Research conducted by:

ON Research

On behalf of:

PRODUCE FOR BETTER HEALTH FOUNDATION:

PBH Foundation - Cluster Analysis

2012 Report: Frozen Vegetables

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Research Objectives

- The main objectives of this series of reports are:

  - *To understand those distinct segments within the consumer market for various "forms" of fruits and vegetables based on demographic, attitudinal and behavioral characteristics;*

  - *To identify potential marketing opportunities to target these distinct segments.*

Research Methodology

- The statistical technique of Cluster Analysis was used to classify the consumer market into distinct segments or clusters;
- Cluster Analysis is an exploratory data analysis tool for organizing observed data into meaningful segments based on combinations of independent variables, which maximizes the similarity of cases within each cluster while maximizing the dissimilarity between groups that are initially unknown;
- For the purposes of this analysis, the following type of Cluster Analysis was performed: *Hierarchical Cluster Analysis using Ward's Method, applying Squared Euclidean Distance;*
- The data set on which the analysis was run comprised of 1,300 consumer respondents;
- 81 independent variables were tested.

Summary of Key Findings and Observations

Summary of Key Findings and Observations

- Frozen vegetables are extremely popular.
  - *Only 2% of consumers never have frozen vegetables available in their homes and two in five (41%)* ***always*** *have it available*

- Four (4) clusters define the frozen vegetables consumer market, and the size of these clusters varies from 10% to 33% *[ranked below in order of availability of frozen vegetables, from highest to lowest].*
  1. *"Young Convenients" (10% of total consumer market)*
  2. *"Older Satisfied Homemakers" (33% of the total consumer market)*
  3. *"Believers" (9% of the total consumer market)*
  4. *"Guilties" (25% of the total consumer market)*

Summary of Key Findings and Observations

- There are several key demographic characteristics that help define the clusters. These can help in targeting consumers within each cluster:
  - *Work status,*
  - *Age,*
  - *Ethnicity.*

- Segmentation of the frozen vegetable market is not primarily driven by consumption habits as 3 of the 4 segments share very similar (and above average) consumption amounts. Instead, segmentation is driven by motivations.

- Notably, all segments self-reported increasing their consumption of frozen vegetables this year compared to last, including those with the lowest current consumption of frozen vegetables.

Summary of Key Findings and Observations

- The key communication channels are supermarket displays, supermarket flyers/ads, TV ads and TV news segments as well as the Internet. These key channels do not differ significantly in their importance by cluster. As such, a more mass communications approach can be considered. Since most purchases for frozen vegetables are weekly, frequency will be critical.

- In terms of reach, one cluster, in particular, may represent an especially attractive target:
  - *"Guilties"* (larger segment representing one in four consumers, least likely to have frozen vegetables always available in the home; however,70% feel that they and their families eat too little vegetables).

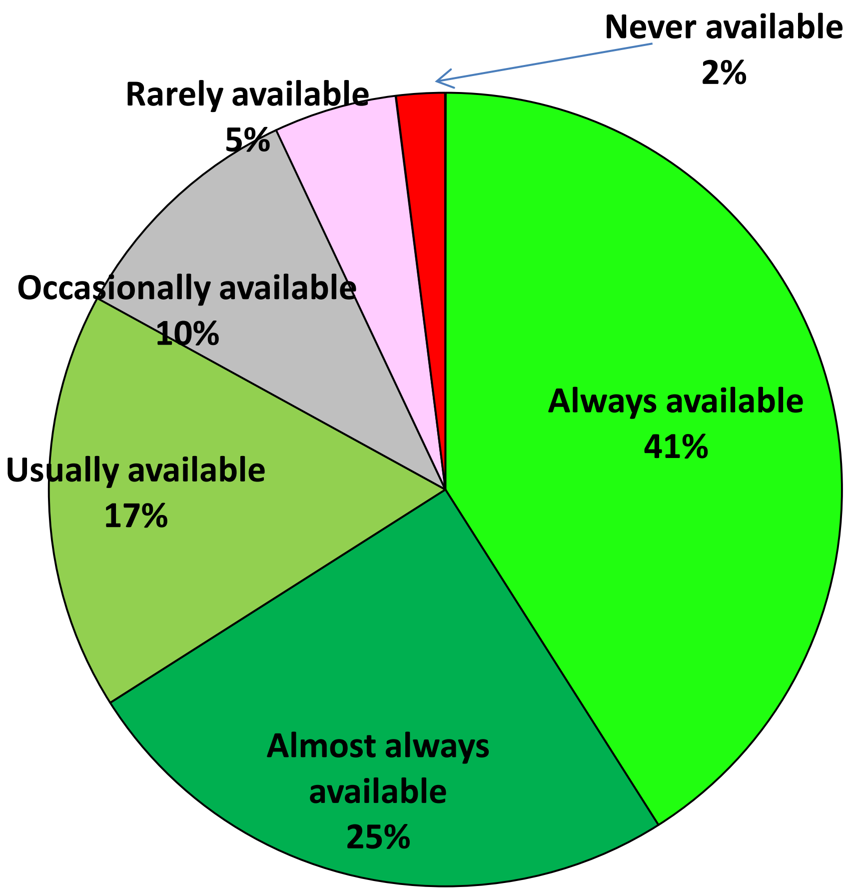
- Key media for the campaign appear to be supermarket displays, TV and magazines as these are the most likely to be self-reported by consumers as the primary ways by which they learned of the campaign.

Clustering Overview

The focus of the cluster analysis has been on the availability of frozen vegetables in the home

- Only 2% of consumers never have frozen vegetables available in their homes.

Frozen Vegetables - % Share of Market based on Availability in the Home



n=1,300

Cluster Drivers

➢ Cluster analysis revealed that 43 of the 81 independent variables tested significantly and differentiated segments with the consumer market regarding frozen vegetables. These different clusters can be grouped based on those having a higher differentiating value (primary cluster drivers) and a lower differentiating value (secondary cluster drivers) based on their strength in predicting the cluster in question:

Primary Cluster Drivers

- *Working status, age, ethnicity;*
- *Consumption occasions;*
- *Motivations for eating vegetables;*
- *Barriers to including fruits and vegetables in meals and snacks;*
- *Satisfaction with daily eating habits regarding vegetables.*

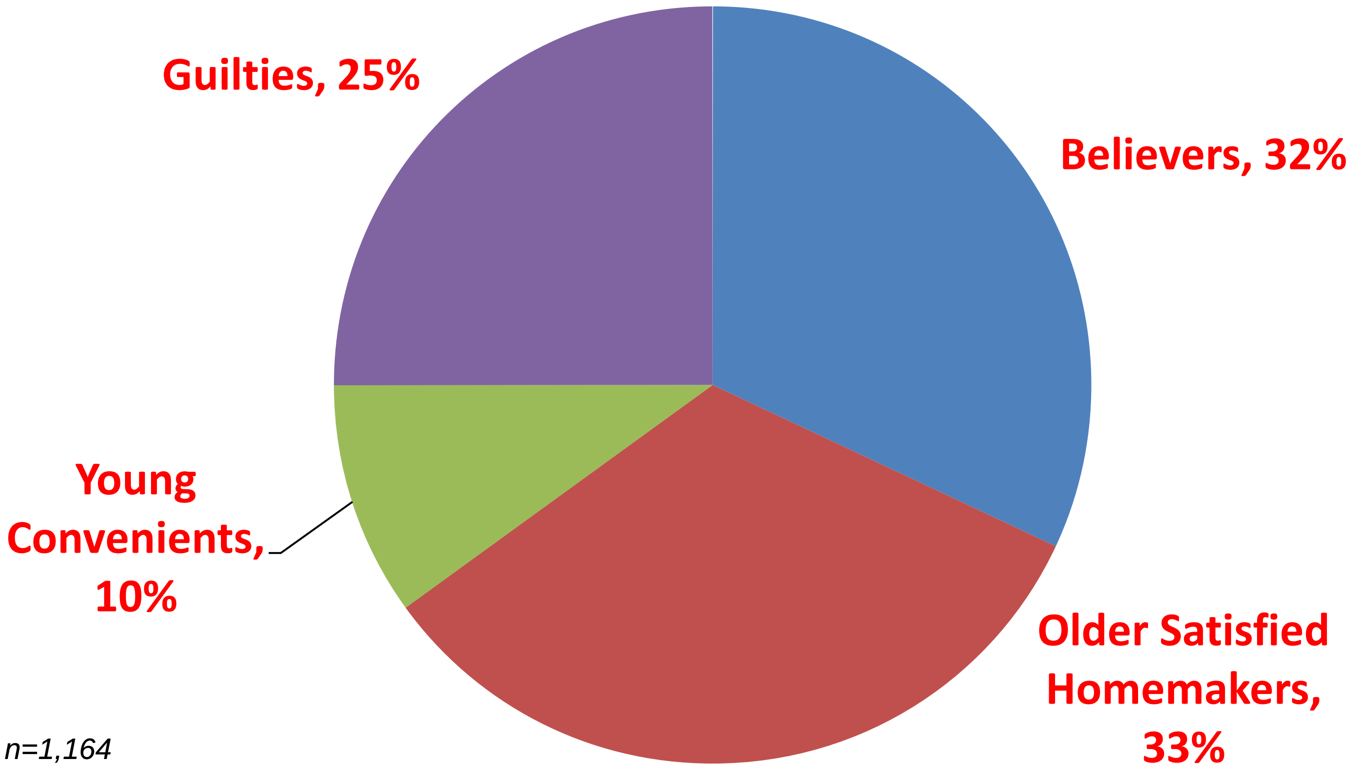
Secondary Cluster Drivers

- *Education;*
- *Factors when shopping for fruits and vegetables;*
- *"Plate" recommendation regarding fruits and vegetables;*
- *Health benefits;*
- *Perceptions of healthiness regarding frozen vegetables.*

Cluster analysis produced 4 clusters for frozen vegetables

- The size of the clusters range from 10% to 33%.

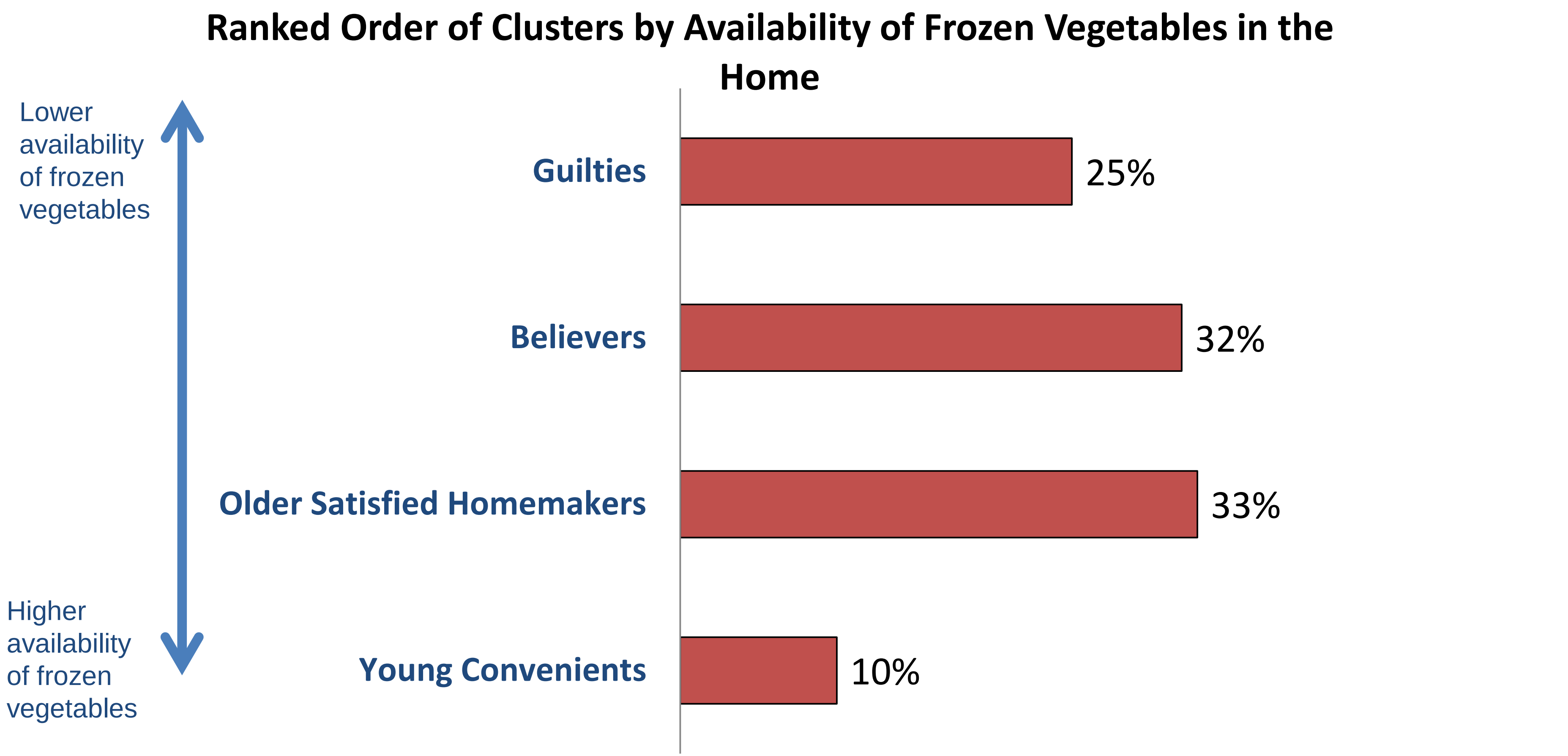
Frozen Vegetables – Distribution of Consumers by Cluster



n=1,164

The clusters can be ordered in terms of availability of frozen vegetables in the home

- Each cluster will be profiled in the next section of this report in the order below.



Cluster Profile:
“Young Convenients”

Profile Summary: *"Young Convenients"*

- The ***"Young Convenients"*** cluster represents consumers who are most likely to have frozen vegetables in their homes;
- They represent 10% of the total consumer market – the smallest segment;
- Compared to an average consumer, they are:
  - ***The youngest;***
  - ***Most educated;***
  - ***Most likely to be working outside the home;***
  - ***Least likely to be White/Caucasian and 4 times as likely to be Asian/Pacific Islander.***
- They are somewhat more likely to eat fruits and vegetables to lose weight and to shop based on their healthiness;
- While they consume the second highest daily amount of vegetables, they are most likely to find them not appetizing and expensive;
- They strongly lament that fruits and vegetables go bad before they can eat them and value the convenience of the frozen form: quick to prepare, easy to use and keep well.

Cluster 3 – *"Young Convenients"* (10% of the consumer market)

Always/Almost always has frozen vegetables available	**48% (vs. 41% for all); 30% almost always available (vs. 25% for all)**
Second highest daily consumption of cups of vegetables	*1.2 cups of vegetables per day (vs. 0.9 cups for all)*
Key Characteristics	
Youngest, most educated, most likely to be working outside of the home, least likely to be White/Caucasian (most likely to be Black/African American, Hispanic and especially Asian/Pacific Islander)	*Average age: 35 (vs. 45 for all)* *22% have completed graduate work (vs. 10% for all)* *60% do not work outside the home (vs. 51% for all)* *54% are White/Caucasian (vs. 81% for all); 14% Black/African American (vs. 7% for all), 9% Hispanic (vs. 5% for all), 20% Asian/Pacific Islander (vs. 5% for all)*
Most likely to correctly identify that 50% of their "plate" is recommended to be made up of fruits and vegetables	*46% identified 50% (vs. 39% for all)*
Most likely to rank "healthy' as one of their top 3 most important factors when shopping for fruits and vegetables and least likely to rank "freshness"	*45% ranked healthy (vs. 33% for all)* *54% ranked freshness (vs. 62% for all)*
Most likely to eat vegetables daily in front of the TV, in the car, in a restaurant and at events	*34% eat them daily in front of the TV (vs. 20% for all)* *16% eat them daily in the car (vs. 3% for all)* *24% eat them daily in a restaurant (vs. 5% for all)* *175 eat them daily at events (vs. 5% for all)*
Most likely to personally eat fruits and vegetables to lose weight and least likely because of the taste, to stay healthy or as part of a balanced diet	*35% cited to lose weight (vs. 22% for all)* *36% cited taste (vs. 51% for all)* *69% cited to stay healthy (vs. 79% for all)* *41% cited as part of a balanced diet (vs. 56% for all)*
Least likely to believe consuming fruits and vegetables may prevent heart disease, overweight and obesity, weight gain, and cancer	*Heart disease: 57% (vs. 69% for all), overweight and obesity: 57% (vs. 72% for all), weight gain: 58% (vs. 69% for all), cancer:31% (vs. 47% for all)*
Most likely to complain about barriers to them personally eating fruits and vegetables	*Vegetables are not appetizing: 53% (vs. 17% for all), go bad: 70% (vs. 36% for all), forgot to buy: 49% (vs. 16% for all), vegetables too expensive: 69% (vs. 39% for all)*

Key Purchase Behaviors: *"Young Convenients"*

- The key benefits of frozen vegetables for ***"Young Convenients"*** *are:*
  - *Quick to prepare (68% citing this benefit),*
  - *Easy to use (68% citing this benefit),*
  - *Keep well (63% citing this benefit).*

- They buy their frozen vegetables weekly.
  - *Daily (0%)*
  - ***Weekly (58%)***
  - *Monthly (34%)*

- They are buying more compared to last year.
  - *21% buying more frozen vegetables in the past 3 months compared to 1 year earlier, 68% the same, 11% less*

- They waste more than average.
  - *47% do not throw any of their frozen vegetables out (vs. 64% for all)*

Key Purchase Behaviors: *“Young Convenients”(cont’d)*

- They buy their frozen vegetables primarily at the grocery store.
  - *Grocery store (87%)*
  - *Supercenter (Wal-mart, Super Target, Meijer) (58%)*
  - *Farmer’s market or local fruit stand (31%)*
  - *Club stores (BJ’s, Sam’s, Costco) (32%)*

- Intercept them in the supermarket, on TV and online:
  - *Supermarket: 86% would at least scan a sign on a supermarket display and 86% a supermarket flyer/newspaper ad;*
  - *TV: 87% would at least listen to a television commercial regarding a type of food that they might enjoy and 83% to a television news segment;*
  - *Online: 57% ranked the Internet in their Top 3 places to go to obtain information about how to get themselves or their family to eat more fruits and vegetables (32% ranked it #1).*

Key Purchase Behaviors: *"Young Convenients"(cont'd)*

- They are much more familiar with the Fruits & Veggies – More Matters campaign…
  - *36% stated that they had never seen or heard about it (vs. 52% for all)*
- …and more likely to be motivated by it, including to buy.
  - *52% were motivated (vs. 35% for all)*
  - *47% stated they were more likely to buy a product after seeing the "More Matters" logo (vs. 44% for all)*
- The top 3 ways they self-report learning about the campaign are:
  - *Internet (33%),*
  - *TV (31%),*
  - *Magazines (30%).*

Cluster Profile:
“Older Satisfied Homemakers”

Profile Summary: *"Older Satisfied Homemakers"*

- The ***"Older Satisfied Homemakers"*** cluster represents consumers who are the second most likely to have frozen vegetables in their homes;
- They represent 33% of the total consumer market – the largest segment;
- Compared to an average consumer, they are:
  - ***The oldest;***
  - ***Least likely to work full-tome outside the home.***
- They are the most likely to believe that they and their families eat just enough vegetables and to eat vegetables daily at the dinner table;
- They are much less likely to cite differing family likes and dislikes regarding fruits and vegetables as a barrier and most likely to personally eat fruits and vegetables as part of a balanced diet.

Cluster 2 – *"Older Satisfied Homemakers"* (33% of the consumer market)

Always/Almost always has frozen vegetables available	**52% (vs. 41% for all); 23% almost always available (vs. 25% for all)**
Tied for highest daily consumption of cups of vegetables	*1.3 cups of vegetables per day (vs. 0.9 cups for all)*
Key Characteristics	
Oldest, least likely to work full-time outside the home	*Average age: 49 (vs. 45 for all)* *60% do not work outside the home (vs. 51% for all)*
Most likely to believe that they and their families eat just enough vegetables	*64% believe this (vs. 43% for all)*
Most likely to rank "freshness' as one of their top 3 most important factors when shopping for fruits and vegetables and least likely to rank "taste"	*74% ranked freshness (vs. 62% for all)* *47% ranked taste (vs. 60% for all)*
Most likely to eat vegetables daily at the dinner table	*81% eat them daily at the dinner table (vs. 63% for all)*
Most likely to cite "part of a balanced diet" as one of the 3 most important reasons they themselves eat fruits and vegetables	*66% cite "balanced diet" (vs. 56% for all)*
Least likely to complain that members of their family have different fruit and vegetable likes and dislikes, that vegetables are too expensive, that they go bad before they can eat or that they are enticed by other foods	*36% cite family members (vs. 50% for all)* *17% cite expensive (vs. 39% for all)* *7% cite waste (vs. 36% for all)* *10% cite other foods (vs. 37% for all)*

Key Purchase Behaviors: *“Older Satisfied Homemakers”*

- The key benefits of frozen vegetables for ***“Older Satisfied Homemakers”*** *are:*
  - *Keep well (78% citing this benefit),*
  - *Quick to prepare (75% citing this benefit),*
  - *Easy to use (73% citing this benefit).*

- They buy their frozen vegetables weekly.
  - *Daily (2%)*
  - ***Weekly (50%)***
  - *Monthly (40%)*

- They are buying more compared to last year.
  - *16% buying more frozen vegetables in the past 3 months compared to 1 year earlier, 76% the same, 8% less*

- They waste less than an average.
  - *74% do not throw any of their frozen vegetables out, compared to 64% for all.*

Key Purchase Behaviors: *“Older Satisfied Homemakers”(cont’d)*

- They buy their frozen vegetables primarily at the grocery store.
  - *Grocery store (87%)*
  - *Supercenter (Wal-mart, Super Target, Meijer) (56%)*
  - *Club stores (BJ’s, Sam’s, Costco) (21%)*

- Intercept them in the supermarket, on TV and online:
  - *Supermarket: 87% would at least scan a sign on a supermarket display and 89% a supermarket flyer/newspaper ad;*
  - *TV: 81% would at least listen to a television commercial regarding a type of food that they might enjoy and 85% to a television news segment;*
  - *Online: 71% ranked the Internet in their Top 3 places to go to obtain information about how to get themselves or their family to eat more fruits and vegetables (42% ranked it #1).*

Key Purchase Behaviors: *“Older Satisfied Homemakers”(cont’d)*

- They have average familiarity with the Fruits & Veggies – More Matters campaign…
  - *52% stated that they had never seen or heard about it (vs. 52% for all)*
- …and are more likely to be motivated by it, including to buy.
  - *40% were motivated (vs. 35% for all)*
  - *52% stated they were more likely to buy a product after seeing the “More Matters” logo (vs. 44% for all)*
- The top 3 ways they self-report learning about the campaign are:
  - *Supermarket display (43%),*
  - *TV (32%),*
  - *Ads (23%).*

Cluster Profile:
“Believers”

Profile Summary: *"Believers"*

- The ***"Believers"*** cluster represents consumers who are the third most likely to have frozen vegetables in their homes;
- They represent 32% of the total consumer market;
- Compared to an average consumer, they are:
  - ***Most likely to be White/Caucasian;***
  - ***More likely to be working outside the home.***

- They are the most likely to believe that frozen fruits and vegetables are healthy and to believe that consuming fruits and vegetables can be beneficial in preventing: heart disease, obesity, weight gain and cancer.

Cluster 1 – *"Believers"* (32% of the consumer market)

Always/Almost always has frozen vegetables available	**43% (vs. 41% for all); 29% almost always available (vs. 25% for all)**
Tied for highest daily consumption of cups of vegetables	*1.3 cups of vegetables per day (vs. 0.9 cups for all)*
Key Characteristics	
Most likely to be White/Caucasian, more likely to be working outside the home	*90% are White/Caucasian (vs. 81% for all)* *52% work outside the home (vs. 49% for all)*
Least likely to identify correctly that 50% of their "plate" is recommended to be made up of fruits and vegetables	*35% identified 50% (vs. 39% for all)*
Most likely to consider frozen fruits and vegetables as healthy	*79% believe this (vs. 72% for all)*
Most likely to believe consuming fruits and vegetables can be beneficial in preventing heart disease, overweight and obesity, weight gain and cancer	*78% believe it cab help prevent heart disease (vs. 69% for all)* *80% believes it can help prevent overweight and obesity (vs. 72% for all); 77% weight gain (vs. 69% for all), 57% cancer (vs. 47% for all)*

Key Purchase Behaviors: *"Believers"*

- The key benefits of frozen vegetables for ***"Believers"*** *are:*
  - *Easy to use (82% citing this benefit),*
  - *Keep well (76% citing this benefit),*
  - *Quick to prepare (75% citing this benefit).*

- They buy their frozen vegetables weekly.
  - *Daily (1%)*
  - ***Weekly (50%)***
  - *Monthly (42%)*

- They are buying more compared to last year.
  - *17% buying more frozen vegetables in the past 3 months compared to 1 year earlier, 75% the same, 8% less*

- They waste more than average.
  - *57% do not throw any of their frozen vegetables out (vs. 64% for all)*

Key Purchase Behaviors: *"Believers" (cont'd)*

- They buy their frozen vegetables primarily at a grocery store.
  - *Grocery store (87%)*
  - *Supercenter (Wal-mart, Super Target, Meijer) (63%)*
  - *Club stores (BJ's, Sam's, Costco) (14%)*

- Intercept them in the supermarket, on TV or the radio, on social media and online:
  - *Supermarket: 85% would at least scan a sign on a supermarket display and 88% a supermarket flyer/newspaper ad;*
  - *TV: 86% would at least listen to a television commercial regarding a type of food that they might enjoy and 89% to a television news segment;*
  - *Online: 79% ranked the Internet in their Top 3 places to go to obtain information about how to get themselves or their family to eat more fruits and vegetables (54% ranked it #1).*

Key Purchase Behaviors: *"Believers" (cont'd)*

- They have average familiarity with the Fruits & Veggies – More Matters campaign…
  - *51% stated that they had never seen or heard about it (vs. 52% for all)*

- …and a little less likely to be motivated by it, but just as likely to buy.
  - *30% were motivated (vs. 35% for all)*
  - *45% stated they were more likely to buy a product after seeing the "More Matters" logo (vs. 44% for all)*

- The top 3 ways they self-report learning about the campaign are:
  - *Supermarket display (41%),*
  - *Food package (29%),*
  - *Magazines (28%).*

Cluster Profile:
“Guilties”

Profile Summary: *"Guilties"*

- The ***"Guilties"*** cluster represents consumers who are the least likely to have frozen vegetables in their homes;
- They represent 25% of the total consumer market;
- Compared to an average consumer, they are:
  - ***The least educated.***

- While they consume the least frozen vegetables and the least amount of vegetables in general, they are also the most likely to believe that they and their families eat too little vegetables.

Cluster 4 - *"Guilties"* (25% of the consumer market)

Always/Almost always has frozen vegetables available	**20% (vs. 41% for all); 21% almost always available (vs. 25% for all)**
Lowest daily consumption of cups of vegetables	*0.4 cups of vegetables per day (vs. 0.9 cups for all)*
Key Characteristics	
Least educated	*33% only have a high school degree (vs. 24% for all)*
Most likely to believe that they and their families eat too little vegetables	*74% believe they eat too little (vs. 54% for all)*
Least likely to eat vegetables daily at the dinner table	*32% eat them daily at the dinner table (vs. 63% for all)*

Key Purchase Behaviors: *“Guilties”*

- The key benefits of frozen vegetables for ***“Guilties”*** *are:*
  - *Quick to prepare (66% citing this benefit),*
  - *Keep well (64% citing this benefit),*
  - *Easy to use (61% citing this benefit).*

- They buy their frozen vegetables monthly.
  - *Daily (1%)*
  - Weekly (41%)
  - ***Monthly (49%)***

- They are buying more compared to last year.
  - *16% buying more frozen vegetables in the past 3 months compared to 1 year earlier, 75% the same, 9% less*

- They waste an average amount.
  - *66% do not throw any of their frozen vegetables out (vs. 64% for all)*

Key Purchase Behaviors: *"Guilties"(cont'd)*

- They buy their frozen vegetables primarily at the grocery store.
  - *Grocery store (78%)*
  - *Supercenter (Wal-mart, Super Target, Meijer) (55%)*
  - *Club stores (BJ's, Sam's, Costco) (10%)*

- Intercept them in the supermarket, on TV and online:
  - *Supermarket: 76% would at least scan a sign on a supermarket display and 79% a supermarket flyer/newspaper ad;*
  - *TV: 74% would at least listen to a television commercial regarding a type of food that they might enjoy and 76% to a television news segment;*
  - *Online:74% ranked the Internet in their Top 3 places to go to obtain information about how to get themselves or their family to eat more fruits and vegetables (52% ranked it #1).*

Key Purchase Behaviors: *"Guilties"(cont'd)*

- They are less familiar with the Fruits & Veggies – More Matters campaign…
  - *63% stated that they had never seen or heard about it (vs. 52% for all)*

- …and are less motivated by it, including to buy.
  - *24% were motivated (vs. 35% for all)*
  - *30% stated they were more likely to buy a product after seeing the "More Matters" logo (vs. 44% for all)*

- The top 3 ways they self-report learning about the campaign are:
  - *Supermarket display (39%);*
  - *TV (35%);*
  - *Ads (23%).*