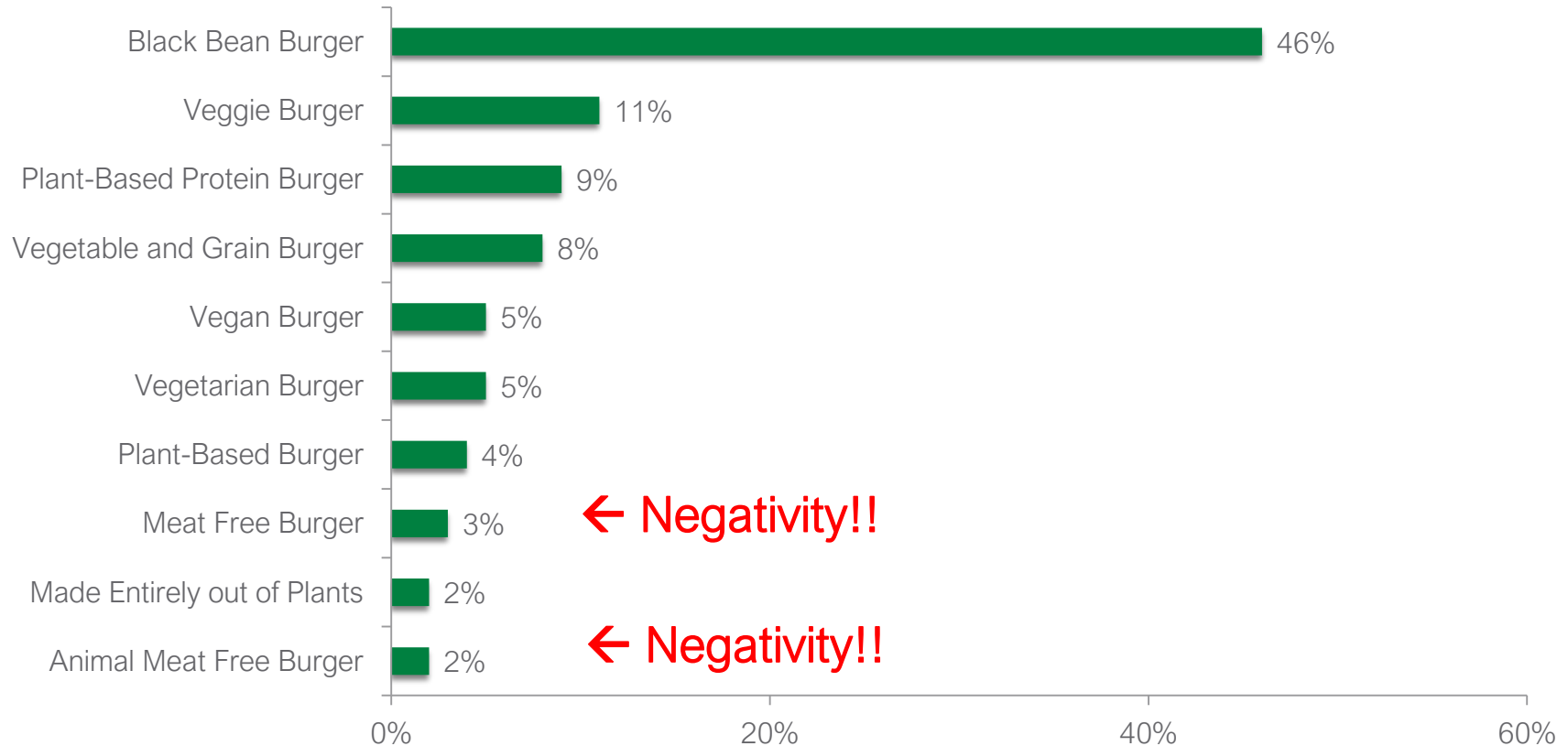
Q. PURCHASE INTEREST IN BLACK BEAN BURGER BY SELF-DESCRIBED DIET



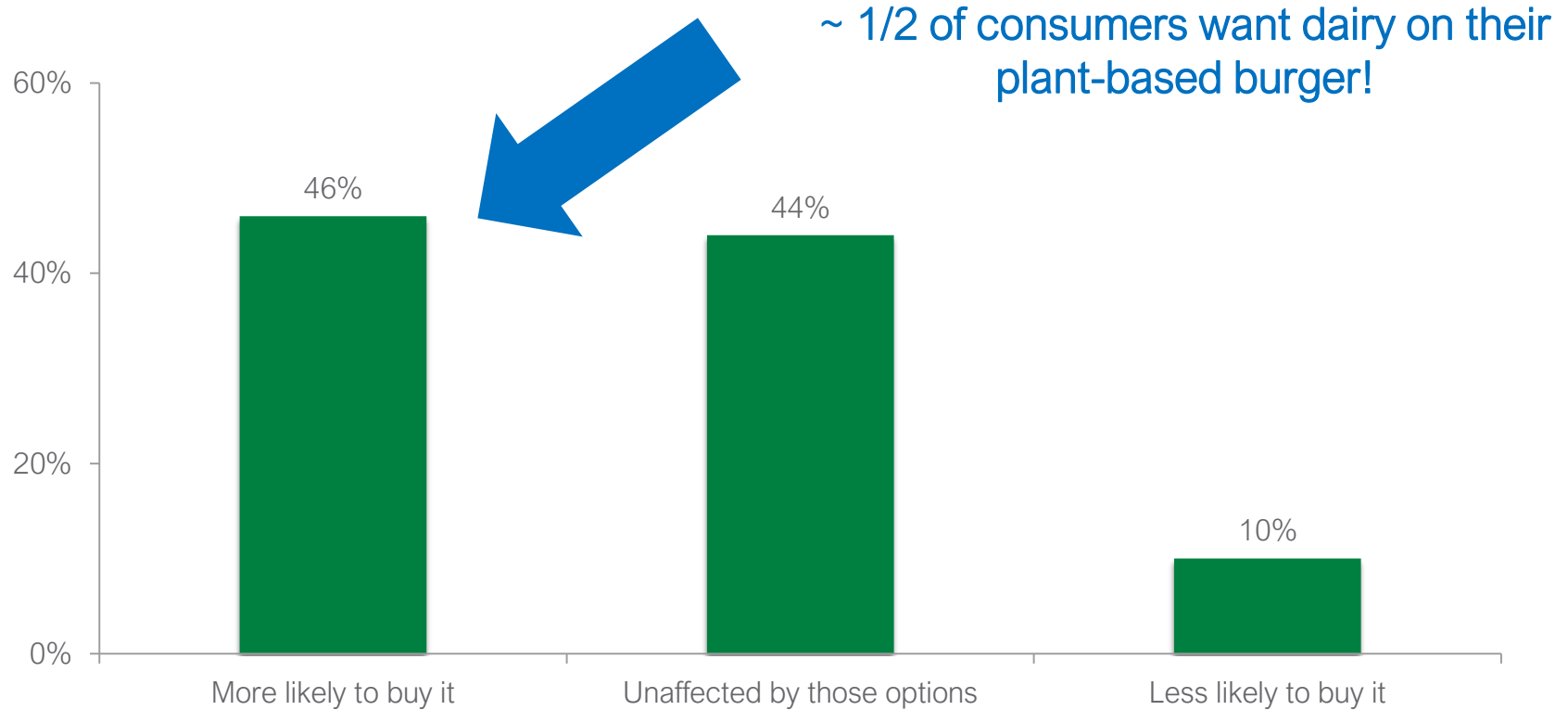
Exceeds norm for
ALL categories
except

Omnivores
(Non -Flex)

Q. HOW SHOULD WE DESCRIBE THIS BURGER ON MENU OF YOUR TRUSTED RESTAURANT?

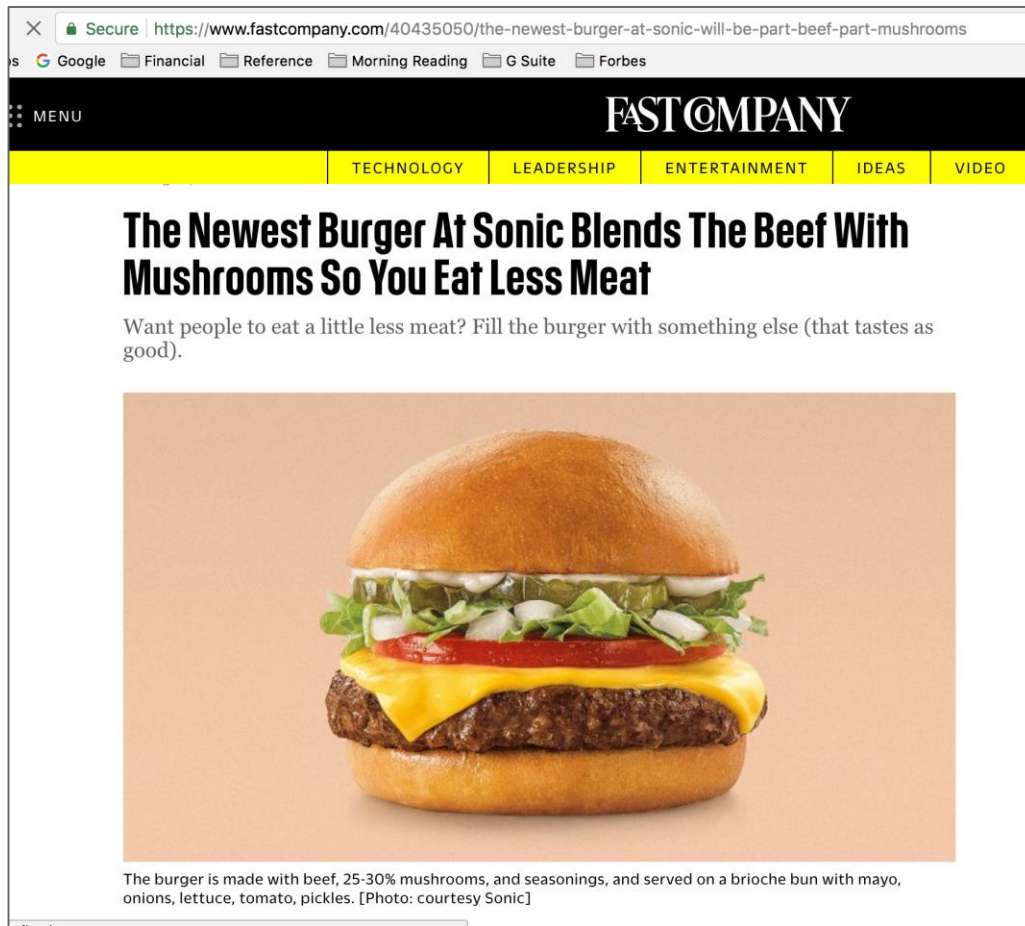


Q. IF TOPPINGS INCLUDED DAIRY, CHEESES, MAYO, AND SAUCES WOULD YOU BE . . .



IF IT'S NOT 100% PLANT BASED, THAT'S FINE!

Remember, 1/3 of consumers are Flexitarian... they're not committed!



The screenshot shows a web browser window with the URL <https://www.fastcompany.com/40435050/the-newest-burger-at-sonic-will-be-part-beef-part-mushrooms>. The page features the Fast Company logo and a navigation menu with categories: TECHNOLOGY, LEADERSHIP, ENTERTAINMENT, IDEAS, and VIDEO. The main headline reads "The Newest Burger At Sonic Blends The Beef With Mushrooms So You Eat Less Meat". Below the headline is a sub-headline: "Want people to eat a little less meat? Fill the burger with something else (that tastes as good)". A large image of the burger is shown, featuring a beef patty, melted cheese, tomato, lettuce, onions, and pickles on a brioche bun. At the bottom of the image, a caption states: "The burger is made with beef, 25-30% mushrooms, and seasonings, and served on a brioche bun with mayo, onions, lettuce, tomato, pickles. [Photo: courtesy Sonic]"

Q. WHAT, IF ANYTHING, COULD WE DO TO IMPROVE THIS BURGER FOR YOU?

Top Improvements—The Black Bean Burger

NOTHING! It looks good!

Use real (dairy) cheese /good cheese

Make sure its not dry

Do not like black beans: would prefer “non-bean” burger



Remember, 1/3 of our sample is Flexitarian... they're not committed!

Incredible Burger Concept Results

IMPOSSIBLE™



The Incredible Burger

It's here. A delicious burger made entirely out of plants for people who love the taste of juicy, meaty burgers. For even more authentic real burger flavor, we grill it and serve it on a toasted multigrain bun.

The Incredible Burger comes with your choice of toppings: non-dairy cheddar, pepper jack, or mozzarella cheese, non-dairy Parmesan ranch or mayo, pickles, lettuce, tomato, onion, ketchup, or mustard.

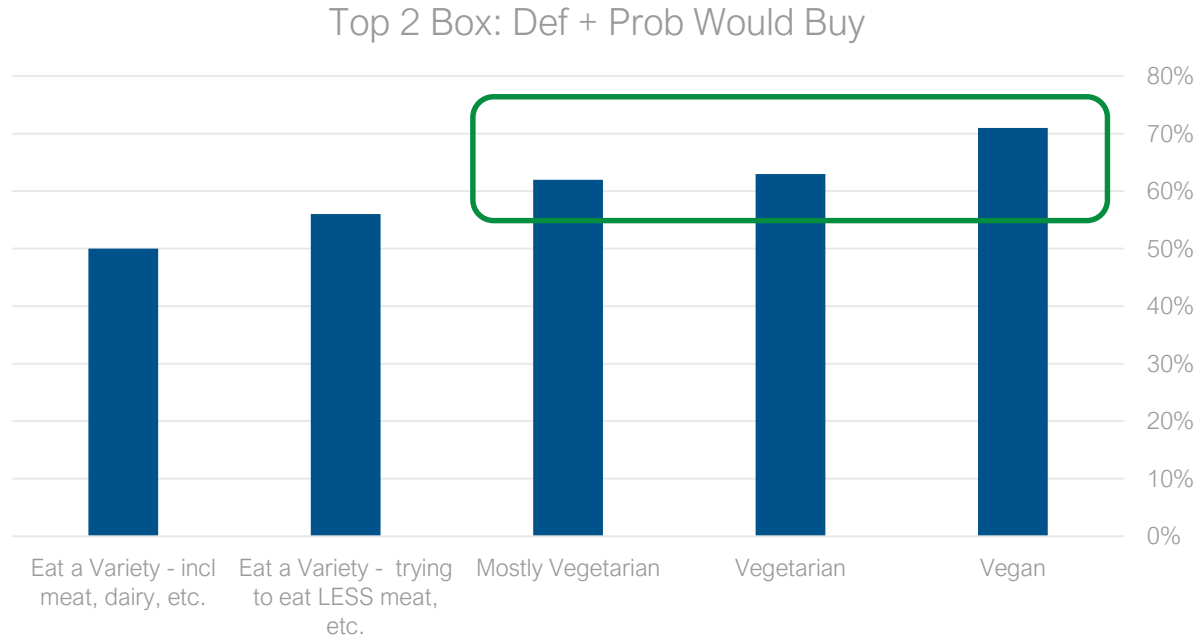
Q. HOW LIKELY WOULD YOU BE TO BUY THE INCREDIBLE BURGER?

	TOTAL SAMPLE
	N=1,148
Definitely buy	28%
Probably buy	26%
TOP 2 BOX (60%)	54%
Might/might not buy	24%
Probably not buy	14%
Definitely not buy	9%
Weighted purchase intent	50

Did not meet our norms...

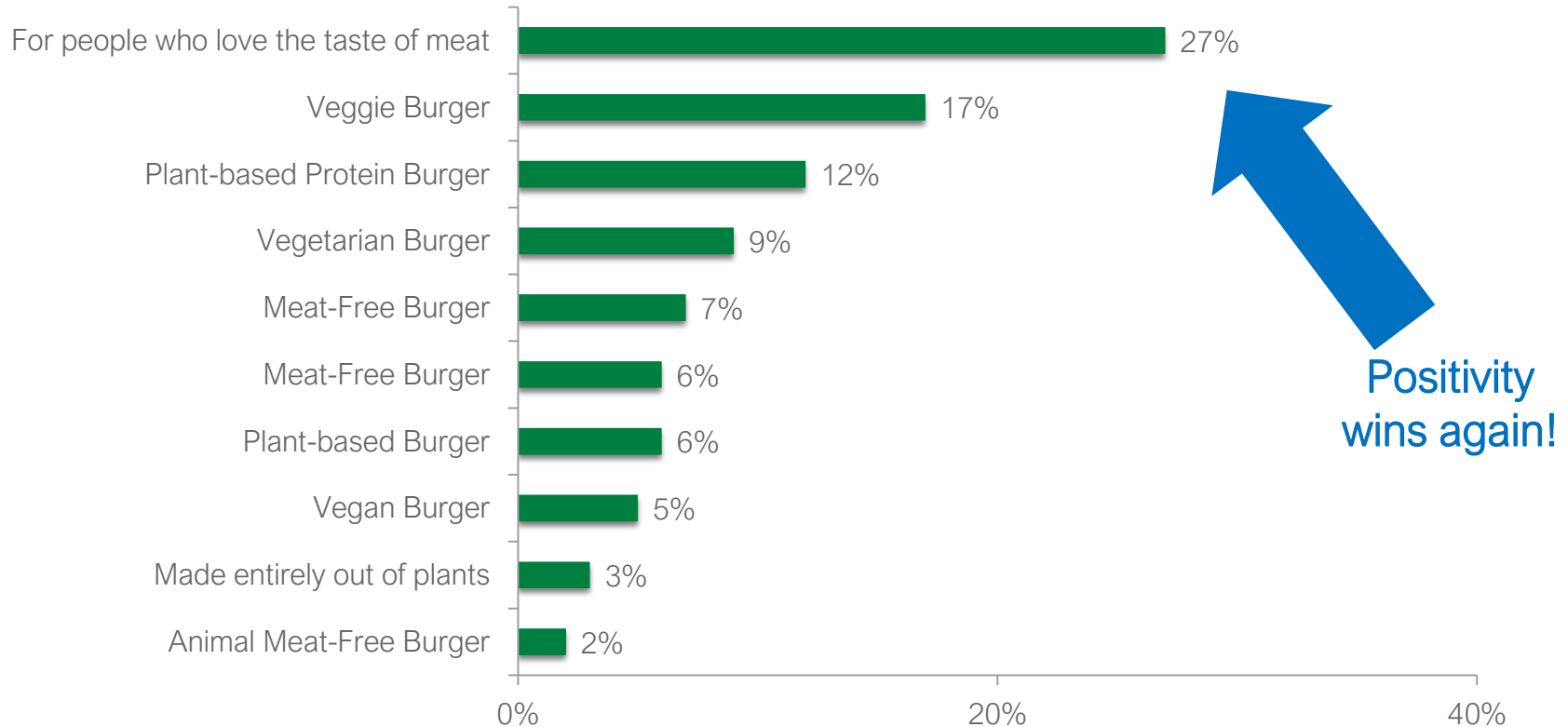
But what if we put this on the menu JUST for Flexitarians and Vegetarians?

Q. HOW LIKELY WOULD YOU BE TO BUY THE INCREDIBLE BURGER?



Met norms only for
vegans, vegetarians,
and
mostly vegetarian

Q. BEST WAY TO DESCRIBE THIS INCREDIBLE BURGER (FROM RESTAURANT)?



Q. WHAT ARE YOUR EXPECTATIONS FOR THIS BURGER?

Top 6 Expectations	
The Black Bean Burger	The Incredible Burger
N=1,163	N=1,163
Better for me	Better for me
High in protein	High in protein
Will taste delicious	Will taste delicious
Low in fat	Easier on my digestive system
Low in calories	Low in fat
Easier on my digestive system	Feel lighter after eating

Q. WHAT, IF ANYTHING, COULD WE DO TO IMPROVE THIS BURGER FOR YOU?

Top Improvements—The Incredible Burger

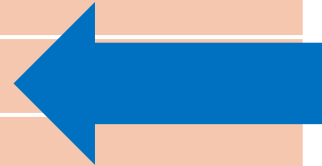
NOTHING!

Make it look less like meat

Add real (dairy) cheese

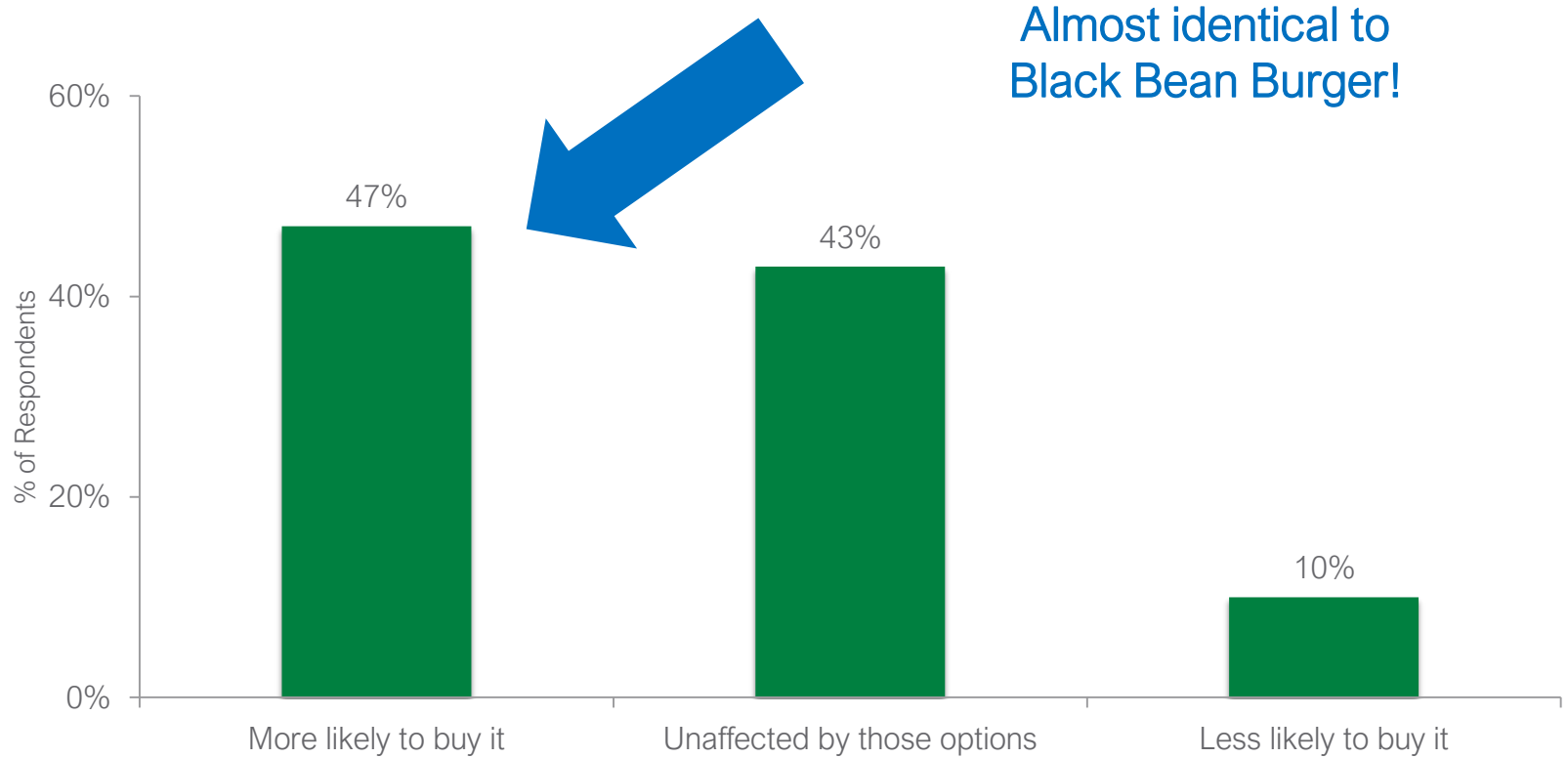
Explain exactly what is in the burger

Add more toppings (avocados, veggies, sauces, etc.)

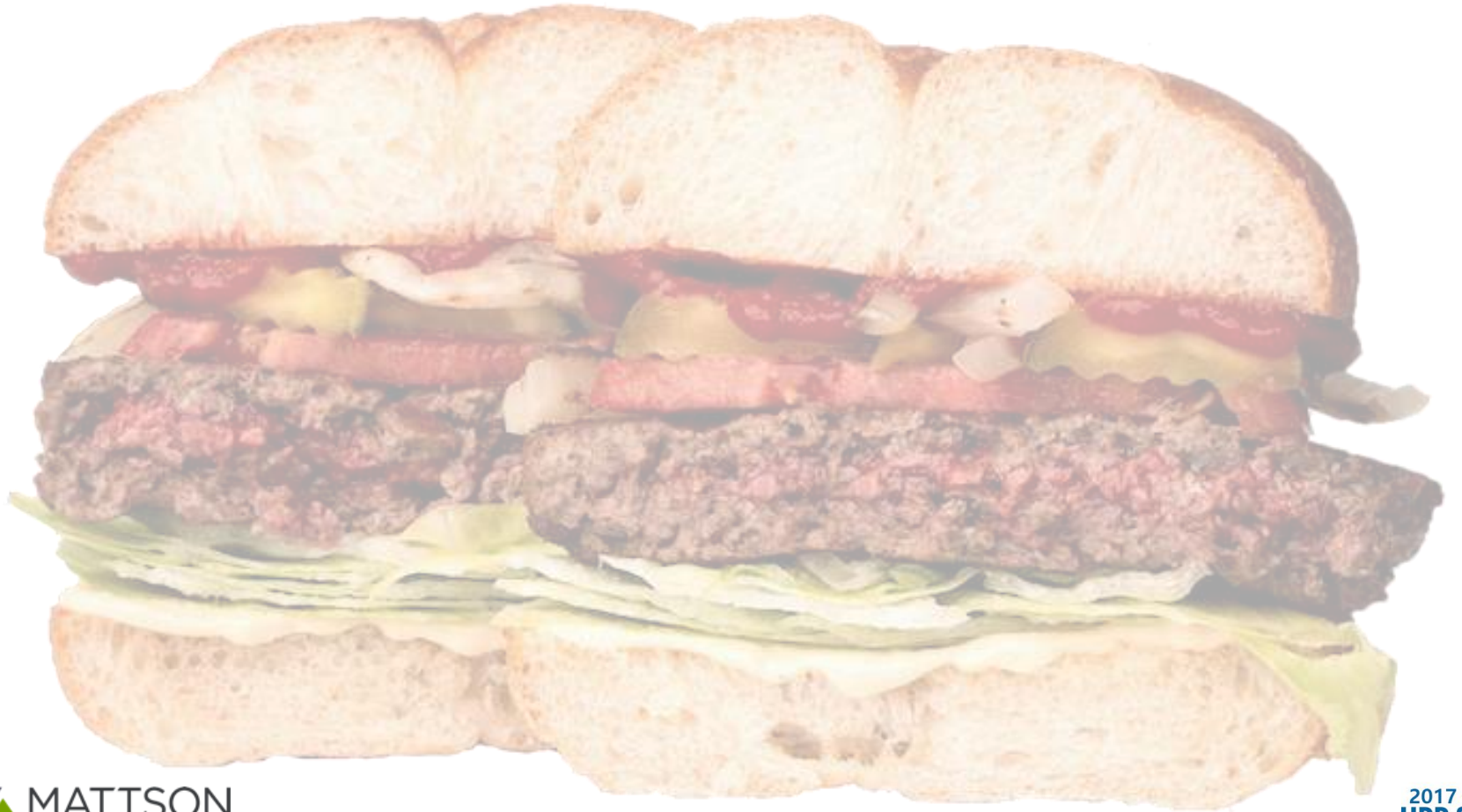


Issue here is
explaining what's
in it

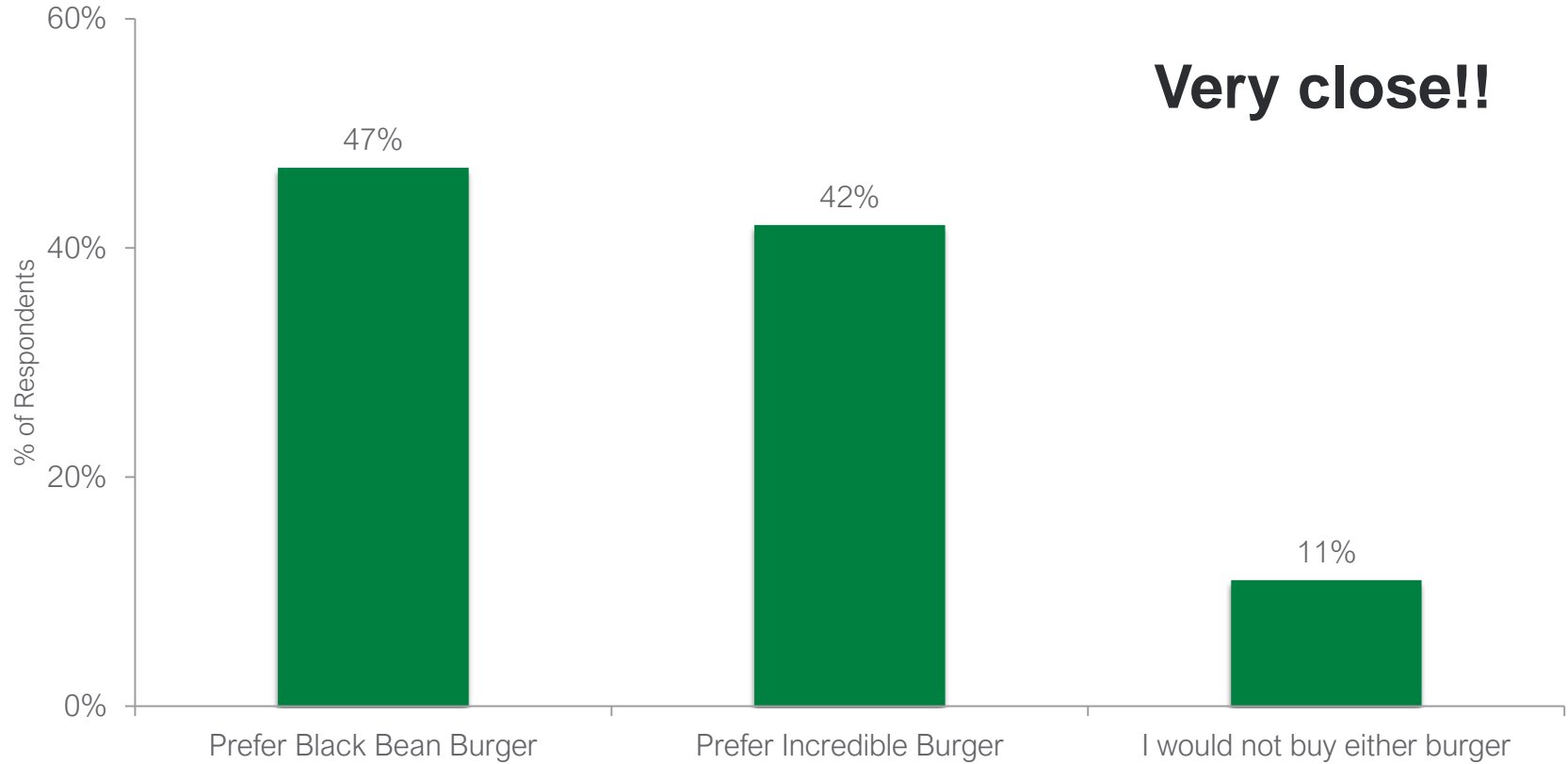
Q. IF TOPPINGS FOR INCREDIBLE BURGER INCLUDED DAIRY, CHEESES, MAYO, AND SAUCES...



PLANT BASED BURGER PREFERENCE RESULTS



Q. WHICH BURGER DO YOU PREFER?



Q. WHICH BURGER DO YOU PREFER?

	Self-described diet...				
	Vegan	Vegetarian	Mostly Veg... Occasional meat, poultry, etc.	Trying to eat LESS meat, dairy, fish, poultry	Eat a Variety - including meat, dairy, fish, poultry
	N=27	N=31	N=116	N=146	N=805
Black Bean Burger	42%	48%	59%	50%	45%
Incredible Burger	58%	44%	38%	42%	42%

Whaaaaaa?

Of course... as vegans they've made
lifestyle decision to
eat beans every day!!

Q. WHY DO YOU PREFER EACH BURGER?

Reasons for Preferring The Black Bean Burger

Love black beans / good source of protein

Familiar, real ingredients “black beans and roasted veggies”. Know what to expect.

Seems more natural. Nothing mysterious. Don't like burgers made to taste like meat.

Looks and sounds more appetizing

IF I HAVEN'T SOLD YOU ON THIS OPPORTUNITY YET...

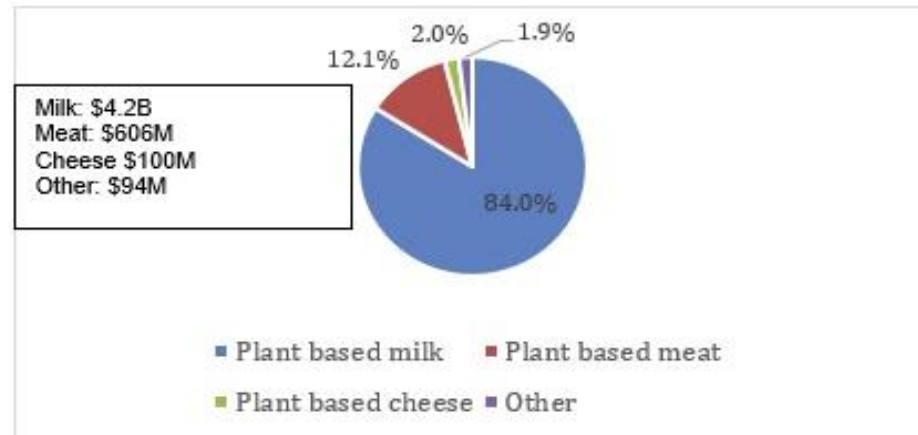
SIZE OF PLANT BASED FOOD MARKET



Plant based food sales in US exceeded \$5 Billion in 2016

PB +8.1% over last 12 months VS. +0.2% for all food

90% = dairy + meat alternatives



IMPLICATIONS FOR HPP TECHNOLOGY

METHODOLOGY

- Mattson 2nd study on eating trends
- Online survey fielded August, 2017
- n=390 consumers completed survey



OUR HYPOTHESIS

Most plant-based meat alternatives sold **FROZEN**

Consumers generally want **FRESH**

Let's find out if it's true here.



HERE ARE THE 2 DIFFERENT FORMS OF PLANT-BASED BURGERS



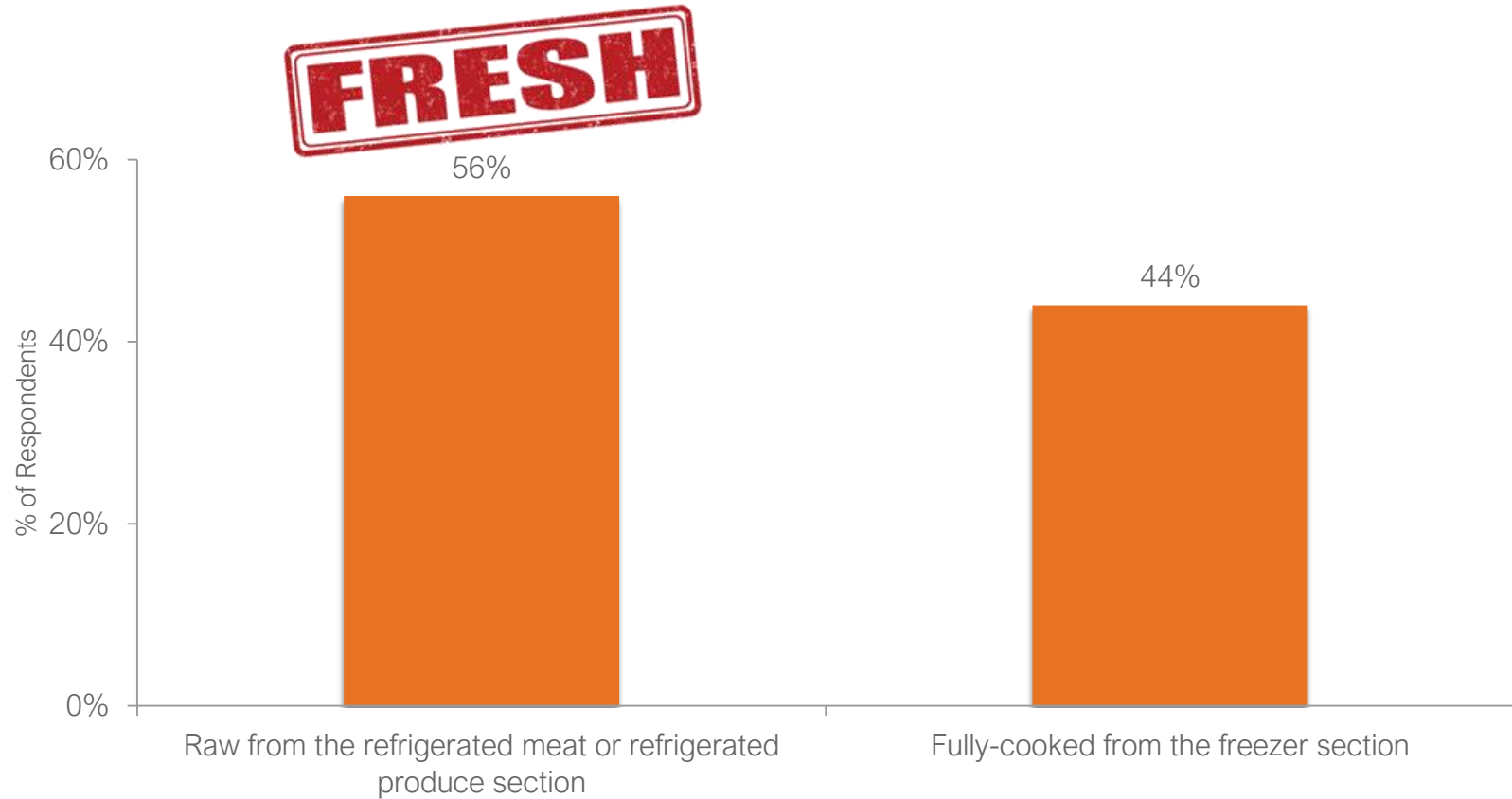
Plant-based burgers made from vegetables, beans, peas, grains, etc. Sold **fully-cooked** from **the freezer section**. Simply reheat on the grill, in a skillet, or microwave.



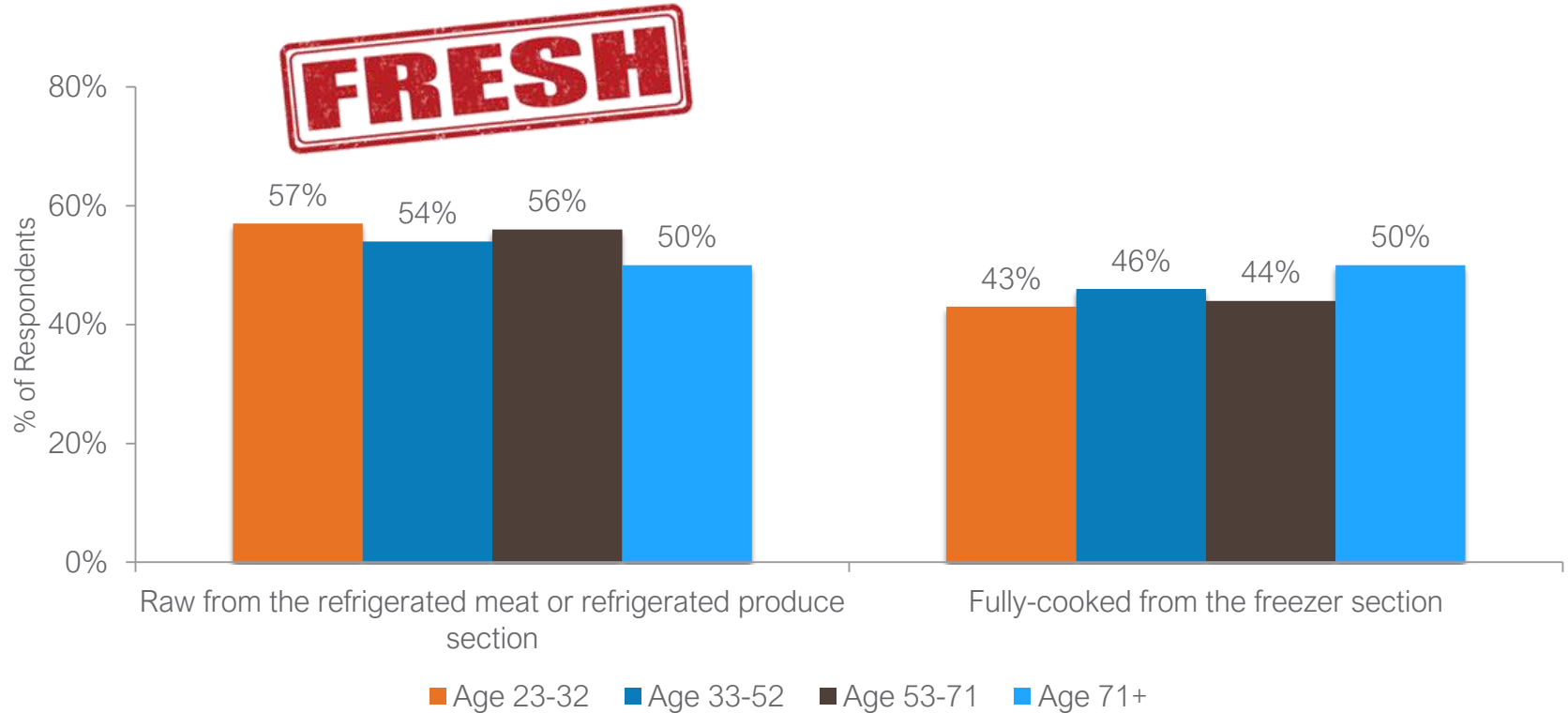
Plant-based burgers made from vegetables, beans, peas, grains, etc. Sold **raw** from the **refrigerated meat** or **refrigerated produce section**. Handle like fresh meat. Cook thoroughly on the grill, or in a skillet.

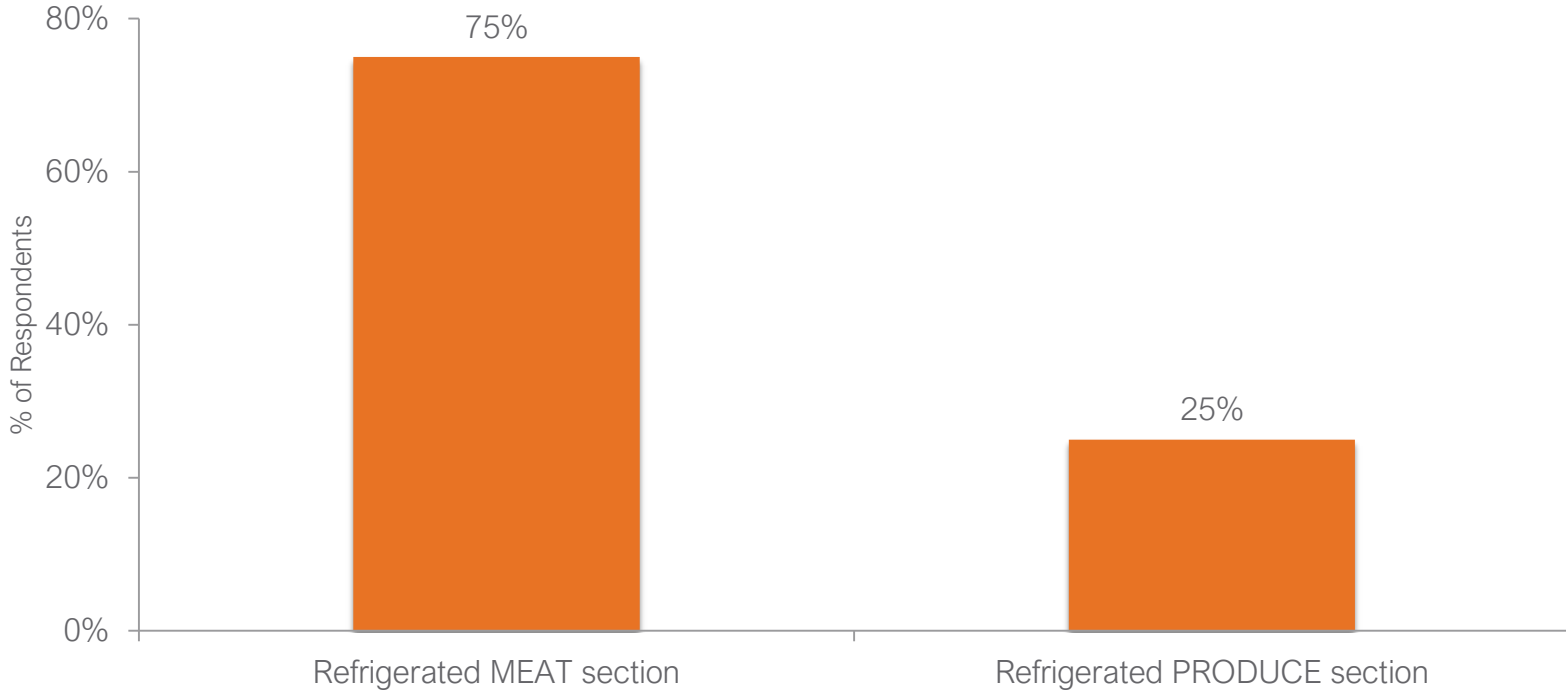
Q. WHICH FORM OF BURGER DO YOU PREFER?

Total Sample, n=390



By Generational Group



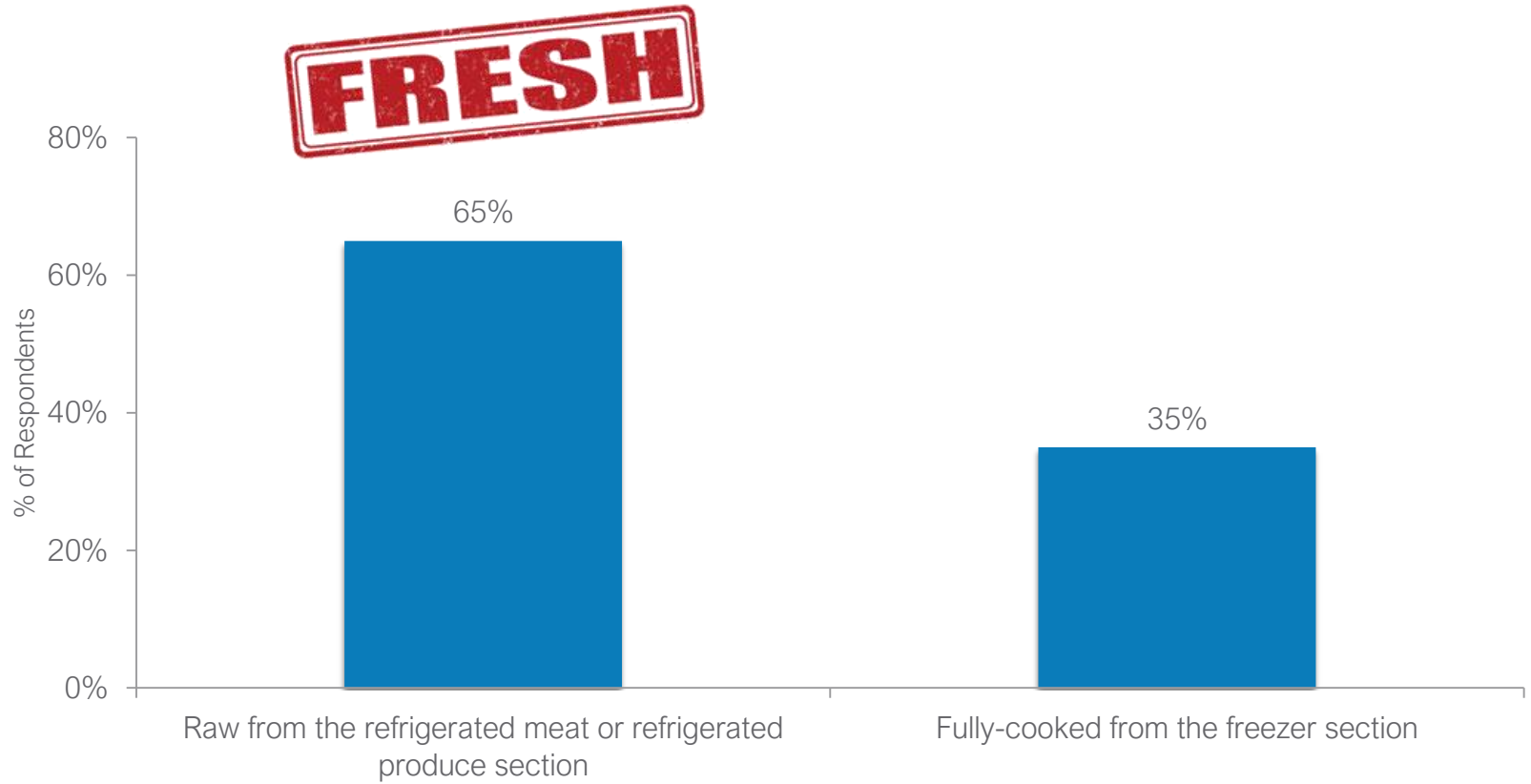




Plant-based "ground" made from vegetables, beans, peas, grains, etc. Sold **fully-cooked** from **the freezer section**. Simply heat in a skillet or microwave, or add directly to soup or chili.

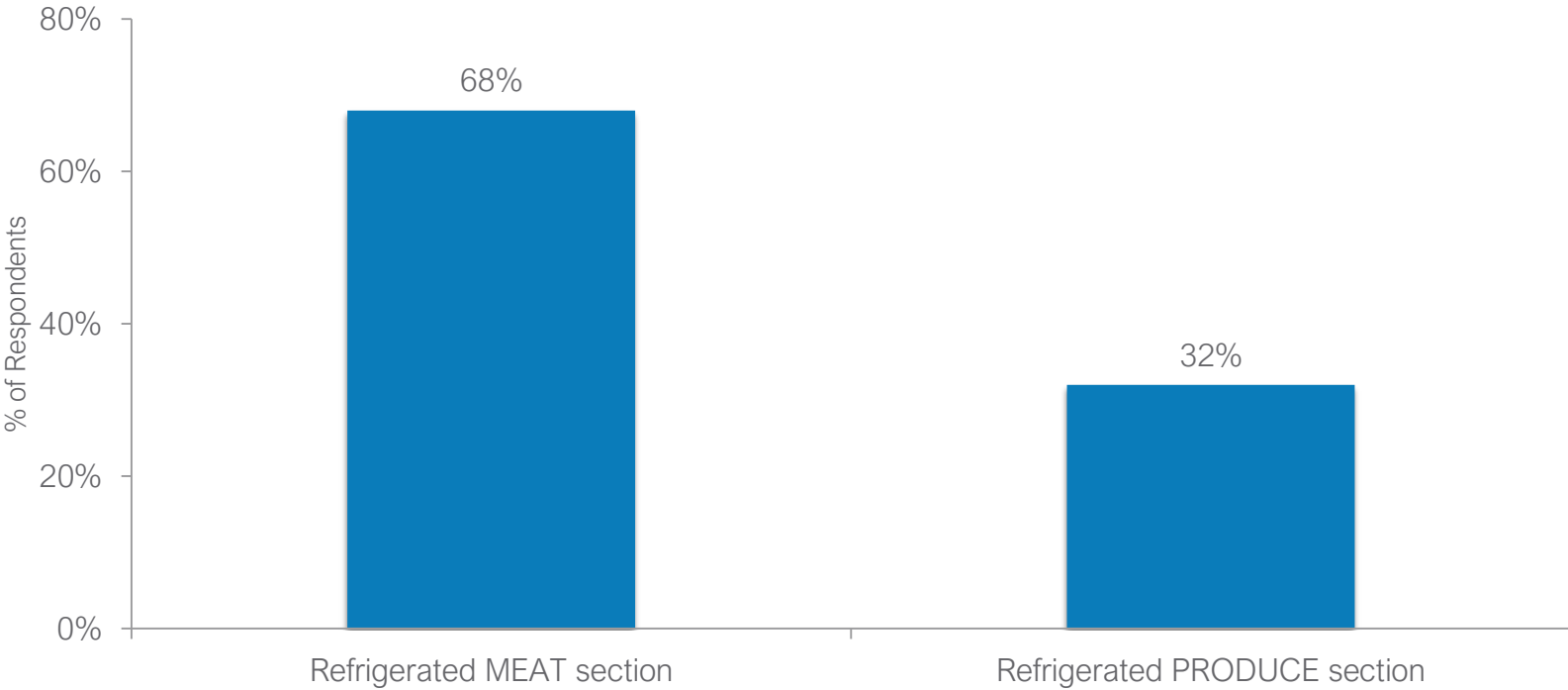


Plant-based "ground" made from vegetables, beans, peas, grains, etc. Sold **raw** from the **refrigerated meat** or **refrigerated produce section**. Simply cook in a skillet or microwave, or add directly to soup or chili.



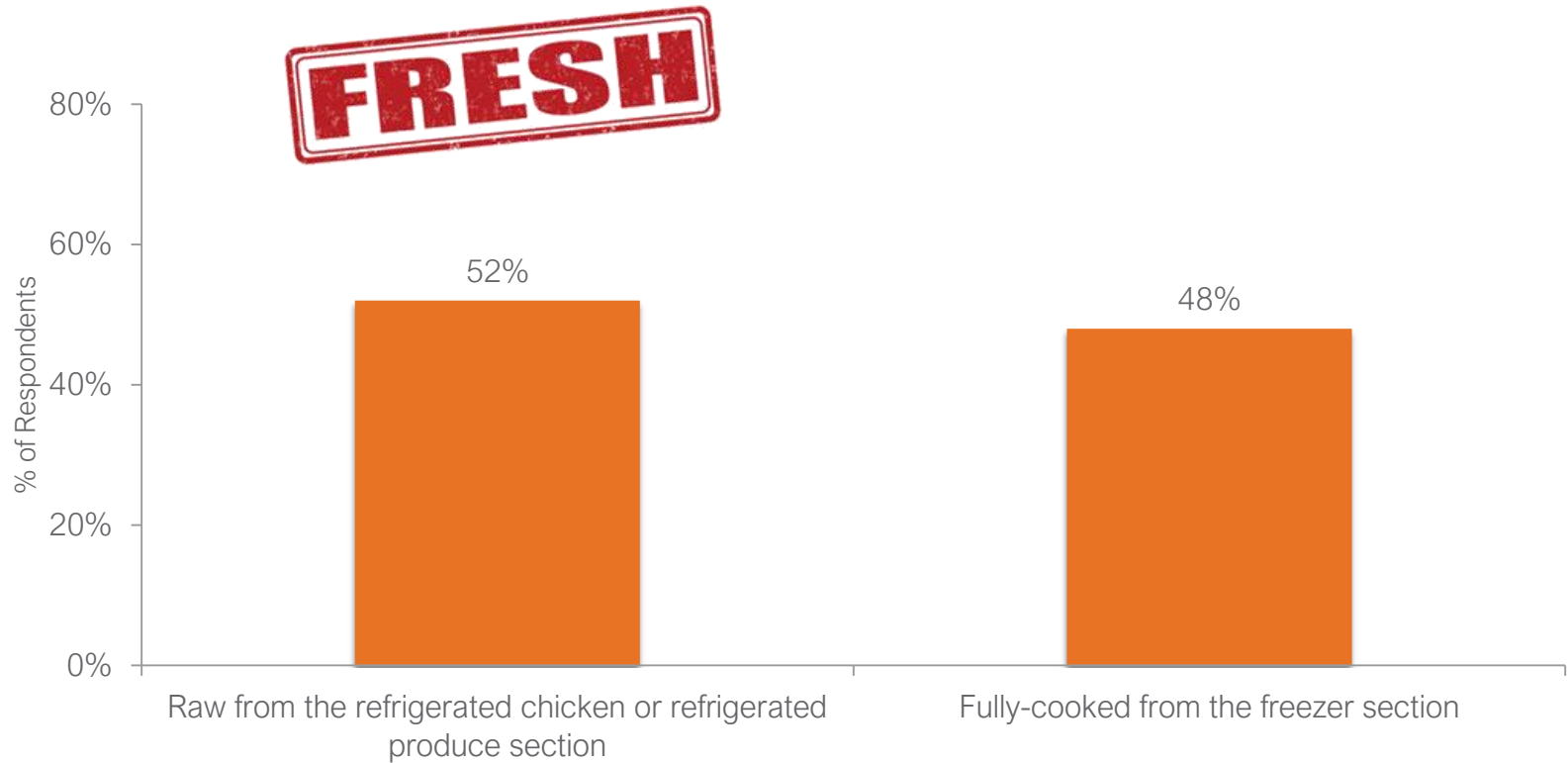
Q. WHERE IN STORE WOULD YOU PREFER TO BUY RAW PLANT-BASED “GROUND”?

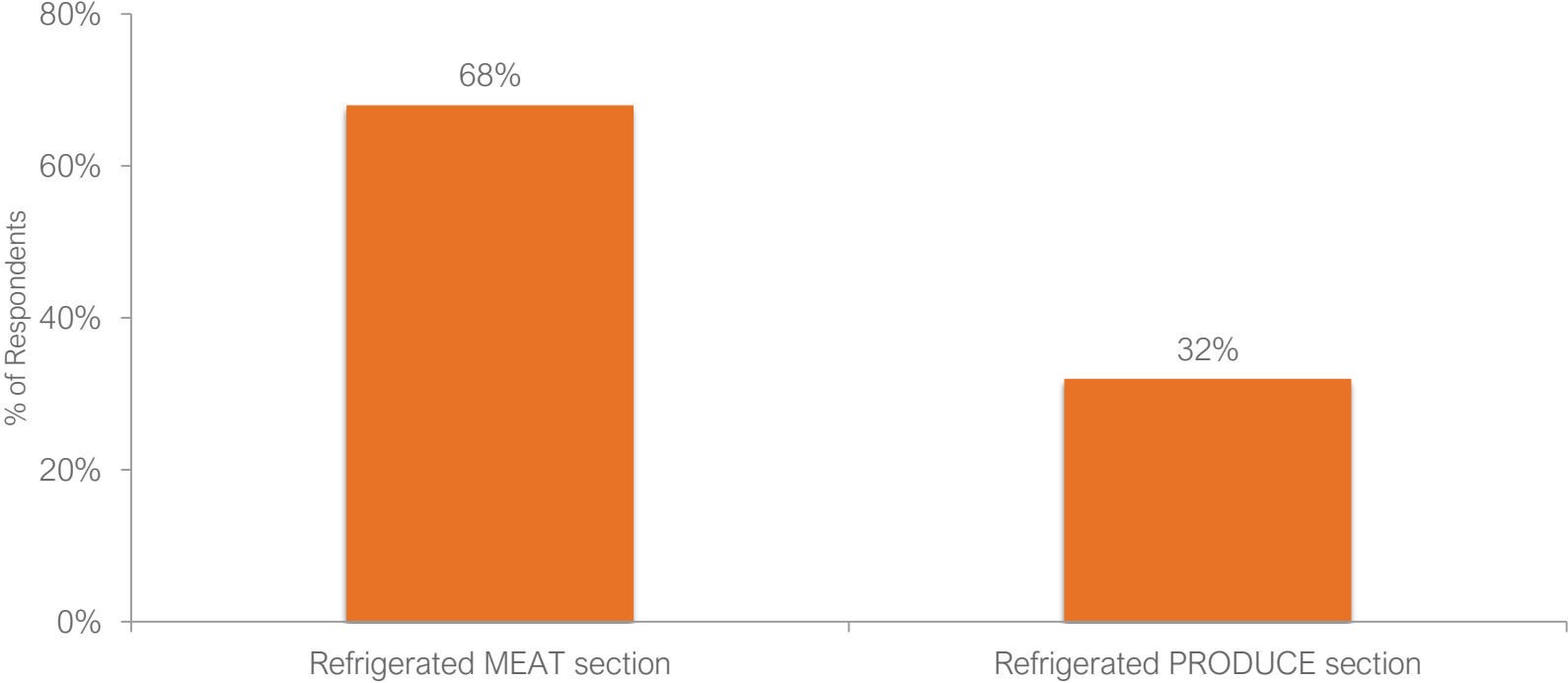
n=390





Plant-based chick'n strips





HOW MUCH OPPORTUNITY IS THERE?

All plant-based meats +6% versus YAG.

Refrigerated PB meats +23% versus YAG.



Plant-based meat = 2.1% of meat sales.

Plant-based milk = 9.3% of milk sales.

THE OPPORTUNITIES ARE EVERYWHERE!



Q. ONE OF THE WAYS TO MAKE PLANT-BASED REFRIGERATED MEAT ALTERNATIVES SAFE IS TO USE HIGH WATER PRESSURE INSTEAD OF TRADITIONAL HIGH HEAT PASTEURIZATION TO KILL BACTERIA AND TOXINS.

WHAT'S THE BEST WAY TO TALK ABOUT THIS TYPE OF PROCESS?

CHOICES

Cold pasteurized

Cold pressed

Cold pressed

Cold pressured

Cold water pasteurized

Cold water pressed

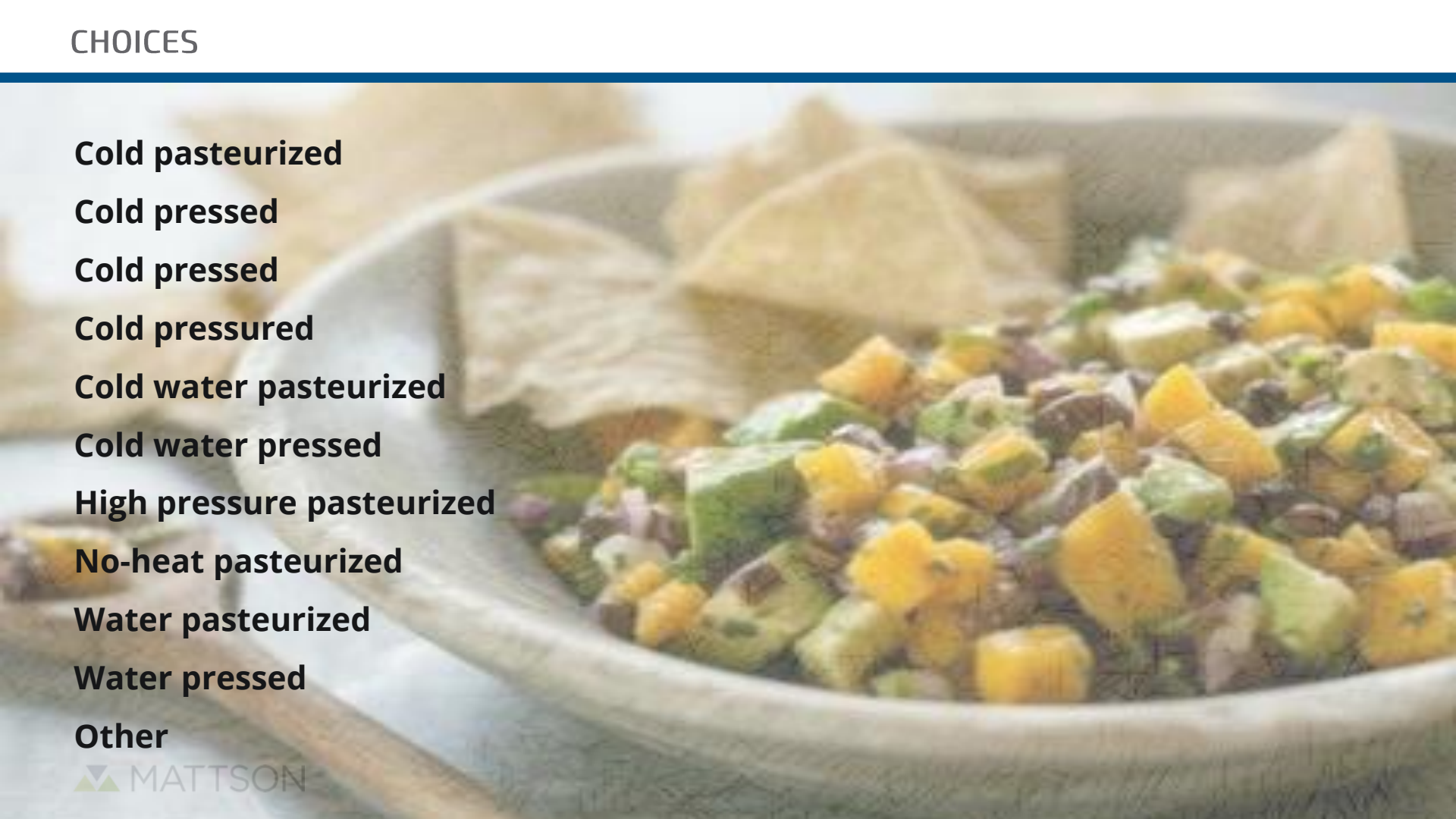
High pressure pasteurized

No-heat pasteurized

Water pasteurized

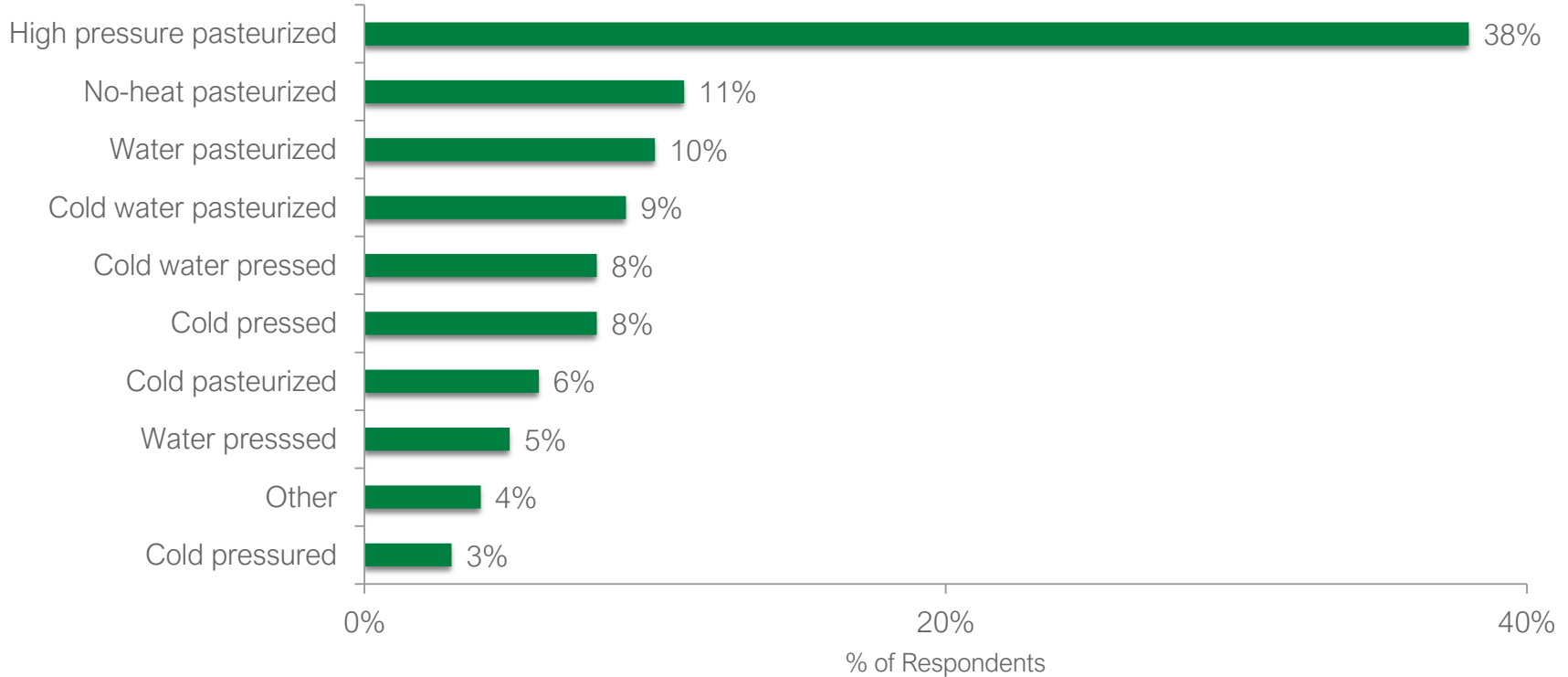
Water pressed

Other

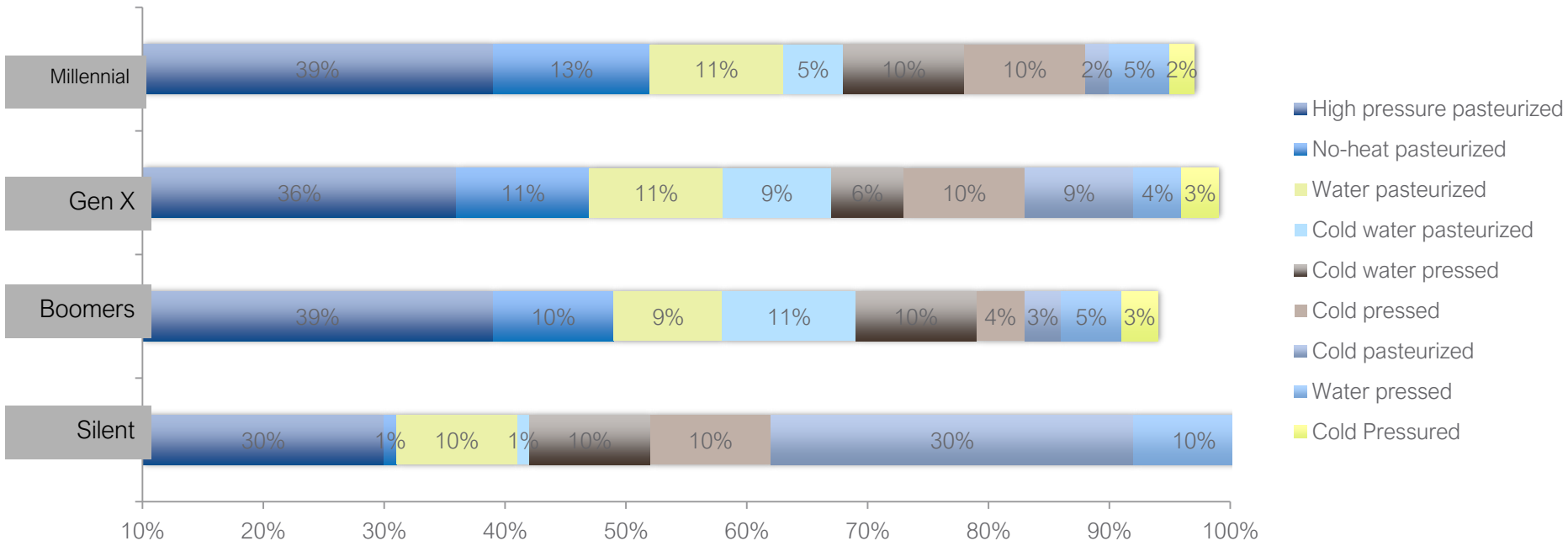


Q. WHAT'S THE BEST WAY TO TALK ABOUT THIS TYPE OF PROCESS?

n=390



By Generational Group



Top Reasons for Selecting High Pressure Pasteurized

Self explanatory / easy to understand / most straightforward

Most descriptive without being confusing

Most logical of the processes listed

High pressure = clean, sanitary, safe, healthy

Best fit for the products shown

VERBATIMS FROM HIGH PRESSURE PASTEURIZED

“HPP sounds like a process that would **really kill bacteria.**”

“**Cold doesn't seem sanitary**”

”**Water** seems like it **dilutes flavor**”

“High pressure pasteurized sounds **scientific and sanitary.**”

“I get the impression of **a more thorough process.**”

“Everyone is familiar with pasteurization. **'High Pressure' sounds modern and new.**”

“I think of high pressure as a **high pressure washer**. I know the item will be clean and safe.”

IN SUMMARY

1/3 of population Flexitarian

½ will eat more plant-based foods next year

Consumers want fresh plant-based “meat”

And they want you to tell them exactly what the process is



THANK YOU!

WANT TO TALK INNOVATION?

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