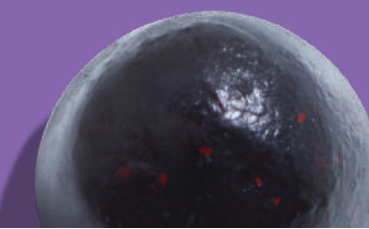




BRIDGING THE GAP TO HEALTHIER LIVING: A MULTI-MARKET EXPLORATION OF FRUIT AND VEGETABLE CONSUMPTION, TRENDS AND BEHAVIORS.



Juice Plus+ Survey 2023, 32,000 respondents across 7 global regions



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Forewords

International awareness of the importance of fruits and vegetables to overall health has grown considerably over the past several decades. This is due to several factors, including a growing body of scientific research outlining the considerable health benefits of fruits and vegetables, public health campaigns and dietary guidelines emphasizing produce consumption, and food movements such as farm-to-table that put fresh produce front and center in the diet.

However, despite the increased recognition of fruit and vegetables' essential contribution to human health, people are not meeting daily targets for fruit and vegetable consumption. In fact, the average global consumption of fruits and vegetables is just 271 grams per day — 68% of the World Health Organization's recommended intake of 400 grams daily. (1)

Global CEO of Juice Plus+, Travis Garza



So, what are the barriers stopping people getting more fruits and vegetables, in any form, into their daily diets? What are people choosing to eat, why and when? What are the trends we are seeing? How is consumer confusion, access, and seasonality impacting this? In this day and age, where people are time-poor but have unlimited access to food inspiration and education across social media, what are the simple ways they can get more fruits and vegetables into their diets, every day?

Executive Summary

In the fall of 2023, The Juice Plus+ Company commissioned a robust consumer research survey of 32,000 individuals across seven markets looking at trends, beliefs, and behaviors around fruit and vegetable consumption, as well as barriers that keep people from eating enough produce. The survey asked 20+ questions of consumers in each of seven markets: the United Kingdom, the United States, France, Germany, Italy, Poland, and Spain. The 'Bridging the Gap to Healthier Living: A Multi-Market Exploration of Fruit and Vegetable Consumption, Trends and Behaviors' Report summarizes the key findings of this research, identifying similarities and differences among the various markets surveyed.

Three main themes emerged:

1. Understanding the portion puzzle

There is widespread confusion among consumers as to what they perceive to be the amount of fruit and vegetables to eat daily and whether or not they are eating enough. Less than a quarter (22%) of consumers surveyed in Europe could correctly identify 80 grams as one serving of fruits and vegetables (as defined by the World Health Organization), (2), with many guessing less. And while three-quarters (75%) of all participants believe they aren't eating the recommended portions of fruit and vegetables a day, 73% still believe they eat a balanced diet, indicating a disconnect between actions and thoughts.

2. An evolution of eating fruit & vegetables: behaviours over the years

Consumption patterns of fruits and vegetables are similar across regions and generations, although there are some time and place variations. When it comes to favorite fruits, there is remarkable similarity across the seven markets surveyed, with six out of seven markets naming bananas as their favorite fruit. There is less agreement when it comes to the best vegetable, though still much overlap. These preferences hold true across the generations; however, consumption patterns change with age.

3. Consumer demand for accessibility, availability and affordability is high

Large percentages of respondents cite food insecurity and rising costs of food as barriers to fresh fruit and vegetable availability and quality. Adding to the dilemma is concern around the declining nutritional value of fruits and vegetables over time.



Forewords

Professor Charles Spence, MA PhD, Professor Of
Experimental Psychology, Oxford University

Given the growing realization of the need to consume a balanced diet of fruit and vegetables for a healthy diet, it is helpful to have this kind of cross-country data to track the changing preferences and popularity of different fresh produce in different age groups and regions. One of the main findings of this report shows how there is widespread uncertainty about just how many portions of fruit and vegetables people think are most healthy for a balanced diet, and even what constitutes a portion. Addressing the causes of this confusion is really important if we are to help people in their desire to eat more fruit and vegetables.



I was surprised that avocado was loved pretty evenly across the age groups. One always sees GenZ or some such who love their Instagrammable avocado toast in the morning. Cafe Gitane has been credited with bringing the dish to the United States in its "Instagrammable" form early this century, as it grew as a food trend. Here in the UK, Nigel Slater included a recipe for avocado bruschetta in a 1999 article in The Guardian. Over the last 25 years working with food, I have seen many food trends come and go, often driven by what the TV chefs suggest. It is really interesting from the results of our report how the world of fruit and veg (which can sometimes seem less exciting) is no different in this regard, with a dynamic change in popularity of certain produce as the years go by.

CHAPTER ONE: Consumption Confusion



There is considerable confusion among consumers about how many fruits and vegetables they should be eating in a day, with only a minority able to correctly identify what constitutes a serving size. While most people surveyed perceive they do not meet official recommendations for fruit and vegetable consumption, the vast majority (90%) still feel that they are eating enough. Despite a strong belief among consumers in the healthful qualities of fresh produce and concern about its cost, a lot of it goes to waste. A number of people turn to health supplements to improve their nutritional status.



Official recommendations for fruit and vegetable consumption

The World Health Organization recommends eating five 80-gram portions of fruit and vegetables (400 grams total) per day. (3)

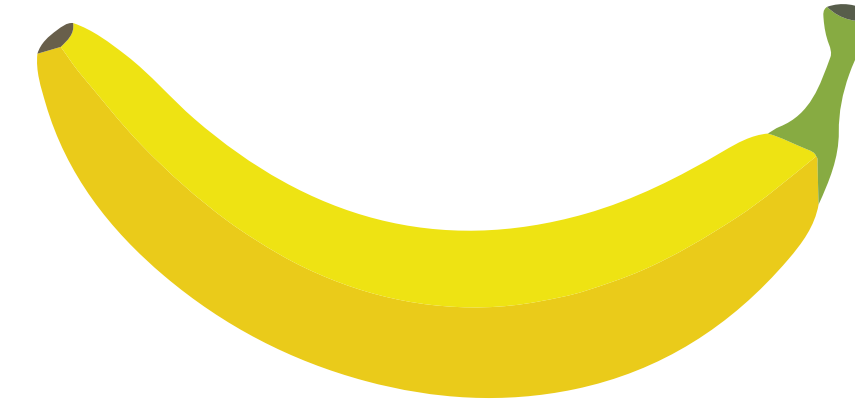


For fruit, this translates to:

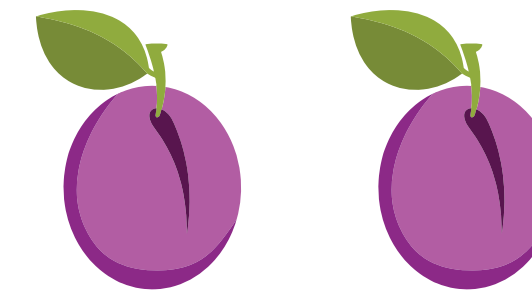
- A medium-sized apple, banana, pear, orange, or nectarine
- 2 or more small fruits, such as 2 plums, 3 apricots, 7 strawberries or 14 cherries
- ½ cup of chopped fruit

For vegetables, this translates to:

- Two broccoli spears, 2 heaping tbsp of cooked spinach or 4 heaping tbsp of cooked kale
- 3 heaping tbsp of cooked vegetables such as carrots, peas, or sweetcorn, or 8 cauliflower florets
- Small bowl of salad



= 1 portion



= 1 portion



= 1 portion



= 1 portion

Consumers do not know fruit and vegetable portion recommendations

Less than a quarter (22%) of survey participants living in countries that use grams to measure portions were able to correctly identify 80 grams as one serving of fruits or vegetables. (The question was not asked in the U.S.). Of those who answered incorrectly, more than a third (34%) guessed less than 80 grams, about a quarter (23%) guessed more than 80 grams, and one-fifth (20%) said they did not know.

Even consumers who know that one serving of fruit or vegetables is 80 grams may have difficulty translating that knowledge into real-life portion sizes. Using visual representations of fruit and vegetable portions makes it easier for people to understand how to get to five a day.

Majority of survey participants think they are not meeting fruit and vegetable targets

Even with uncertainty about portion sizes, three-quarters (75%) of participants said they thought that they were not eating the recommended portions of fruit and vegetables a day. Italians were most likely to believe that they were eating the recommended servings of fruit and vegetables, at 33%, and Americans were least likely to think so, at 19%.

Despite this self-awareness regarding dietary shortfalls, almost three-quarters (73%) of people responded affirmatively when asked if they thought they ate a balanced diet, indicating a disconnect between actions and thoughts. Additionally, only 10% thought they did not eat enough fruits and vegetables, and 15% percent reported that they use health supplements in support of a balanced diet.

Consumers tie health concerns to low fruit and vegetable consumption

Consumers associated several health concerns with low fruit and vegetable consumption. When questioned on what they think the health implications are of not consuming enough fresh fruit and vegetables, 35% of people associate this with mineral deficiencies and 18% with high blood pressure. So people are keenly aware that fruit and vegetables are necessary and good for them, but this does not translate to how much they think they should be consuming.

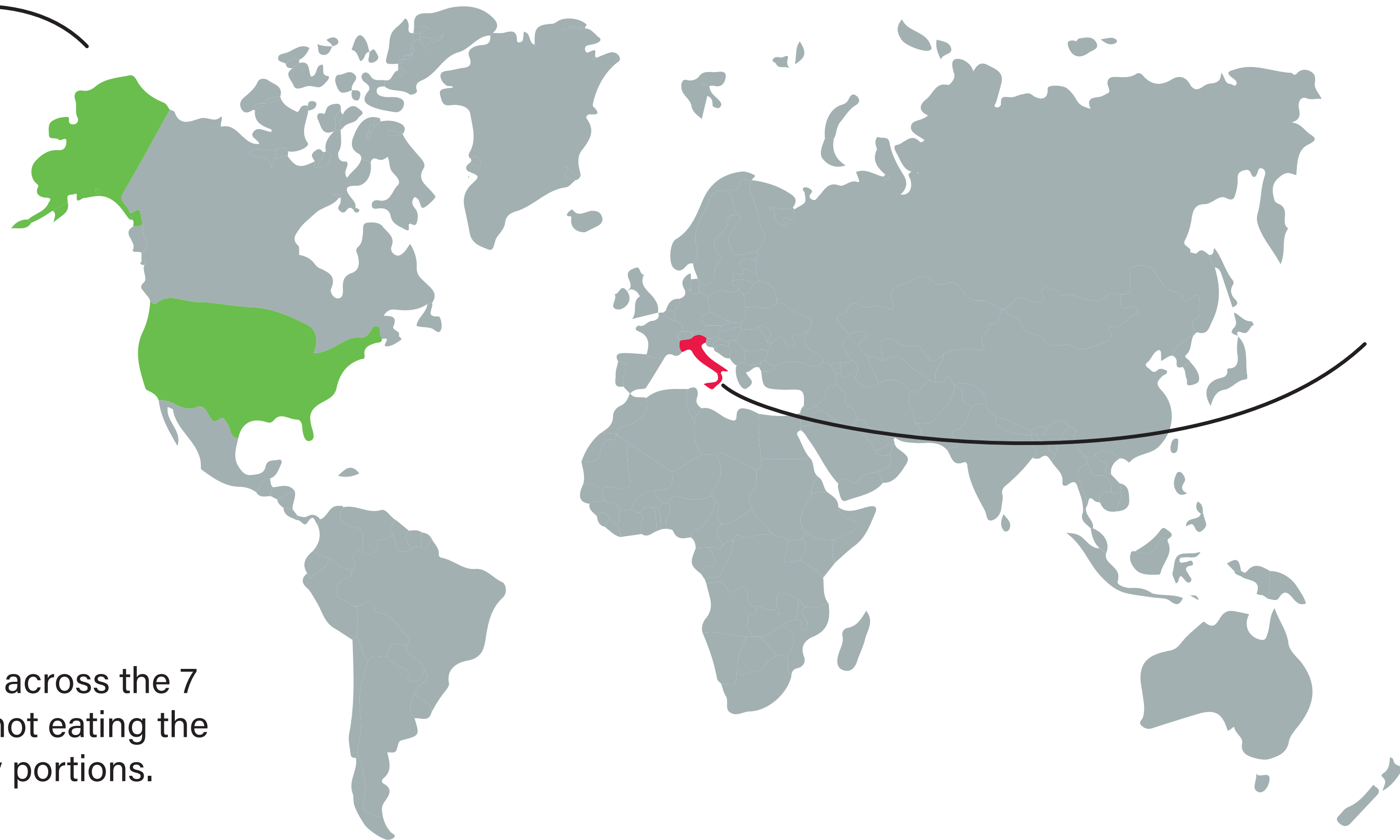
Cost of produce is a concern, but food waste is still significant

Almost a quarter (24%) of participants said that fresh produce was the most expensive part of their weekly shopping, with 37% of Germans agreeing with this statement. However, despite the expense, when asked what proportion of their household waste consisted of fresh produce, consumers estimated that it was more than a third (34%). The figure was highest in Italy at 44% and lowest in France at 24%.



HEADLINE STATS

19% of Americans say they eat the recommended 5 portions of fruit and vegetables a day — the lowest number across countries.



33% of Italians say they eat the recommended 5 portions a day — the highest number across countries.

75% of people across the 7 regions say they are not eating the 5 recommended daily portions.

CHAPTER TWO:

Fruit & Vegetables Over The Ages



Over the decades, there have been some shifts in fruit and vegetable consumption, accessibility, and preferences across the seven countries surveyed. Despite this fact, people in different countries and generations share a lot of the same favorites and report that they eat them frequently. As they have aged, some consumers have increased their fruit and vegetable consumption, mainly due to rising health awareness and increased accessibility to produce. Other consumers eat fewer fruits and vegetables than they used to, primarily due to cost and food waste. Many people also note that their fruit and vegetable consumption changes with the seasons, with some eating more in the colder months and others eating less.



Consumer tastes are consistent across countries and generations

There is remarkable similarity across different countries' favorite fruits. Respondents from six out of seven countries picked bananas as their favorite fruit, and in Poland (where the favorite was apples), bananas were ranked second.

There is more variation in countries' preferred vegetable, but a handful still dominate. Carrots are the top vegetable overall, owing to the fact that they are the favorite or second-favorite in five countries. However, carrots were only ranked highest in two countries: Spain and France. Meanwhile, Americans and Brits favor broccoli, Germans and Poles prefer cucumber, and Italians are fond of aubergine (eggplant).



Across all countries surveyed, the top six fruits are: bananas, with 60% of respondents reporting they eat them regularly, apples (54%), strawberries (36%), grapes (35%), oranges (27%), and melons (27%). The most popular vegetables include carrots (44%), potatoes (36%), broccoli (35%), cucumbers (34%), and tomatoes (32%).

Similarly, there was broad overlap in favorite fruits and vegetables among the generations. Despite the stereotype of avocado-loving millennials, people of different ages like avocados about equally. Of six age groups surveyed, five chose bananas as their top fruit and all age groups favored carrots as their preferred vegetable.



Consumers self-reported fruit and vegetable consumption is high

Reported consumption of the more popular fruits and vegetables is high. Consumers estimate that when these fruits and vegetables are in season and available, they think that they eat 7-10 servings of each per week. People report eating the most strawberries (9 servings per week) and tomatoes (10 servings per week).

However, research has shown that people are not very good at estimating what they eat, typically inflating their intake of healthful foods like fruits and vegetables while downplaying their consumption of salt, fats and sugars. (4)



Fruit and vegetable consumption varies seasonally

About half (52%) of the respondents noted seasonal differences in their fruit and vegetable consumption, with almost one-third (29%) of those saying they ate more produce in the colder months, with more than two-thirds (71%) saying they ate more in the warmer months.

Fruits and vegetable consumption changes with age, while preferences remain stable

Over time, people's fruit and vegetable consumption changes, increasing for some and decreasing for others. Respondents who answered that they eat more fruit and vegetables now than they did ten years ago name several reasons why, including being concerned about their health (27%) and having more access to produce than in the past (26%). Those who report eating less fruit and vegetables than ten years ago cited as barriers the expense of fresh produce (43%) and produce not lasting long enough and needing to be thrown away (26%).



When survey participants were asked which fruits and vegetables were their favorites ten years ago versus today, many foods' rankings remained quite stable. For instance, cabbage and peas remained unchanged at 15% and 11% respectively. Others rose notably, with cherries going from 11% to 24%, melons from 11% to 27%, and cucumbers from 9% to 34%. Cherries' increase in popularity can be traced to growing awareness of their health benefits, (5) while melons' ranking has improved thanks to the global food trade making them available year-round. (6) Cucumbers have been on an upward trend for years as salads and mini snacking varieties have become more popular. (7)



5 - Fresh Cherries Market Size and Forecast. Verified Market Research. May 2023. <https://www.verifiedmarketresearch.com/product/fresh-cherries-market/>

6 - Melons. Agricultural Marketing Resource Center. 2021 Aug. <https://www.agmrc.org/commodities-products/vegetables/melons>

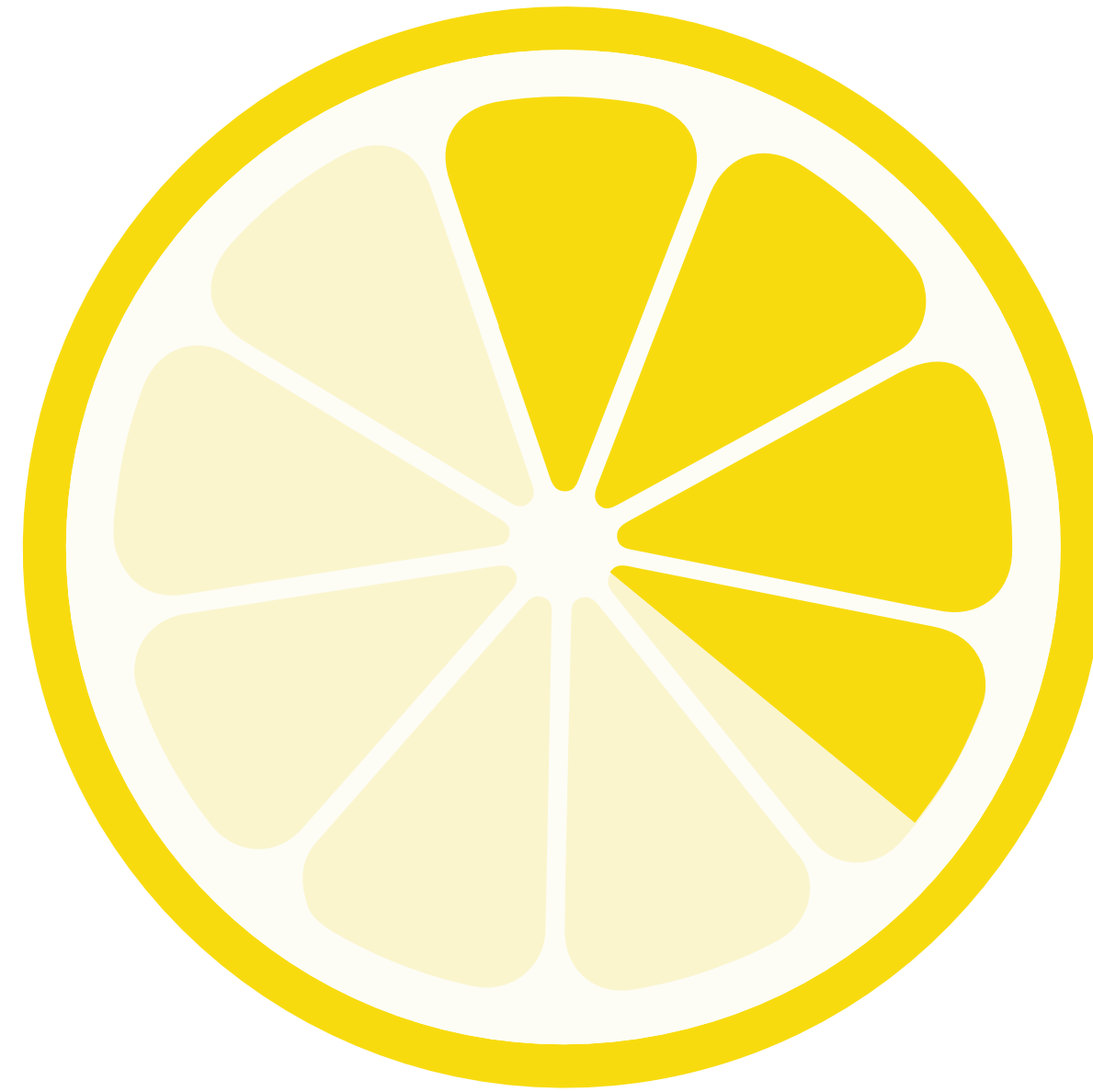
7 - Fresh cucumber imports capture nearly 90 percent of U.S. market. U.S. Department of Agriculture. 2021 Jun 2. <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=101346#:~:text=Driven%20largely%20by%20the%20increasing,upward%20trend%20since%20the%201970s>

HEADLINE STATS



60%

of respondents say bananas are their favorite fruit, making it the most popular fruit.



37%

of participants say they eat fewer fruits and vegetables in the colder months.



43%

of people who are eating less fresh produce now than 10 years ago say expense is a factor.

CHAPTER THREE:

Beliefs, barriers & behaviours



Economic factors can stand in the way of getting enough fresh fruit and vegetables, indicating consumers could benefit from budget-friendly ways to maximize their nutrition. Food insecurity is an issue in all countries surveyed. Declining nutritional value of fruits and vegetables is also a concern.



Consumers value availability and affordability of fruits and vegetables, but barriers block access

Food insecurity is widespread, with over two-fifths (43%) of consumers having experienced a lack of access to adequate food. Over half of households in the UK (53%) and Germany (52%) have been food insecure. The U.S. is also above average for food insecurity, at 46%. The country with the least food insecurity is Italy at 30%.

The cost of living comfortably has increased considerably over the last several years, and this has affected consumers' eating habits. (8) Over half of survey participants (54%) say they eat less fresh produce and eat more canned, tinned, or dried varieties due to the cost-of-living crisis.



Most people think that the nutritional value of fruits and vegetables has changed over time

A majority of consumers agree that the nutritional value of fruit and vegetables has changed since their childhoods, with almost half (43%) believing it has declined and almost a fifth (19%) believing it has increased. A 2009 review points to evidence that some, but not all, fruit and vegetable nutrients in the United States and the United Kingdom are declining. This evidence includes three studies looking at historical food composition data, which have found that certain minerals in produce have declined anywhere from 5-40% over the course of 50 to 70 years. (9) (Others have stayed steady.)

8 - Whiting K. The cost-of-living crisis is having a global impact. Here's what countries are doing to help. World Economic Forum. 2022 Sep 21. <https://www.weforum.org/agenda/2022/09/cost-of-living-crisis-global-impact/>

9 - Davis, DR. Declining fruit and vegetable nutrient composition: What is the evidence? HortScience. 2009 Feb; 44:1:15-19. <https://journals.ashs.org/hortsci/view/journals/hortsci/44/1/article-p15.xml>

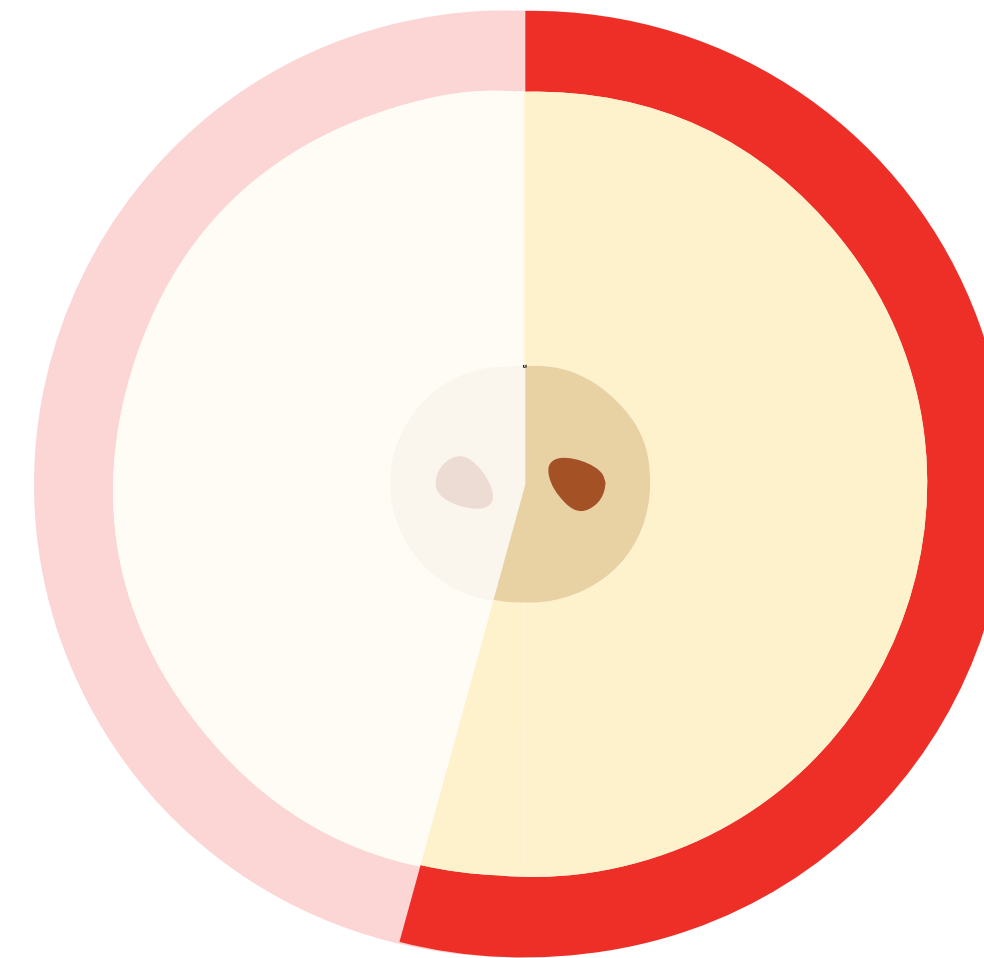


HEADLINE STATS



43%

of households have experienced food insecurity.



54%

of respondents say they eat less fresh produce in favor of canned, tinned, and dried varieties due to inflation.

CONCLUSION

Polling the fruit and vegetable consumption patterns and beliefs of 32,000 people across seven global regions, The 'Bridging the Gap to Healthier Living: A Multi-Market Exploration of Fruit and Vegetable Consumption, Trends and Behaviors' Report may be the largest consumer survey of its kind. It has revealed some universalities as well as some stark differences among places, generations, and individuals.



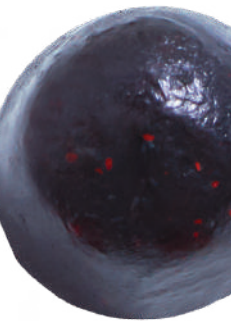
Universalities:

- Fruit preferences are constant across the regions surveyed. Six out of seven markets named bananas as their favorite fruit.
- Generations generally agree as to which fruits and vegetables are best, with bananas and carrots having broad appeal across age groups.
- Individuals' fruit and vegetable preferences tend to remain stable with time, although they can be influenced by food trends and accessibility.
- People are confused about portion recommendations. Just 22% of European respondents could correctly identify 80 grams as one serving of fruit and vegetables.
- Consumers are not meeting produce targets. Most participants (75%) report they do not eat the recommended portions of fruits and vegetables a day.
- People are throwing away a lot of fruits and vegetables. Respondents in all countries say fresh produce makes up a significant portion (34%) of their household waste.
- Food insecurity is widespread among regions, affecting 43% of households.
- Inflation has affected consumers' fruit and vegetable purchasing patterns, with 54% eating more canned, tinned, or dried varieties.
- Most consumers believe the nutritional value of fruits and vegetables has changed since their childhoods.



Differences:

- Vegetable tastes are more regionally variable than fruit tastes. Local favorites include carrots, broccoli, cucumber, and aubergine (eggplant).
- About half (52%) of people change their fruit and vegetable consumption patterns with the seasons; about half (48%) don't.
- The amount of fruit and vegetables people eat changes with age, with some eating more and some eating less.
- The percentage of Italians reporting that they eat the recommended five portions of fruits and vegetables (33%) is almost double that of Americans (19%).
- People living in the United Kingdom have nearly double the risk for being food insecure (53%) as those in Italy (30%).
- Most consumers believe the nutritional value of fruits and vegetables has declined since they were young, but they disagree how, with 43% of consumers saying it's decreased and 19% saying it's increased.



ABOUT JUICE PLUS+

There's no substitute for a healthy diet full of a wide variety of fruits and vegetables. But given that 75% of people surveyed acknowledge they do not eat the recommended servings of fruits and vegetables daily, it's clear there's a dietary gap. The Juice Plus+ Company helps bridge the gap between what people should eat and what they do eat, with a range of high-quality plant-based nutritional products.

For 30 years, The Juice Plus+ Company has partnered with farms they know and trust to source the highest-quality, non-GMO fruits and vegetables for their flagship fruit and vegetable capsules. Juice Plus+ Essentials Fruit, Vegetable, and Berry Blend capsules include plant powders from 30 different fruits, vegetables and berries, plus concentrated plant extracts such as acerola cherry, which is rich in vitamin C, and lutein derived from marigolds. More than 20 published scientific research papers have shown that key nutrients from Juice Plus+ capsules are bioavailable, meaning they have been proven to get into the bloodstream, where they can do good. For children and adults who don't like to swallow pills, the company offers Juice Plus+ Soft Chewables (Fruit Blend, Vegetable Blend, Berry Blend).



Key to the Juice Plus+ philosophy is maximizing their products' nutritional power. Accordingly, the produce they use is harvested at peak ripeness and frozen or dried within hours, and the company takes advantage of the whole fruit whenever possible — even the peels, leaves, and seeds. The same high level of effort and care goes into sourcing all the ingredients for Juice Plus+ products — including their shakes, bars, soup and energy drink — so consumers can feel confident they're getting every possible ounce of plants' natural goodness.

