

Fresh Citrus Consumer Survey

FAMRC Report No. 2026-02

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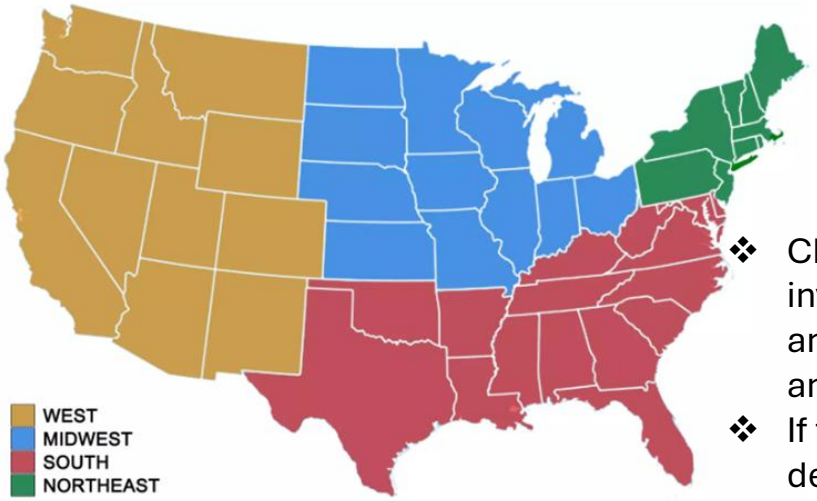
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Background and Survey Design

- Project background
  - ❖ Since 2018, the citrus industry has changed considerably, greatly affected by HLB-induced supply reductions, evolving consumer preferences, expanded retail options, evolving media sources and an increased focus on health and wellness.
  - ❖ The Florida Department of Citrus (FDOC) commissioned the Florida Agricultural Market Research Center to update the Fresh Citrus Consumer Survey that was last conducted in February–March 2018.
  - ❖ This comprehensive survey project will present the evidence of shifts in consumer demand patterns, widen the scope in covering grapefruit, and provide actional insights for marketing and promotional planning.
- Survey design
  - ❖ The survey questions are more tailored to oranges, grapefruit, and tangerines purchases.
  - ❖ Screeners:
    - Age (18+)
    - Involved in grocery shopping
    - One validation question to ensure data quality
  - ❖ Completion rate: 45% (total participants: 3,482)

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Methodology



- A total of 1,600 online surveys were completed in two waves
  - 1st Wave: 12/16/2025 - 12/22/2025
  - (7 days - 799 responses)
  - 2nd Wave: 1/21/2026 – 1/26/2026
  - (6 days - 801 responses)
  - The surveys were collected BEFORE and AFTER Christmas holidays to investigate the differences in consumers' behavior
  - Survey data from each wave and full survey data are weighted to achieve an age-representative sample, respectively.
- Chi-square test was conducted to full (*n=1,600*) dataset to investigate the differences across two different waves (Temporal: 1st and 2nd) and four different regions (Spatial: West, Midwest, South, and Northeast).
- If the differences are statistically significant ($\alpha=0.05$), further descriptive analysis is conducted.
- While the total sample size is 1,600, most questions were directed to specific respondent groups. For example, certain questions were only asked of those who had purchased 'packaged' grapefruit.
- To ensure clarity, we have indicated the specific sample size for each question, denoted as *O(n)* for oranges, *G(n)* for grapefruits, and *T(n)* for tangerines.

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1. EXECUTIVE SUMMARY

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Executive Summary

- Market Penetration & Channel Evolution
  - ✓ Penetration Trends: Orange monthly purchase penetration remains stable at 67%. Monthly penetration for grapefruit rose from 21% (2018) to 28% (2026) , and tangerines rose from 44% (2018) to 54% (2026).
  - ✓ Primary Purchase Points: Grocery stores remain the top channel at 83% , a slight dip from 86% in 2018.
  - ✓ Significant Regional Channel Difference: While "Supercenters" are the second most popular location in the Midwest, South, and West, they drop to 5th place in the Northeast.

- Consumption Frequency & Preparation Deviations
  - ✓ Frequency Stability: Weekly orange consumption remains steady at 60% (2026) vs. 59% (2018). Tangerine weekly consumption increased slightly from 47% to 49%.
  - ✓ Significant Regional Frequency Difference: Only 28% of consumers in the Midwest consume grapefruit at least once a week, significantly lower than the national average of 38%.
  - ✓ Significant Regional Occasion Difference: Consumers in the Midwest eat grapefruit for breakfast more than other regions, whereas those in the Northeast, South, and West are more likely to eat it as a snack.
  - ✓ Preparation Shift: Preparation methods for oranges shifted; "Peel" remains high (90% in 2026 vs. 87% in 2018) , but "Cutting into sections" rose from 48% to 65%.

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Executive Summary

- Purchase Drivers & Temporal Volume Shifts
  - ✓ Decision Factors: "Freshness," "Juiciness," and "Sweetness" remain the top attributes in 2026 , consistent with the "Juiciness," "Sweetness," and "Appearance" rankings of 2018.
  - ✓ Significant Temporal Volume Difference (Oranges): Orange consumers purchasing a single unit increased from 36% before the holidays to 42% after the holidays , while those purchasing two units dropped from 26% to 20%.
  - ✓ Historical Volume Comparison: In 2018, average weekly consumption was 3 for oranges and 4 for tangerines. In 2026, the plurality of consumers purchase only a single piece of fruit per occasion (Oranges 40%, Tangerines 35%).

- Florida Brand Equity & Regional Origin Perception
  - ✓ Association: Florida is the most commonly associated origin for citrus production in 2026. Approximately 50% or more consumers associate "Consistent quality," "Juiciness," and "Sweetness" specifically with Florida.
  - ✓ Significant Regional Origin Difference: Consumers in the West region are the only group to associate California as the most common origin for all citrus types.
  - ✓ Significant Regional WTP Difference: Only 6% of orange consumers in the Midwest are willing to pay double for Florida citrus, compared to 11-12% in other regions.
  - ✓ Comparison: Overall, more than 50% of 2026 consumers are unwilling to pay a premium for Florida citrus over other locations.

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Executive Summary

- Innovation & Temporal Barriers to Entry
  - ✓ Packaging Preferences: Orange consumers buying unpackaged fruit rose from 45% (2018) to 55% (2026).
  - ✓ Significant Regional Packaging Difference: Consumers in the West purchase unpackaged oranges at a significantly higher rate (68%) and packaged tangerines at a lower rate (69%) than other regions.
  - ✓ Significant Temporal Barrier Difference (Grapefruit): Concerns regarding medication interactions with grapefruit nearly doubled after the holidays compared to the pre-holiday wave.
  - ✓ Promotional Comparison: Effectiveness is largely unchanged; "Buy one get one free" remains the #1 influencer (59% in 2026 vs. 58% in 2018).

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Strategic Overview

- Overall Conclusion & Strategic Outlook
  - ✓ Growth Potential: While oranges remain the staple, the 28% increase in tangerine penetration and 7% rise in grapefruit penetration since 2018 indicate expanding consumer interest in citrus variety.
  - ✓ Regional Strategy: Marketing efforts could be tailored to regional nuances, specifically addressing the low weekly grapefruit consumption in the Midwest and the strong California origin bias in the West.
  - ✓ Operational Shifts: The trend toward single-unit purchasing after holidays and the growth in unpackaged fruit preference suggest that retailers should offer more flexible, loose-bin options rather than bulk packaging alone.
  - ✓ Sustainability & Innovation: With over 60% of consumers more likely to purchase citrus grown using sustainable practices, highlighting water conservation and reduced pesticide use could be a key competitive differentiator for the Florida brand.
  - ✓ Consumer Barriers: Addressing spoilage concerns (cited by over half of orange and tangerine consumers) through improved storage education or "stay-fresh" packaging could unlock higher purchase frequencies.

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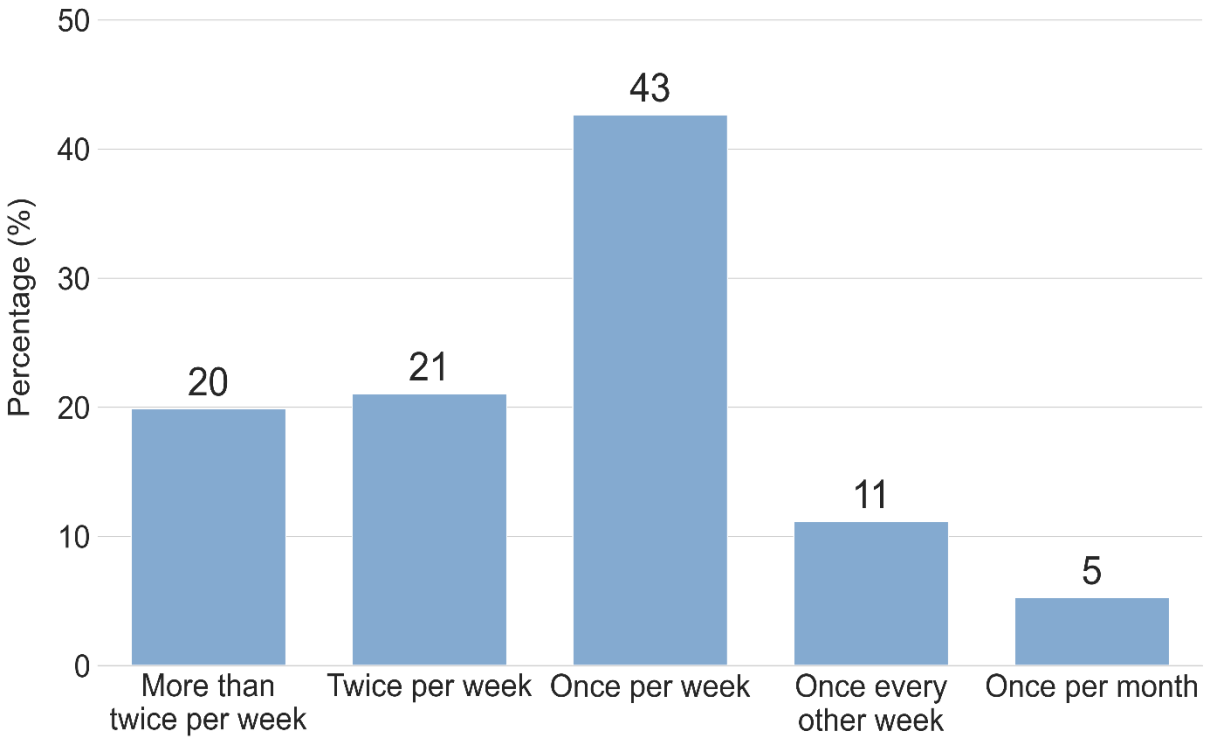
2. CONSUMPTION HABITS AND MARKET PENETRATION

RO 1: Measure Fresh Citrus Consumption Frequency and Quantity
RO 2: Identify where Purchased

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General Grocery Habits

- *Both the temporal and regional differences are NOT significant*
- Over 80% of all consumers indicated that they purchase groceries at least once per week.
- On average, 20% of consumers reported purchasing groceries more than twice per week.

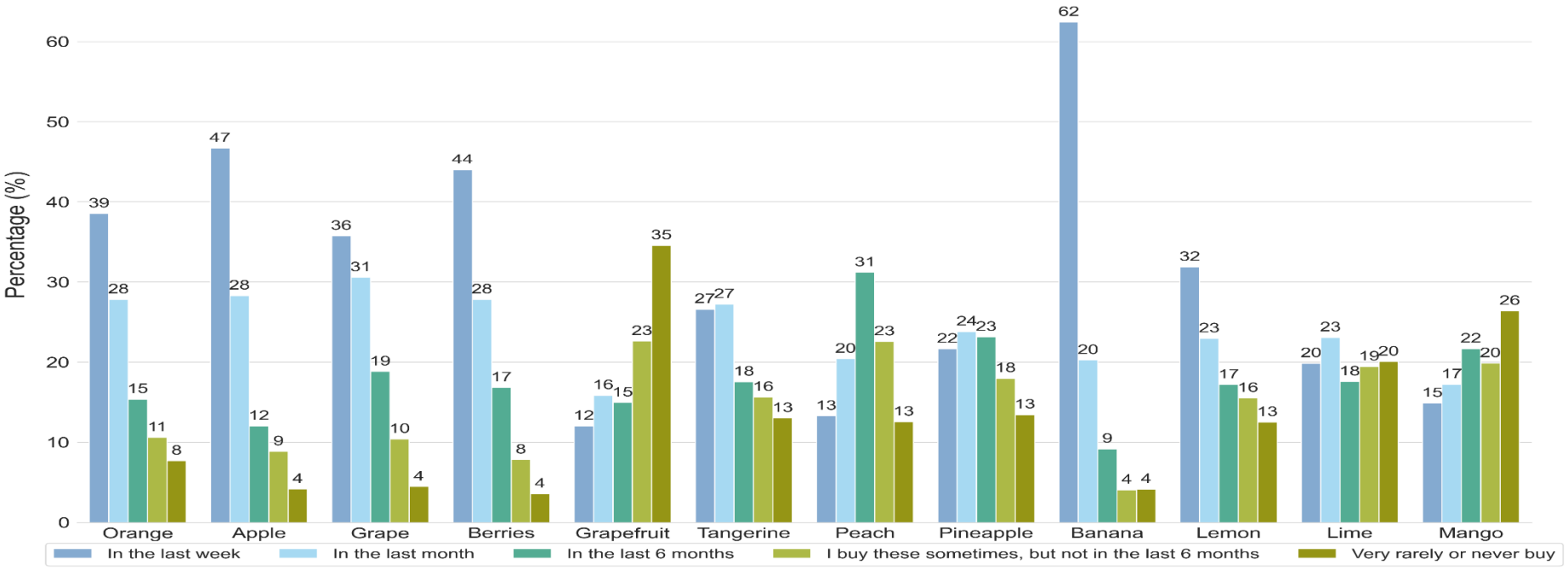


Q2.1: How frequently do you purchase groceries? [n=1,600]

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Penetration Trend

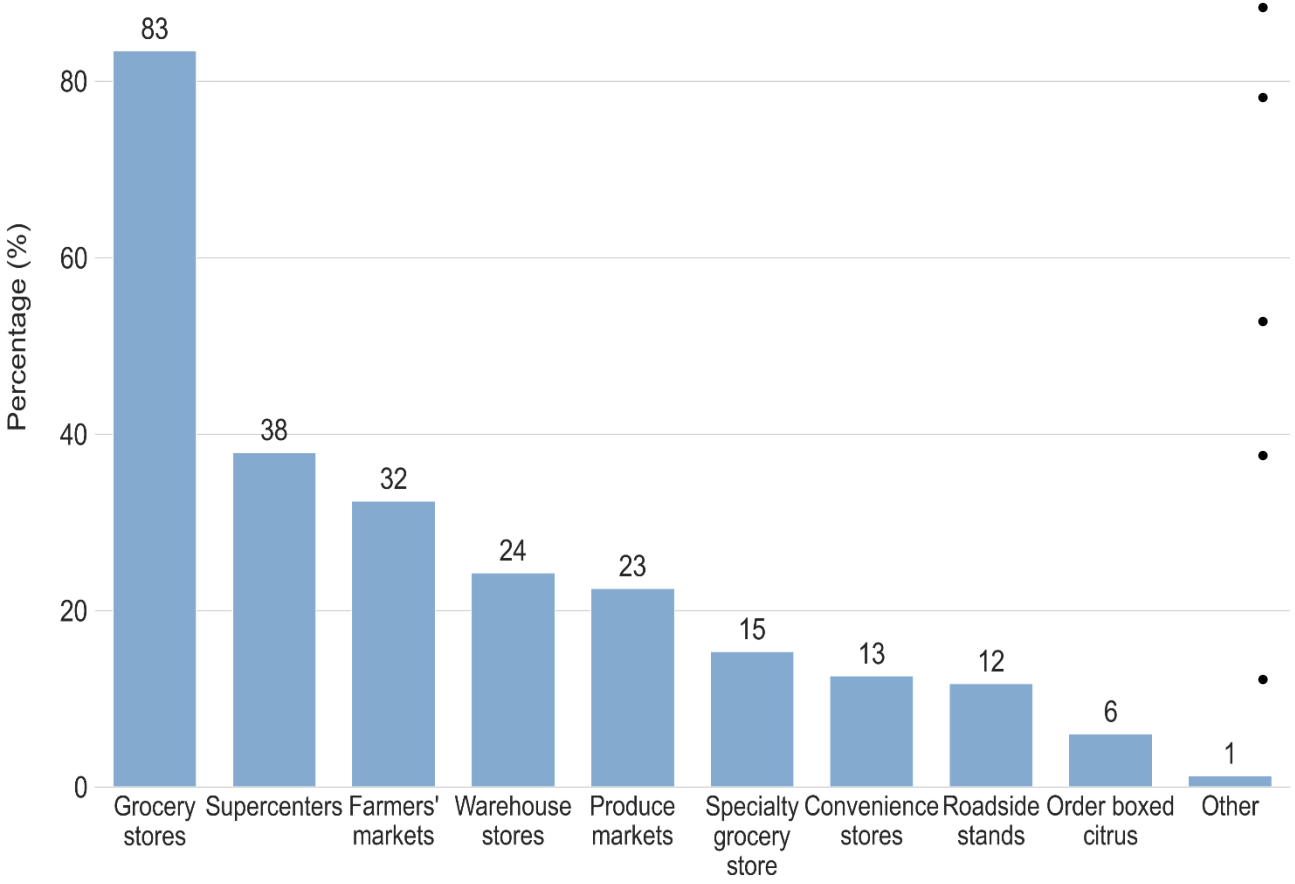
- Among orange, grapefruit, and tangerine consumers, 67%, 28%, and 54% stated that they purchased their respective fruit within the last month.
- **In 2018**, 67% of orange consumers, 21% of grapefruit consumers, and 44% of tangerine consumers reported purchasing these fruits within the last month.
- Of these three citrus consumer groups, 8%, 35%, and 13% reported that they very rarely or never purchase oranges, grapefruit, or tangerines, respectively.
- The vast majority of banana consumers (82%) reported purchasing bananas within the last month.



Q1.3: When is the most recent time you purchased the following fresh fruits? [n=1,600]

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Channel Trend

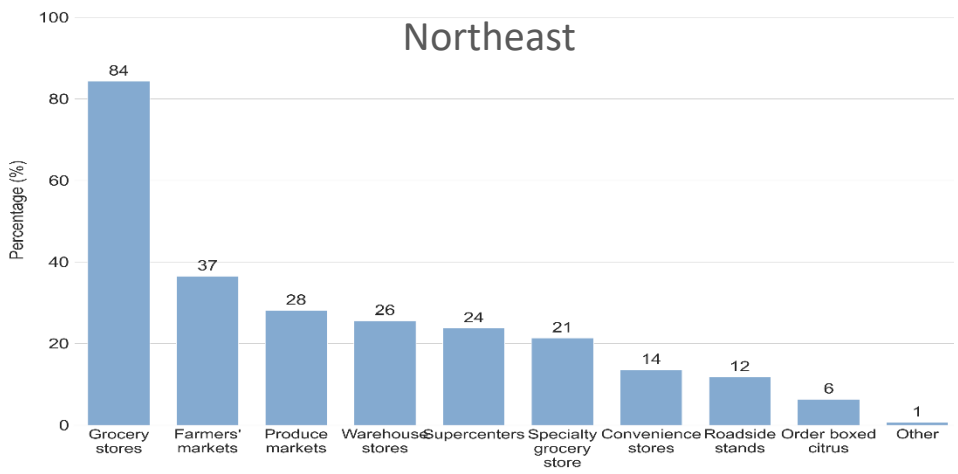


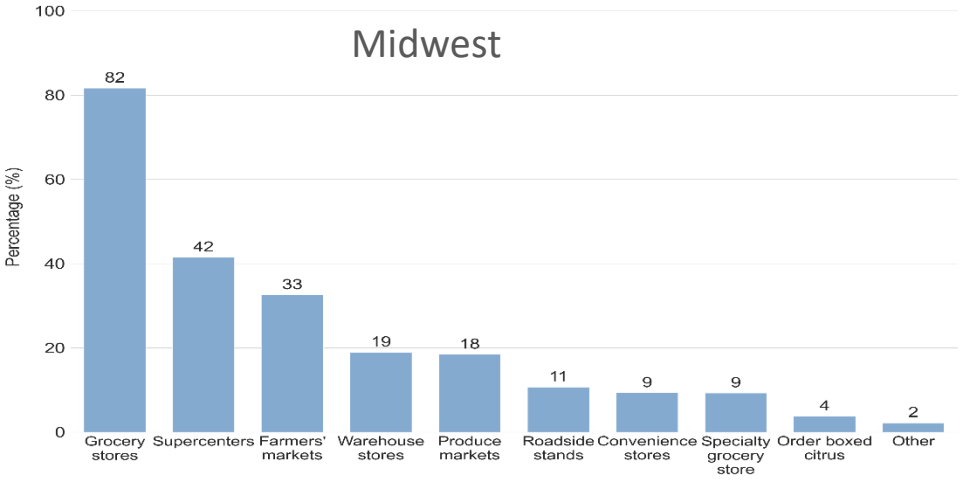
- *Only the regional differences are significant.*
- Grocery stores remain the most common location for purchasing fresh citrus, with 83% of respondents identifying them as their primary shopping source.
- **In 2018**, grocery stores were the top selection at 86%, followed by mass market retailers at 39%.
- Supercenters rank as the second most popular purchase location for respondents in the Midwest, South, and West regions.
- However, in the Northeast region, Supercenters ranked significantly lower, appearing as the fifth most popular location.

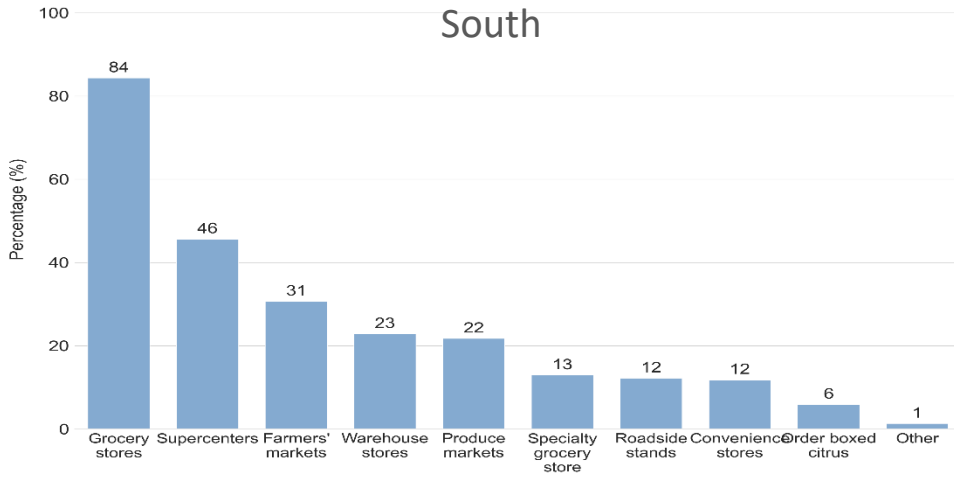
Q3.1: Where do you usually purchase fresh citrus (select all that apply)? [n=1,600]

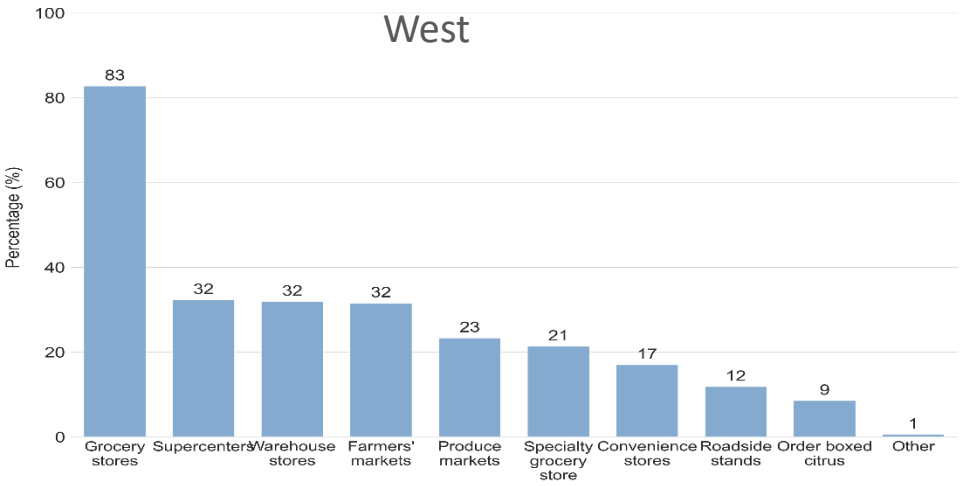
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Channel Trend – Regional







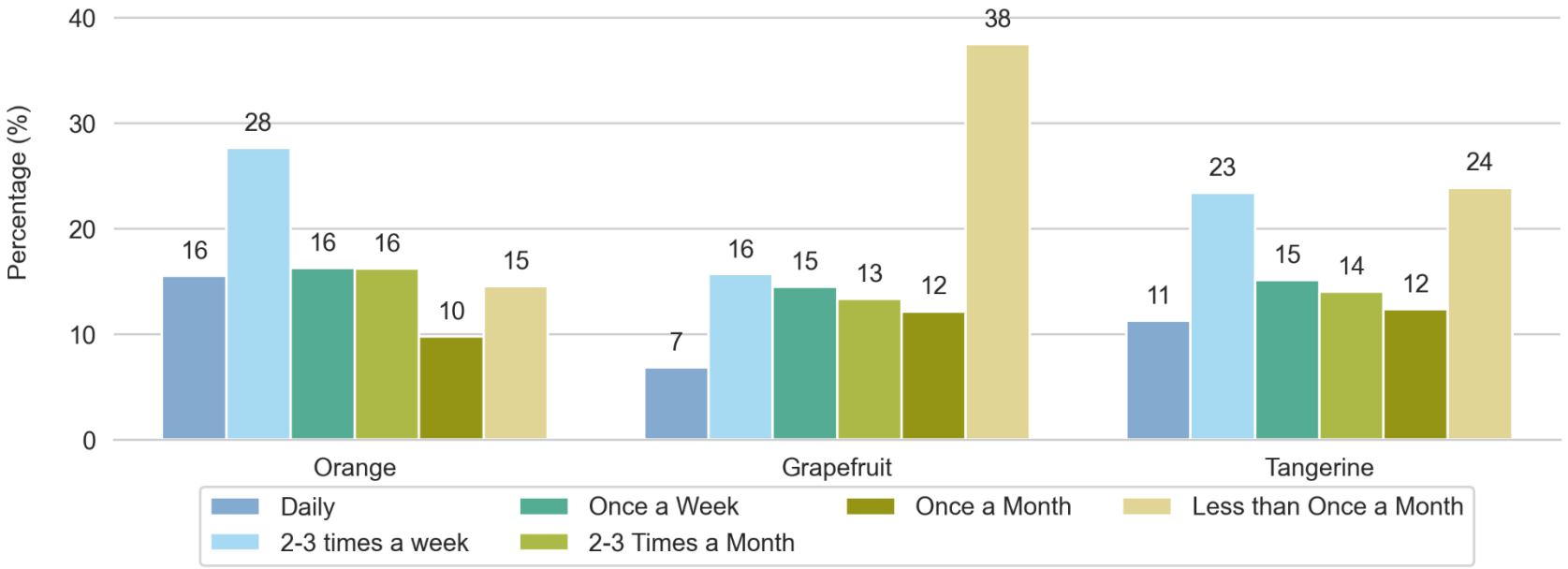


Q3.1: Where do you usually purchase fresh citrus (select all that apply)?

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Consumption Frequency

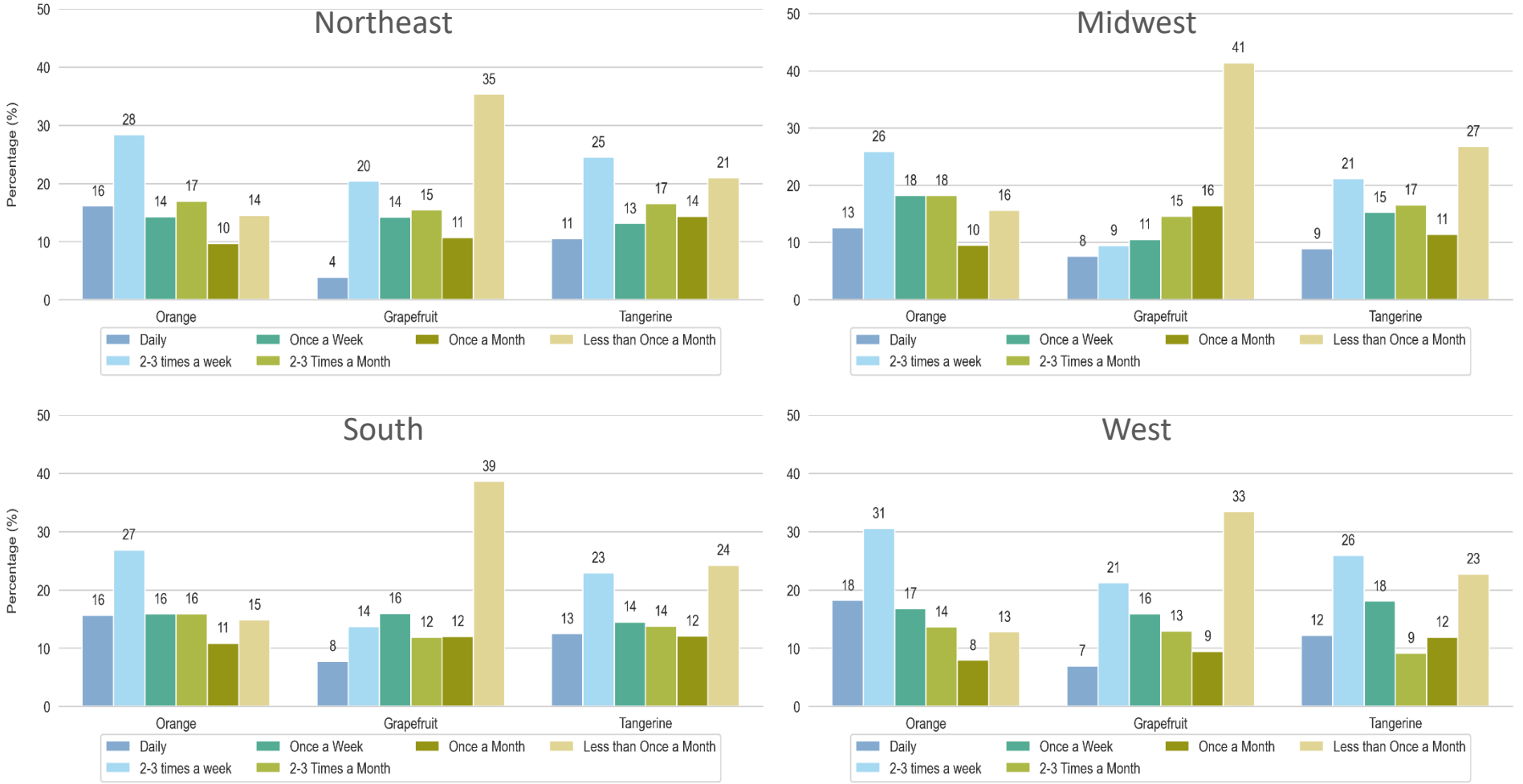
- *Only the regional differences among grapefruit consumers are significant.*
- Among all participants, 60%, 38%, and 49% of respondents stated that they consume oranges, grapefruit, and tangerines at least once per week.
- In the Midwest region specifically, only 28% of respondents consume grapefruit at least once weekly, which is significantly lower than the overall average of 38%.
- **In 2018**, 59% of orange consumers and 47% of tangerine consumers consumed those fruits at least once per week.



Q3.2: Please indicate how often and in what amount you consume the following fresh fruit. - Frequency [O(n)=1461, G(n)=1037, T(n)=1,376]

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Consumption Frequency – Regional

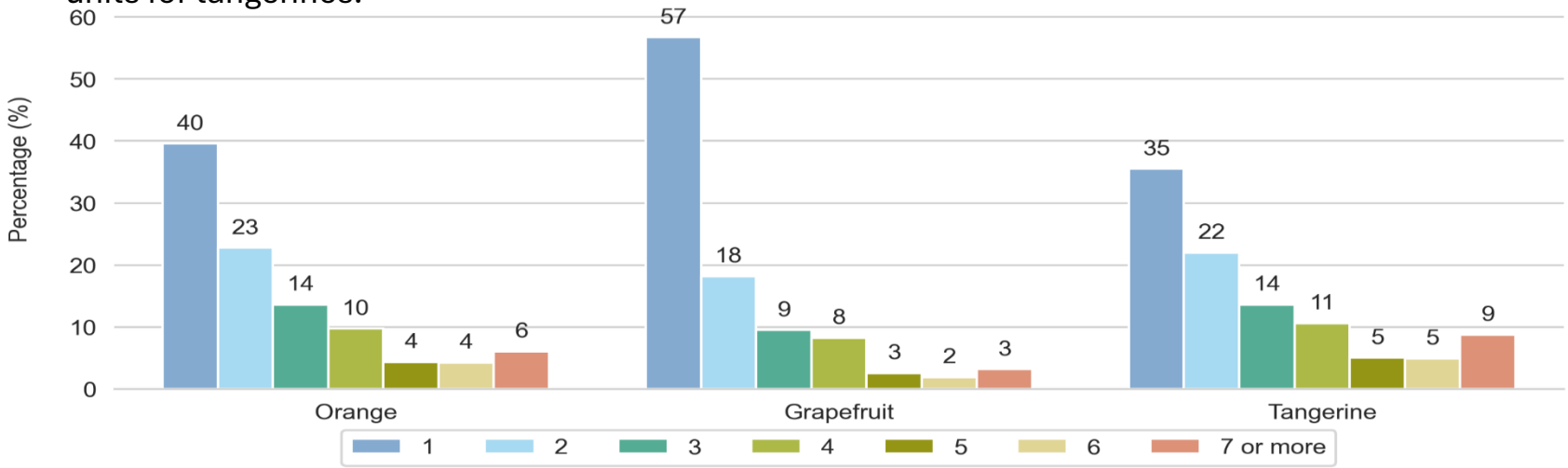


Q3.2: Please indicate how often and in what amount you consume the following fresh fruit. - Frequency

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Consumption Volume

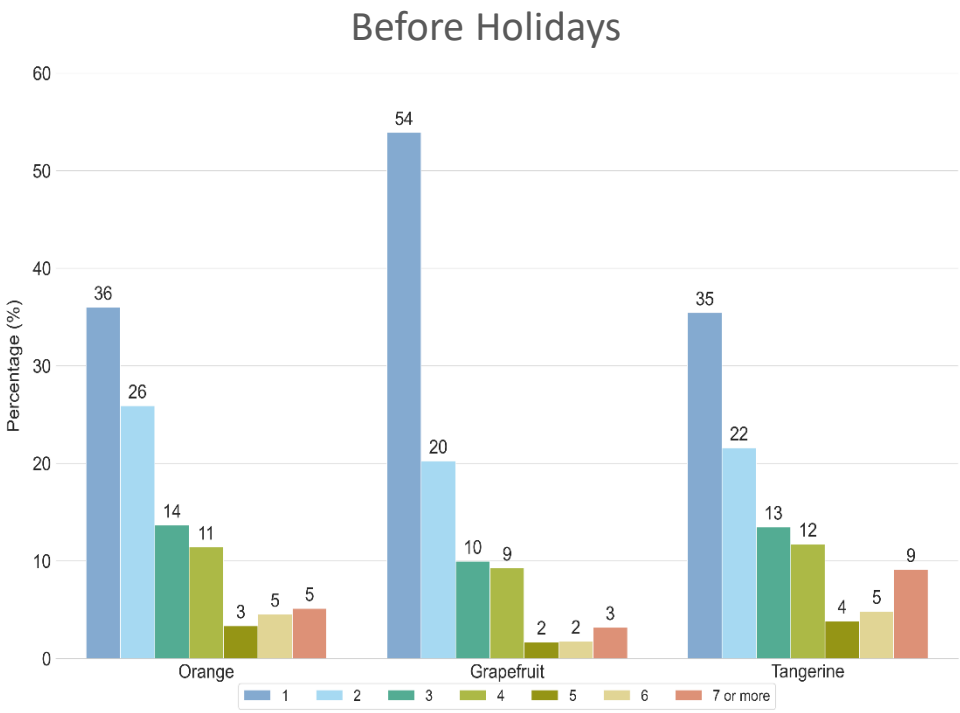
- *Only the temporal differences among oranges consumers are significant.*
- Average unit consumption for the given period: Oranges: 2.5, Grapefruits: 2, Tangerines: 2.7
- The question was asked to respondents who consumed either packaged or individual citrus.
- Before the holidays, 36% of orange consumers consumed a single unit, while 26% consumed two. Following the holidays, the proportion of single-unit consumption increased to 42%, while those consuming two units decreased to 20%.
- For the overall survey period, the majority of consumers for oranges (40%), grapefruit (57%), and tangerines (35%) consumed a single piece of fruit.
- Conversely, a smaller segment (14% of orange, 8% of grapefruit, and 19% of tangerine consumers) consumed more than four fruits during the same period.
- **In 2018**, the average daily and weekly consumption rates were 1 and 3 units for oranges, and 2 and 4 units for tangerines.

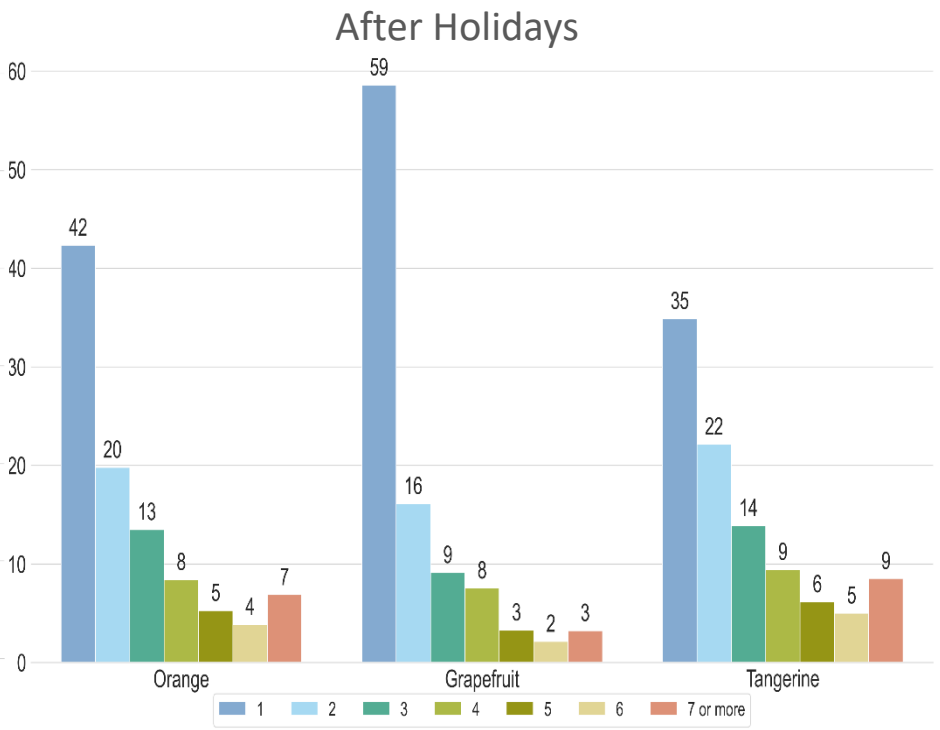


Q3.2: Please indicate how often and in what amount you consume the following fresh fruit. - Quantity [O(n)=1,227, G(n)=850, T(n)=1,132]

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Consumption Volume – Temporal



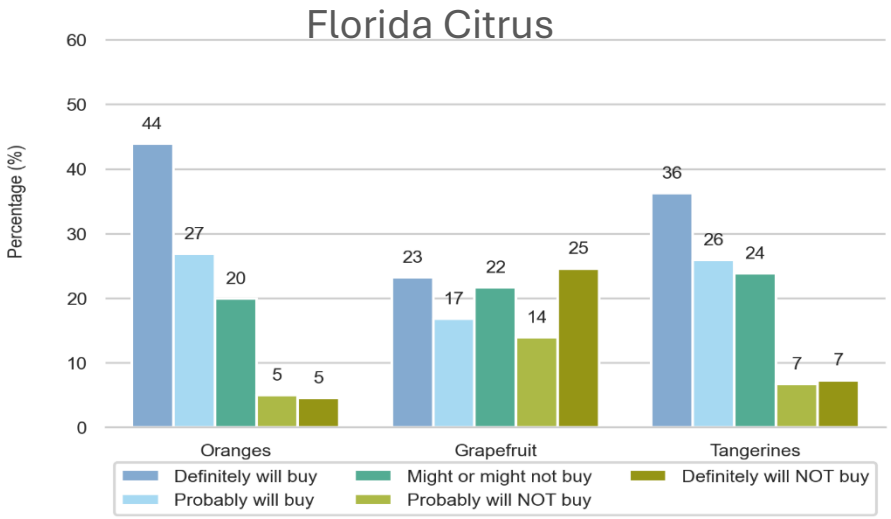


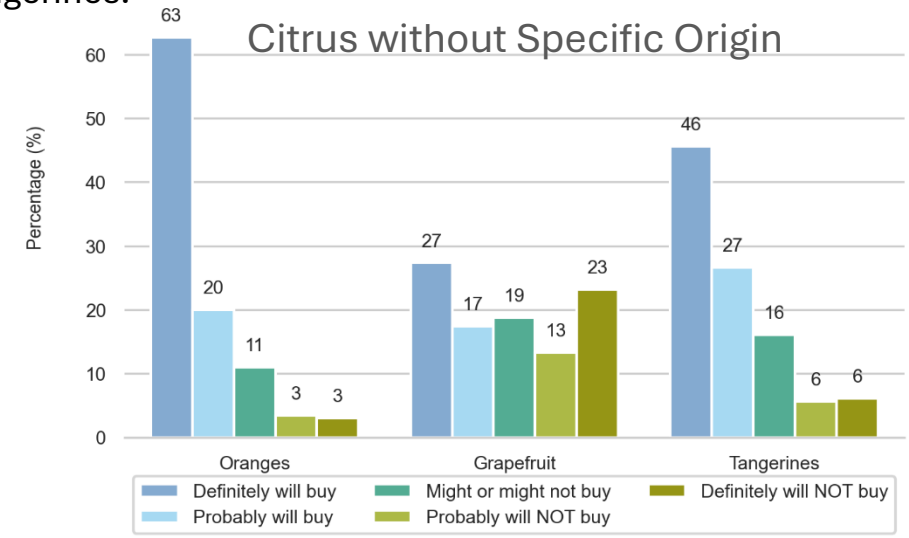
Q3.2: Please indicate how often and in what amount you consume the following fresh fruit. - Quantity

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Future Intent

- ***Oranges**: NO significant differences. / **Tangerines**: Only the regional differences are significant / **Grapefruit**: Both temporal and regional differences are significant.*
- Before the holidays, 7% more consumers preferred general grapefruit; however, this lead dropped to 4% after the holidays.
- A higher percentage of consumers indicated a preference for general grapefruit over Florida grapefruit, with lead margins of 4% in the Midwest, 3% in the Northeast, 5% in the South, and 7% in the West.
- Similarly, general tangerines were preferred over Florida tangerines by margins of 10%, 9%, 7%, and 15% across the Midwest, Northeast, South, and West regions, respectively.
- Overall, more respondents preferred general fruit over Florida-grown varieties: 83% vs. 71% for oranges, 44% vs. 41% for grapefruit, and 73% vs. 62% for tangerines.





Q3.6: How likely are you to purchase the following fresh fruits in the next six months?
[Florida Citrus: O(n)=1,592, G(n)=1,592, T(n)=1,591 / Citrus without specific origin: O(n)=1,596, G(n)=1,595, T(n)=1,593]

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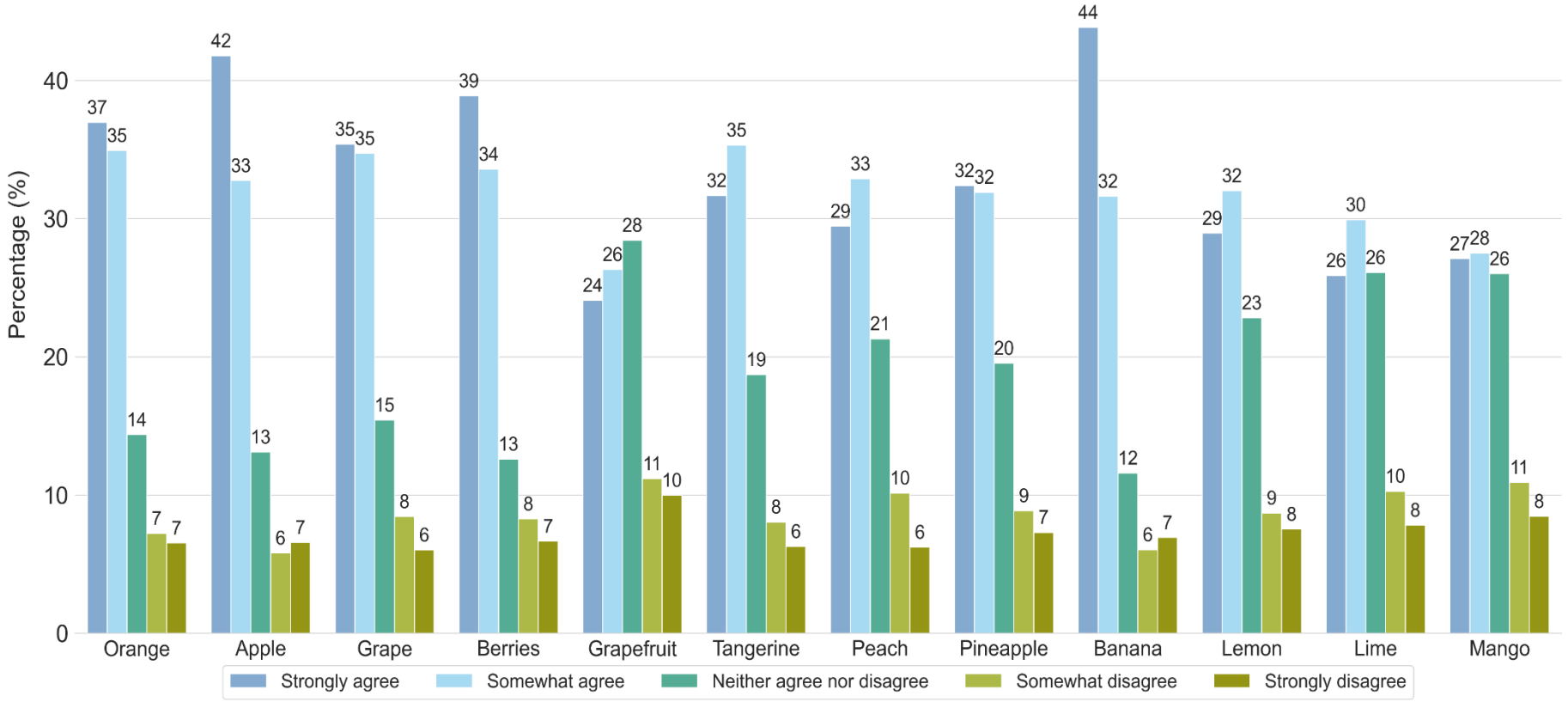
3. PURCHASE DRIVERS AND DECISION FACTORS

RO 4: Find Out what Goes into Decisions to Buy Fresh Fruit
RO 6: Measure Preferences for Key Attributes

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Quality vs. Value

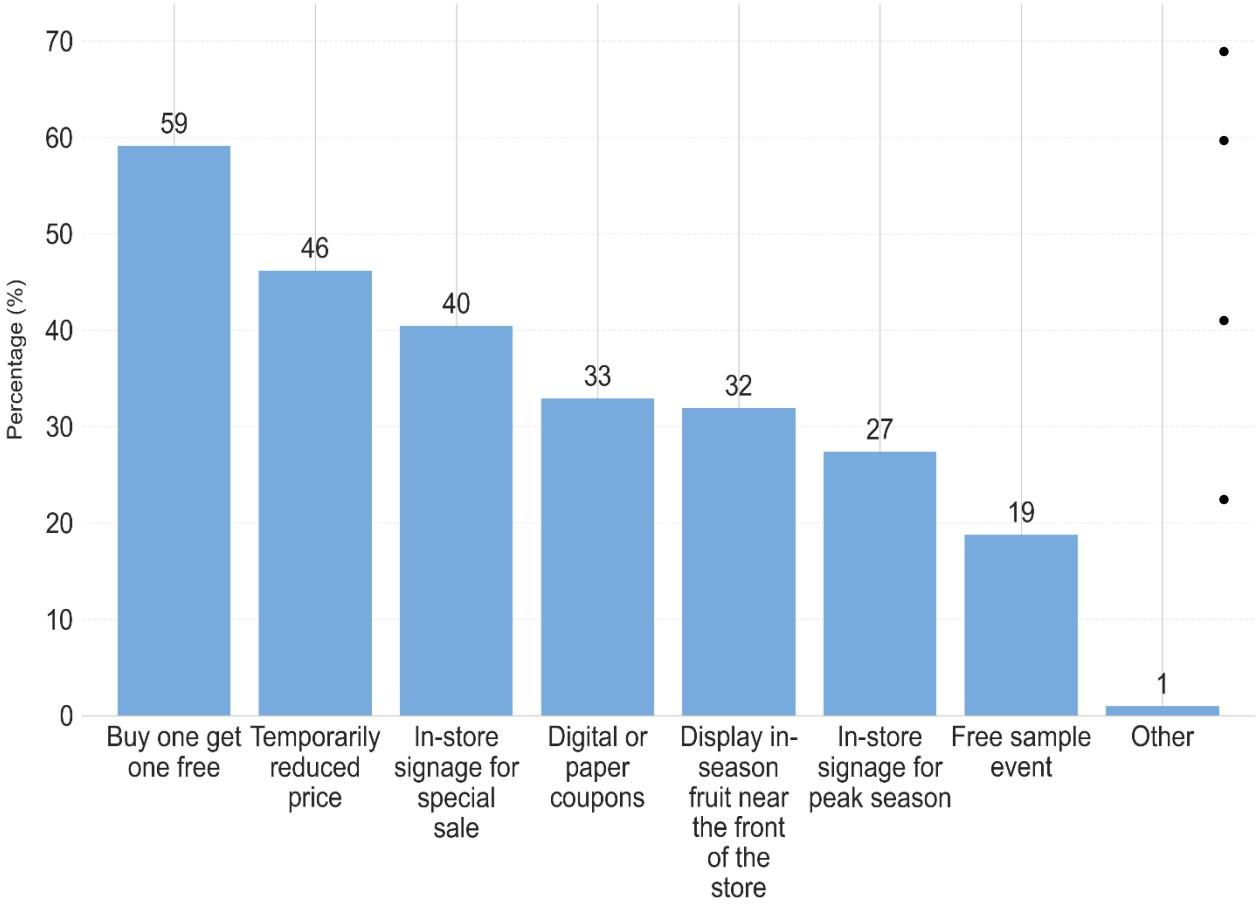
- Banana (76%) is the most chosen fruit for its highest quality for the money.
- Over half of all consumers identified oranges (72%), tangerines (67%), and grapefruit (50%) as providing the highest quality for the money.



Q1.4: Please indicate your level of agreement with the statement: This fresh fruit provides the highest QUALITY for the money. [n=1,600]

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Promotional Effectiveness



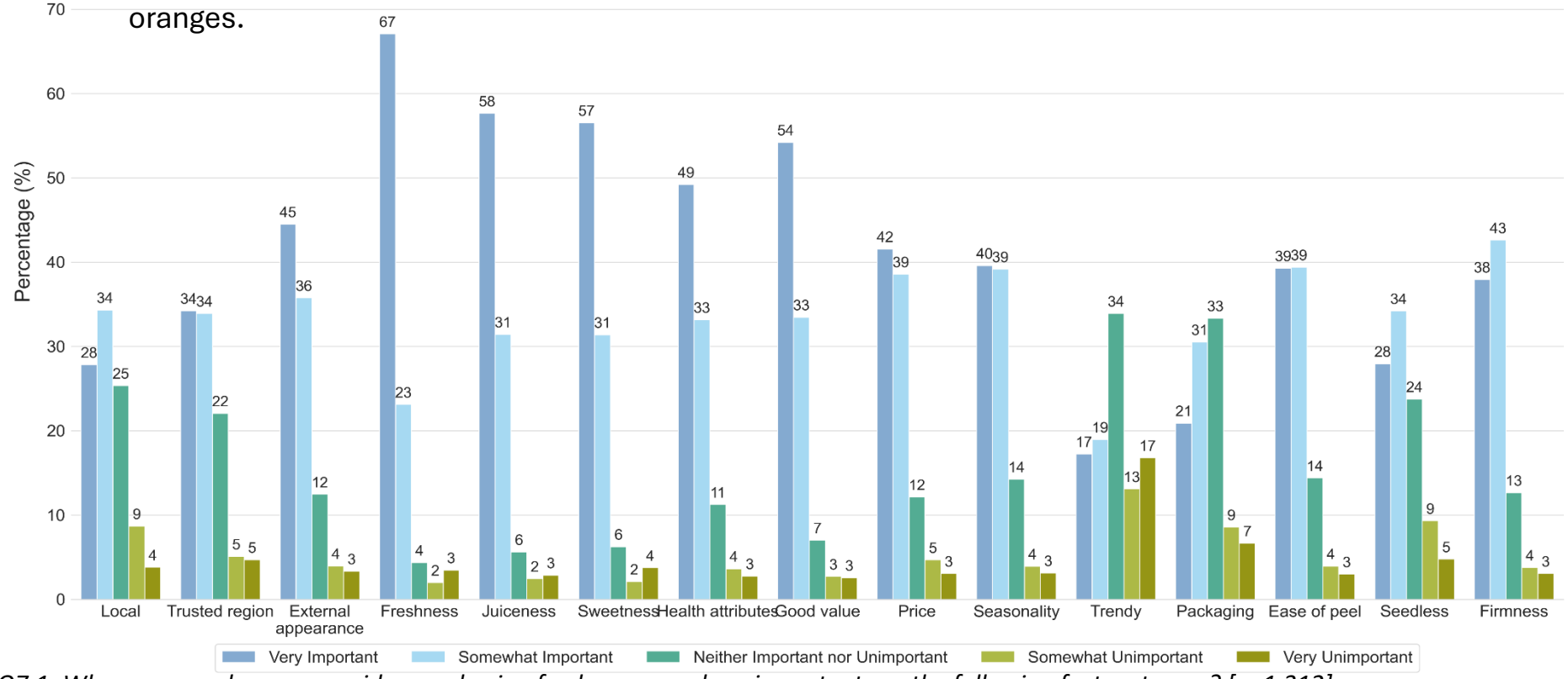
- *Both the temporal and regional differences are NOT significant.*
- Buy one, get one free remains the most effective promotion for fresh fruit, selected by 59% of consumers.
- This is followed by temporarily reduced prices (46%) and in-store signage for special sales (40%).
- These results align closely with **2018 data**, where buy one, get one (58%), temporarily reduced prices (44%), and in-store signage (39%) were also the top-rated responses.

Q2.2: Different grocery stores may offer different sales or promotions for fresh fruit. Which of these would be the most likely to influence you to purchase a fruit at the store? (Please select up to 3) [n=1,600]

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Purchase Drivers - Oranges

- High percentages of consumers identified Freshness (90%), Juiciness (89%), Sweetness (88%), Good value (87%), and Health attributes (82%) as the most important factors when purchasing oranges.
- A relatively lower percentage of consumers stated that factors such as being Trendy (36%), Packaging (52%), Locally grown (62%), Seedless (62%), and from a Trusted region (68%) were important.
- **In 2018**, Juiciness, Sweetness, and Appearance were rated as the most important attributes for fresh oranges.

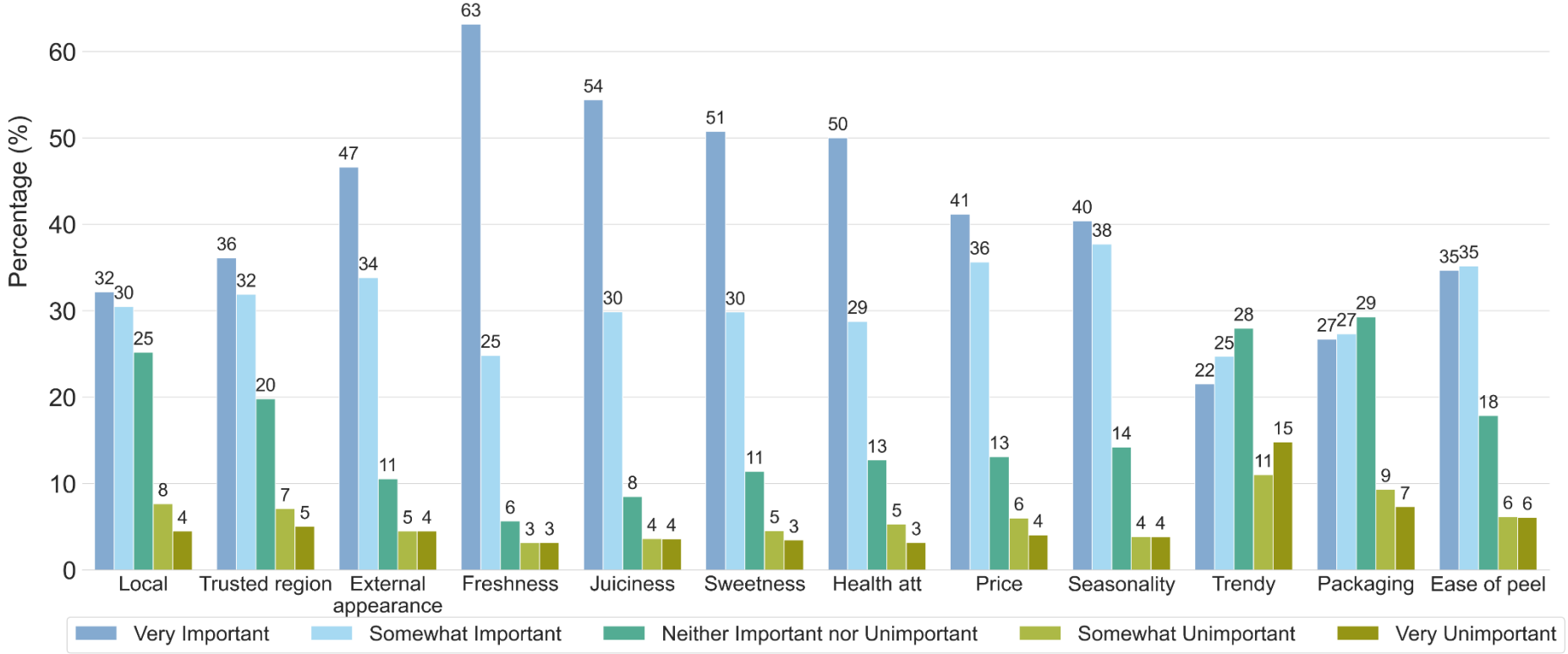


*Q7.1: When you purchase or consider purchasing fresh **oranges,** how important are the following factors to you? [n=1,312]*

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Purchase Drivers - Grapefruit

- High percentages of consumers identified Freshness (88%), Juiciness (84%), Sweetness (81%), External appearance (81%), and Health attributes (79%) as the most important factors when purchasing grapefruit.
- A relatively lower percentage of consumers stated that factors such as being Trendy (47%), Packaging (54%), Locally grown (62%), and from a Trusted region (68%) were important.

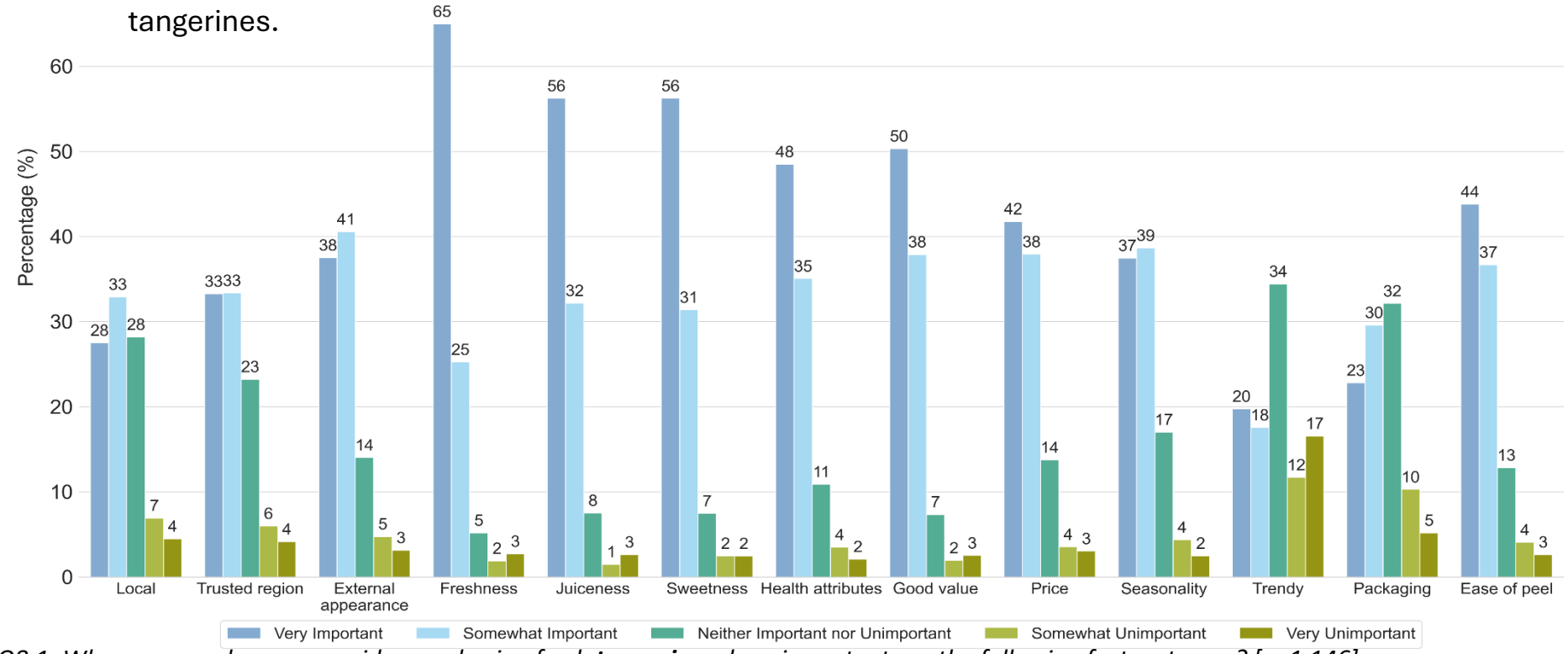


*Q6.1: When you purchase or consider purchasing fresh **grapefruit,** how important are the following factors to you? [n=693]*

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Purchase Drivers - Tangerines

- High percentages of consumers identified Freshness (90%), Juiciness (88%), Good value (88%), Sweetness (87%), and Health attributes (83%) as the most important factors when purchasing tangerines.
- A relatively lower percentage of consumers indicated that factors such as being Trendy (38%), Packaging (53%), Locally grown (61%), and from a Trusted region (66%) were important.
- **In 2018,** Juiciness, Sweetness, and Appearance were rated as the most important attributes for fresh tangerines.

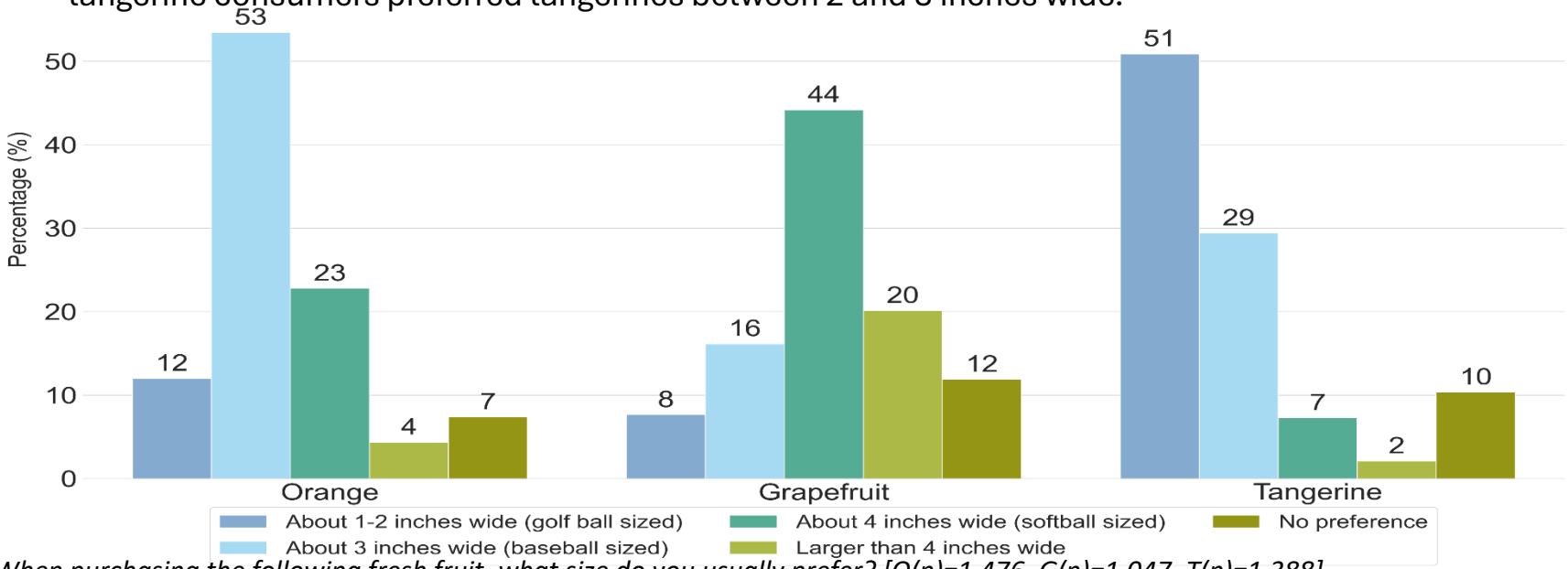


*Q8.1: When you purchase or consider purchasing fresh **tangerines,** how important are the following factors to you? [n=1,146]*

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Physical Specification - Size

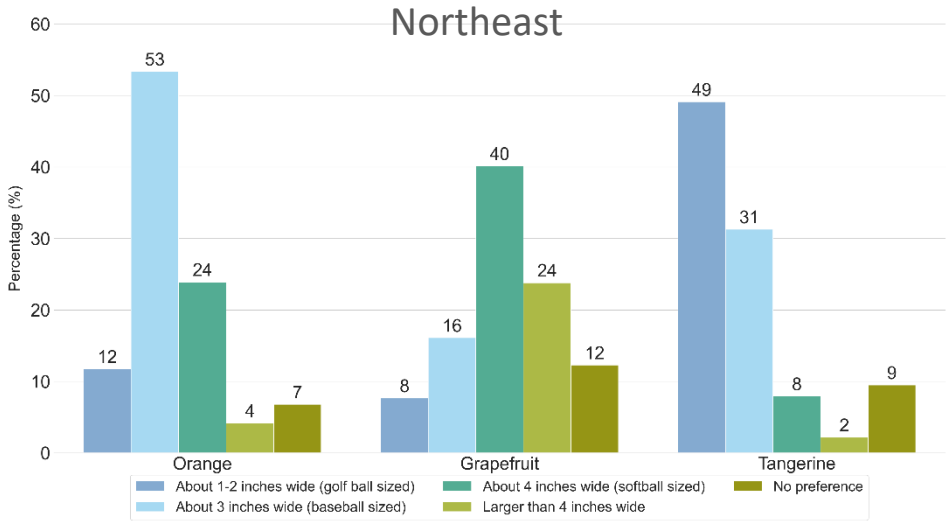
- *Only the regional differences among grapefruit consumers are significant.*
- About 4-inch wide grapefruit (softball-sized) is preferred by 55% of consumers in the Midwest, while preferences in other regions range from 40% to 46%.
- More than 50% of consumers prefer oranges that are about 3 inches wide (baseball-sized) and tangerines that are about 1–2 inches wide (golf ball-sized).
- Sizes exceeding 4 inches wide are the least preferred for both oranges and tangerines.
- Overall, the most preferred size for grapefruit is about 4 inches wide (softball-sized), while the least preferred is about 1–2 inches wide (golf ball-sized).
- **In 2018**, 62% of orange consumers preferred oranges between 3 and 4 inches wide, while 70% of tangerine consumers preferred tangerines between 2 and 3 inches wide.

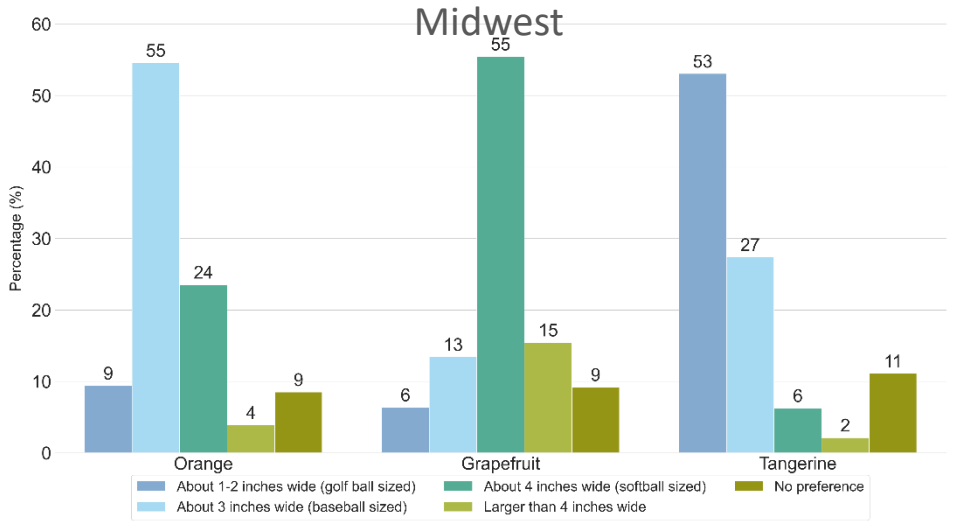


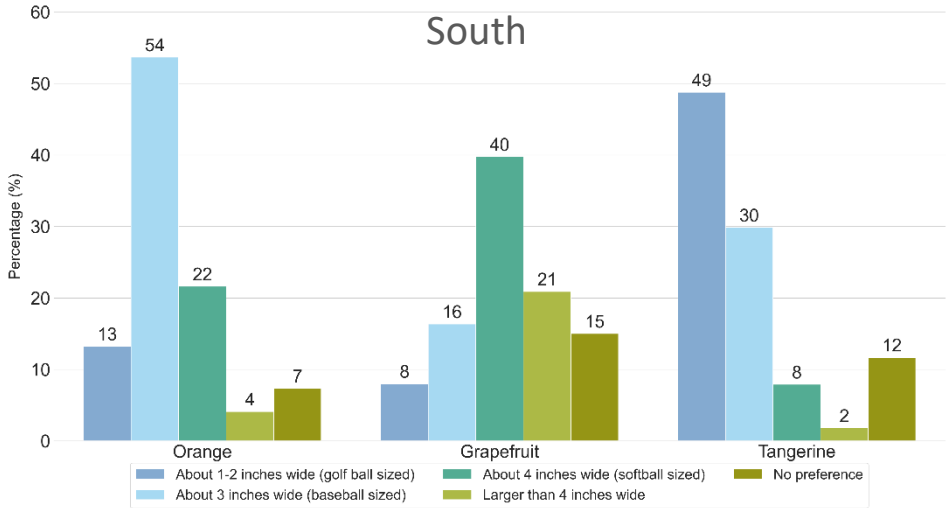
Q3.3: When purchasing the following fresh fruit, what size do you usually prefer? [O(n)=1,476, G(n)=1,047, T(n)=1,388]

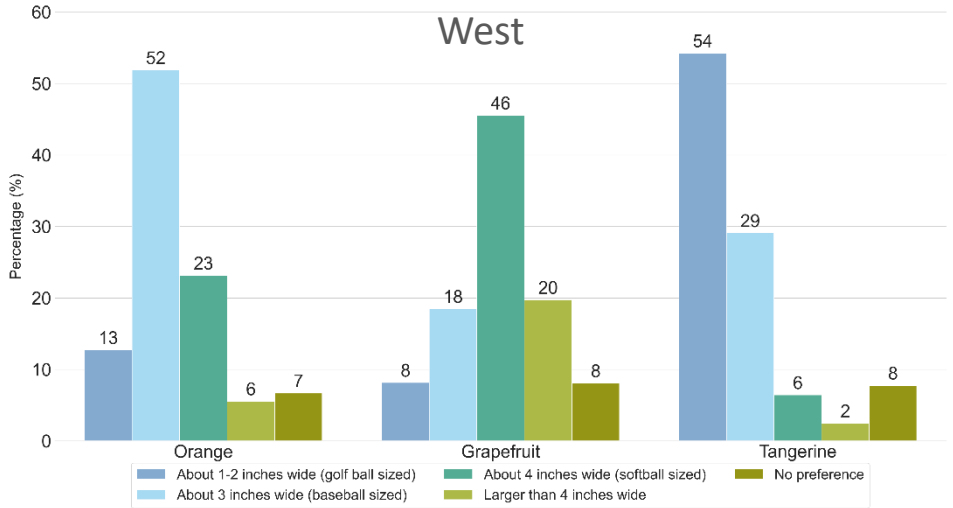
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Physical Specification – Size - Regional







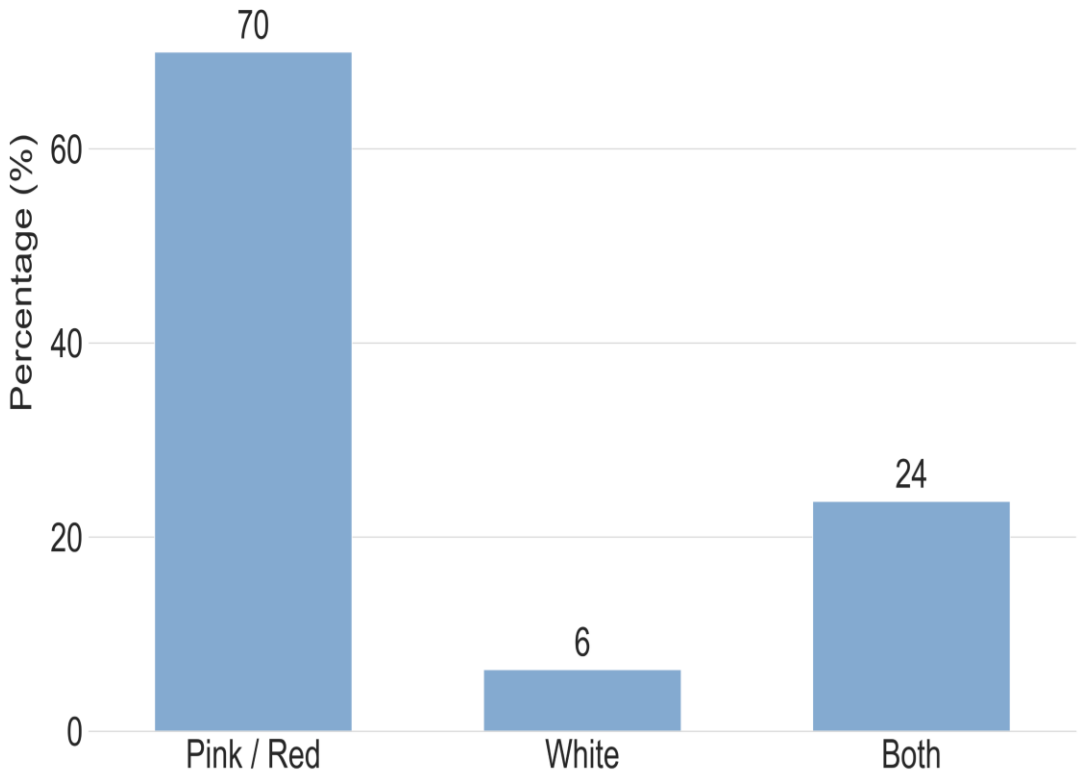


Q3.3: When purchasing the following fresh fruit, what size do you usually prefer?

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Physical Specification – Grapefruit Color

- *Only the regional differences are significant*.
- Overall, approximately 70% of consumers prefer pink or red grapefruit, while only 6% prefer the white variety.
- In the West region, a relatively smaller percentage (58%) of consumers stated a preference for pink or red grapefruit compared to other regions.
- Additionally, 33% of consumers in the West indicated they prefer both pink/red and white grapefruit.

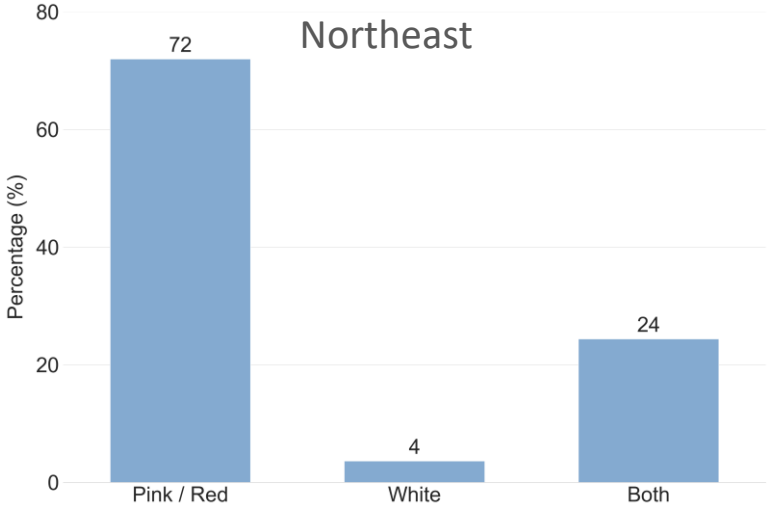


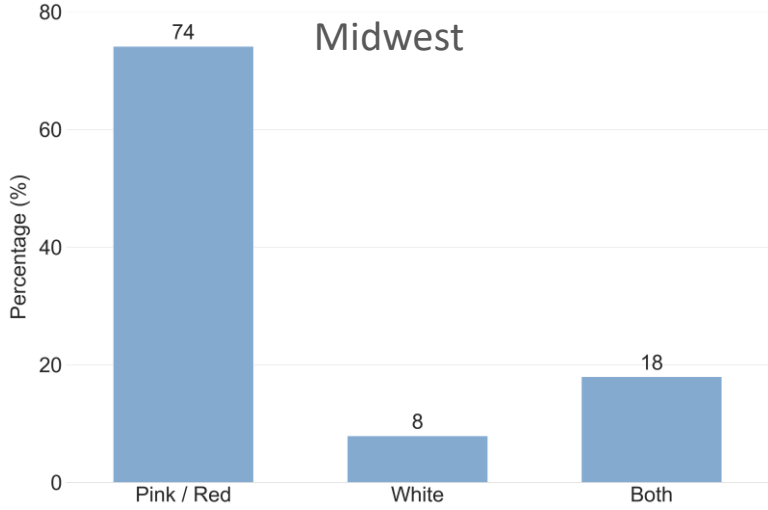
*Q6.4: Which color of **grapefruit** do you prefer (for the inside of the fruit)? [n=692]*

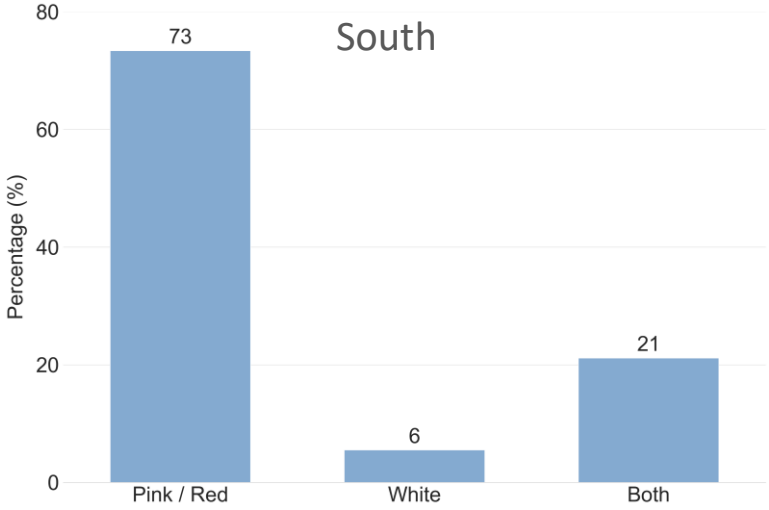
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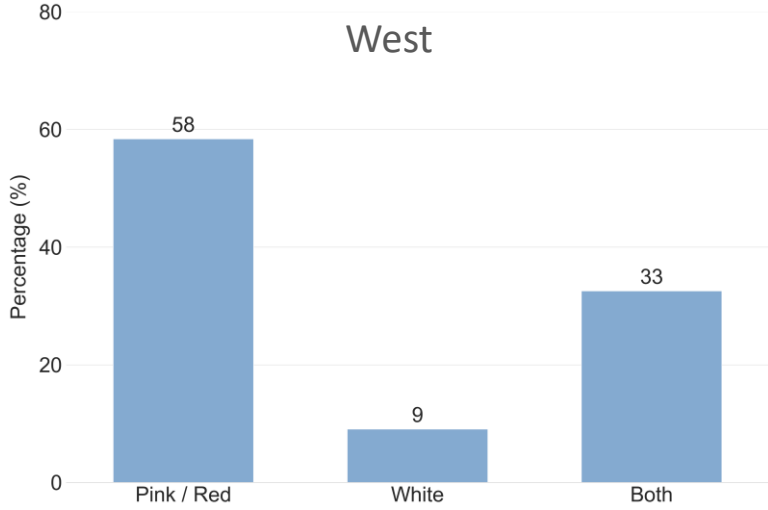
Return to Contents

Physical Specification – Grapefruit Color - Regional







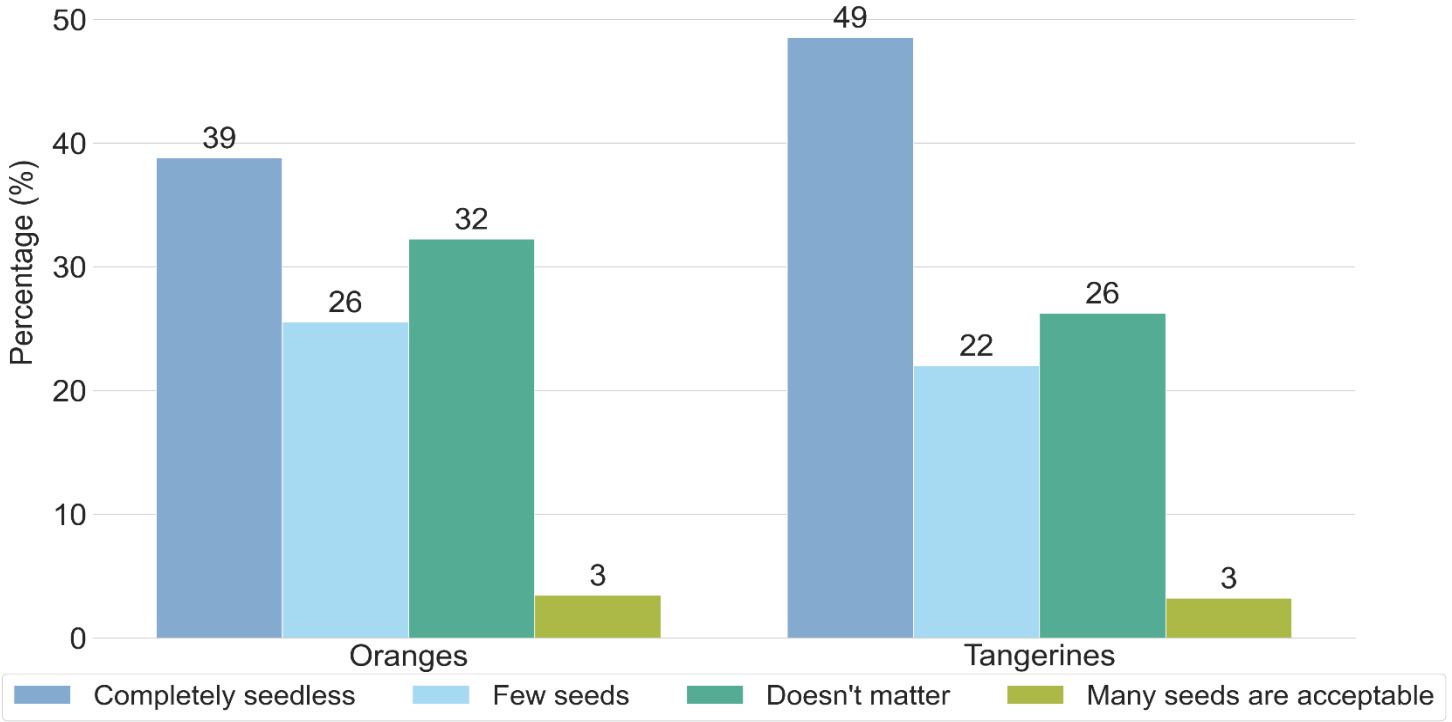


*Q6.4: Which color of **grapefruit** do you prefer (for the inside of the fruit)?*

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Physical Specification - Seeds

- *Both the temporal and regional differences for each fruits are NOT significant.*
- Only 3% of orange and tangerine consumers indicated that having many seeds is acceptable.
- Nearly half of all consumers stated a preference for completely seedless tangerines.
- Despite these preferences, more than 25% of consumers for each fruit indicated that the presence of seeds does not matter to them.
- **In 2018**, 84% of oranges consumers and 69% of tangerine consumers indicated that 1 or 2 seeds would not inconvenience them.



*Q7.4/8.4: Which type of fresh **oranges/tangerines** do you prefer? [O(n)=1,308, T(n)=1,142]*

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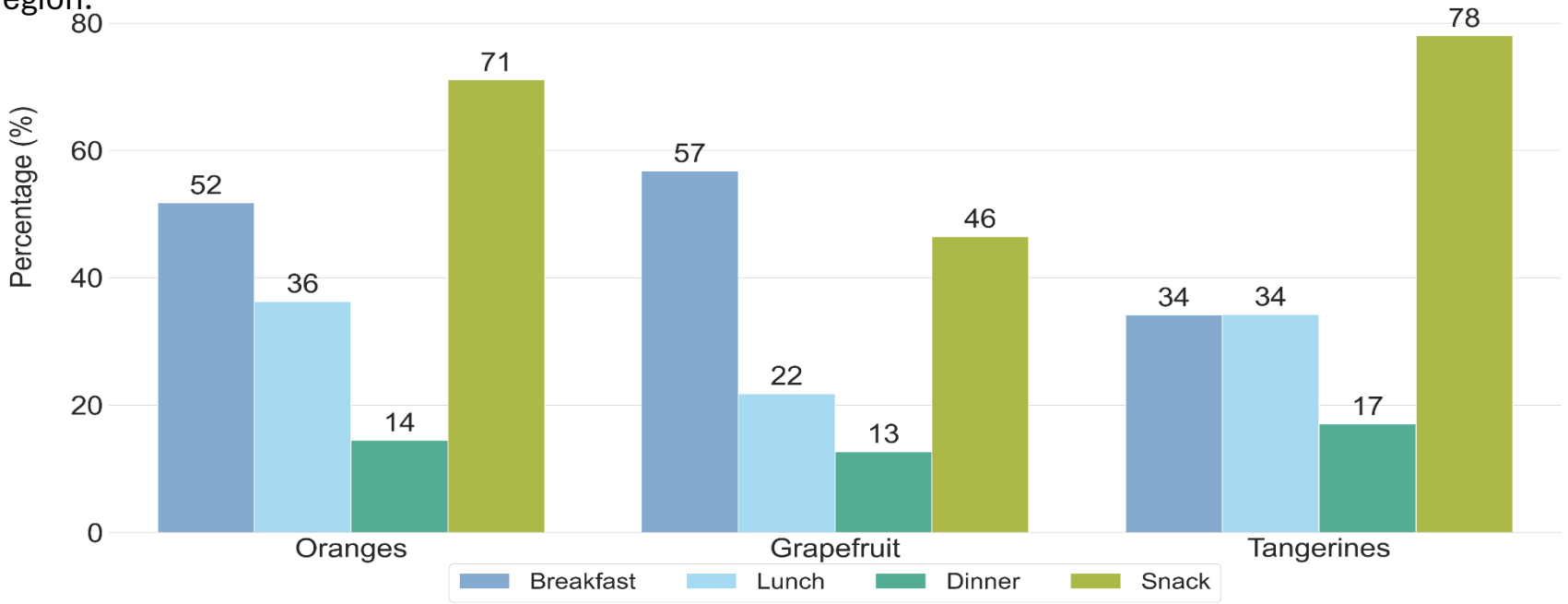
4. CONSUMPTION OCCASION AND USAGE

RO 5: Understand the Consumption Uses

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Eating Occasions

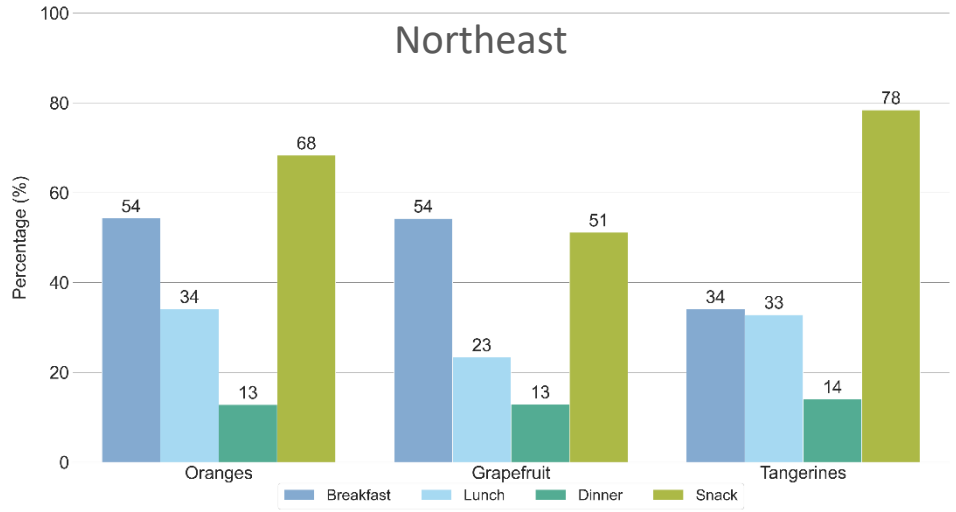
- *Only the regional differences among grapefruit consumer are significant.*
- Among orange and tangerine consumers, eating as a snack is the most popular occasion, at 71% and 78%, respectively. These were followed by breakfast and lunch as the next most frequent occasions for consumption.
- For grapefruit, eating during breakfast is the top-rated occasion (57%), followed by snacking (46%) and lunch (22%). Regional trends show that more consumers in the Northeast, South, and West eat grapefruit as a snack compared to those in the Midwest.
- Conversely, a higher proportion of consumers in the Midwest eat grapefruit for breakfast than in any other region.

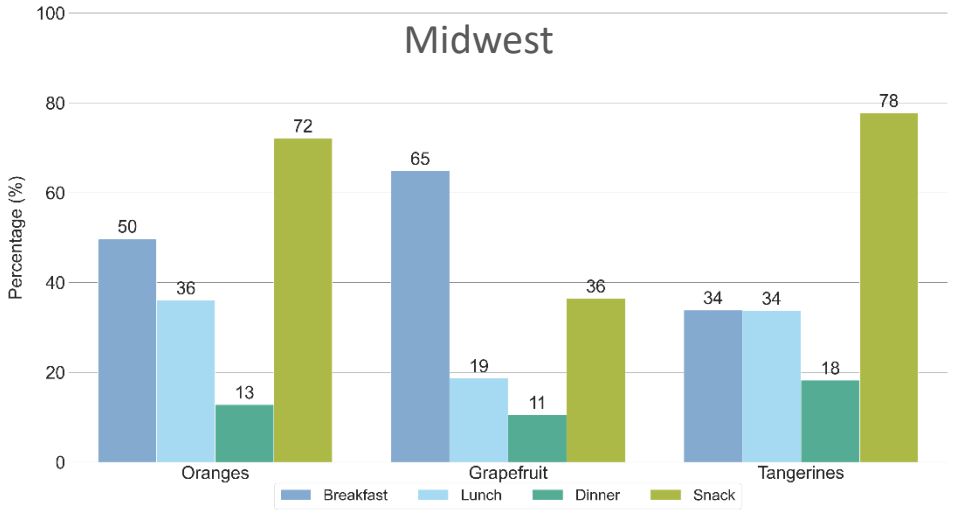


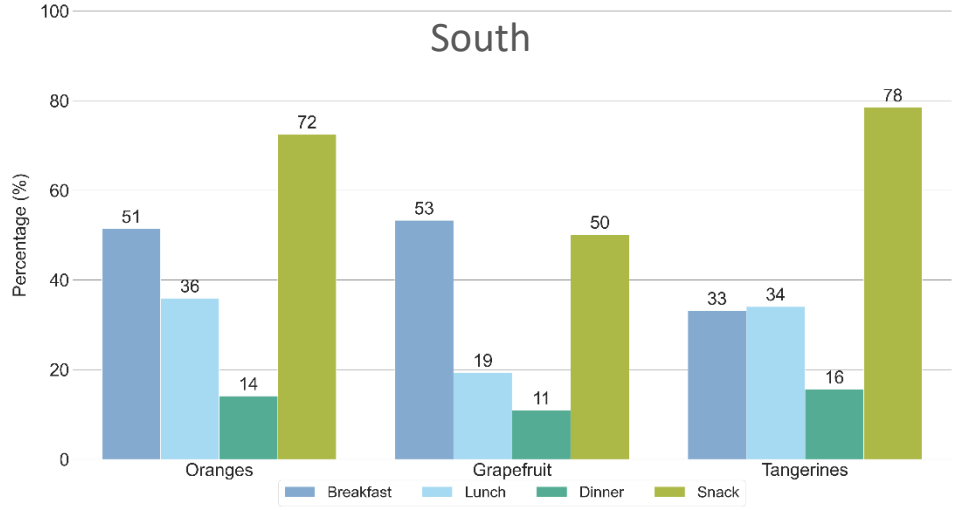
Q3.4: Which of the following describes when you eat or would like to eat the following fresh fruit? Select all that apply [O(n)=1,461, G(n)=944, T(n)=1,223]

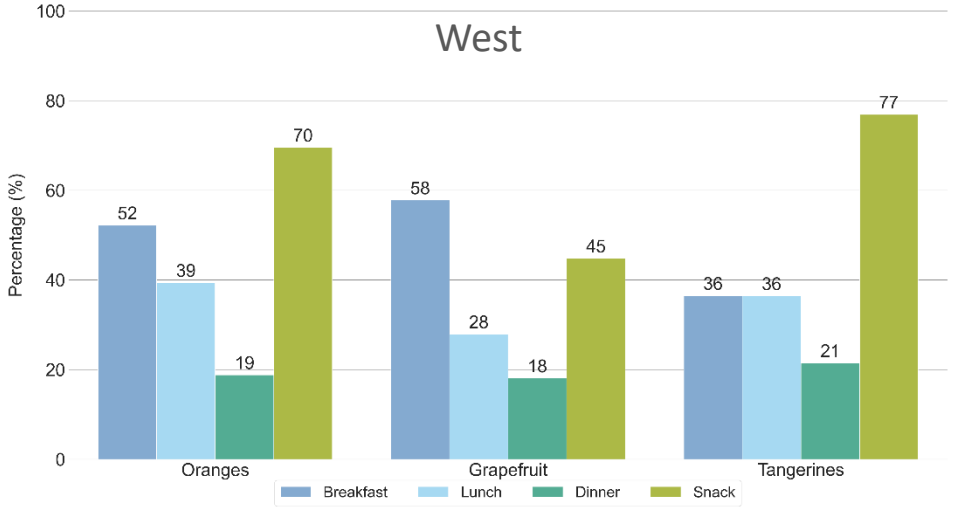
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Eating Occasions - Regional







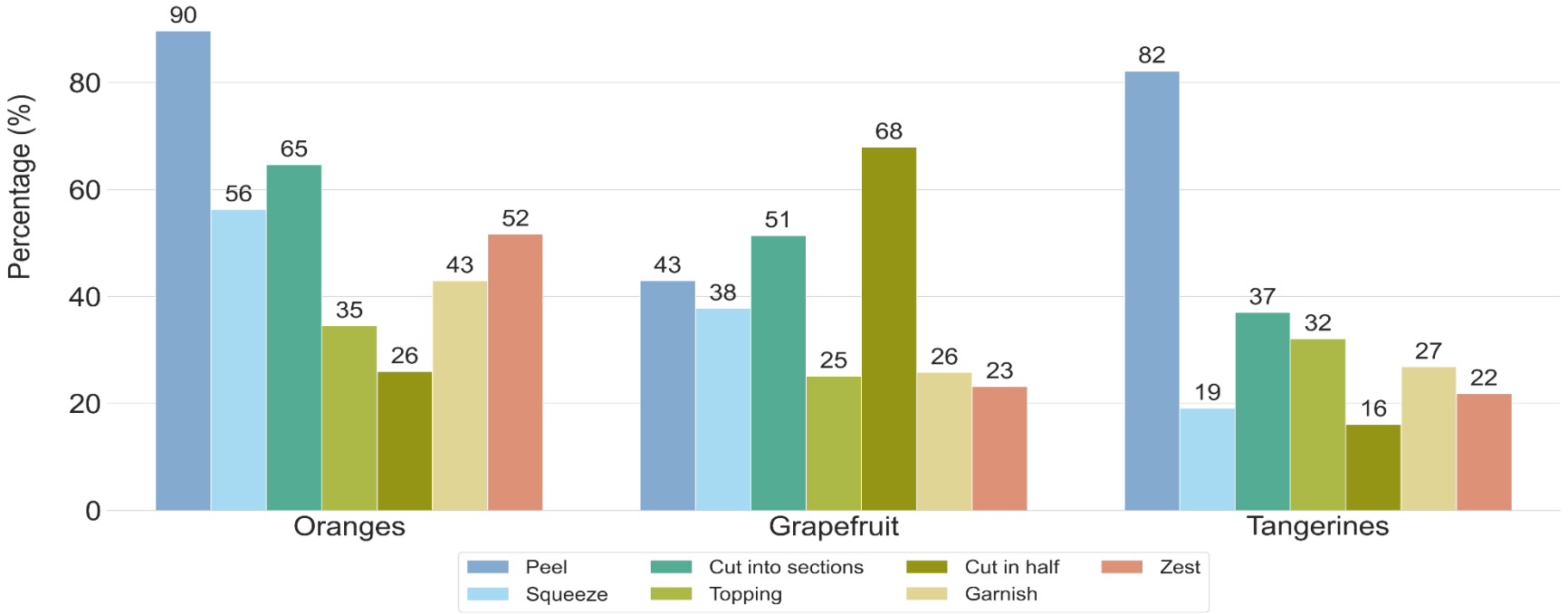


Q3.4: Which of the following describes when you eat or would like to eat the following fresh fruit? Select all that apply

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Usage Behavior

- *Both the temporal and regional differences among each fruits consumers are NOT significant.*
- Among orange and tangerine consumers, the most popular preparation methods are peeling (90% and 82%, respectively) and cutting into sections (65% and 37%, respectively).
- For grapefruit, cutting the fruit in half is the most preferred method (68%), followed by cutting into sections (51%) and peeling (43%).
- **In 2018**, peeling and cutting into sections were also the top methods, used by 87% and 48% of orange consumers and 94% and 26% of tangerine consumers

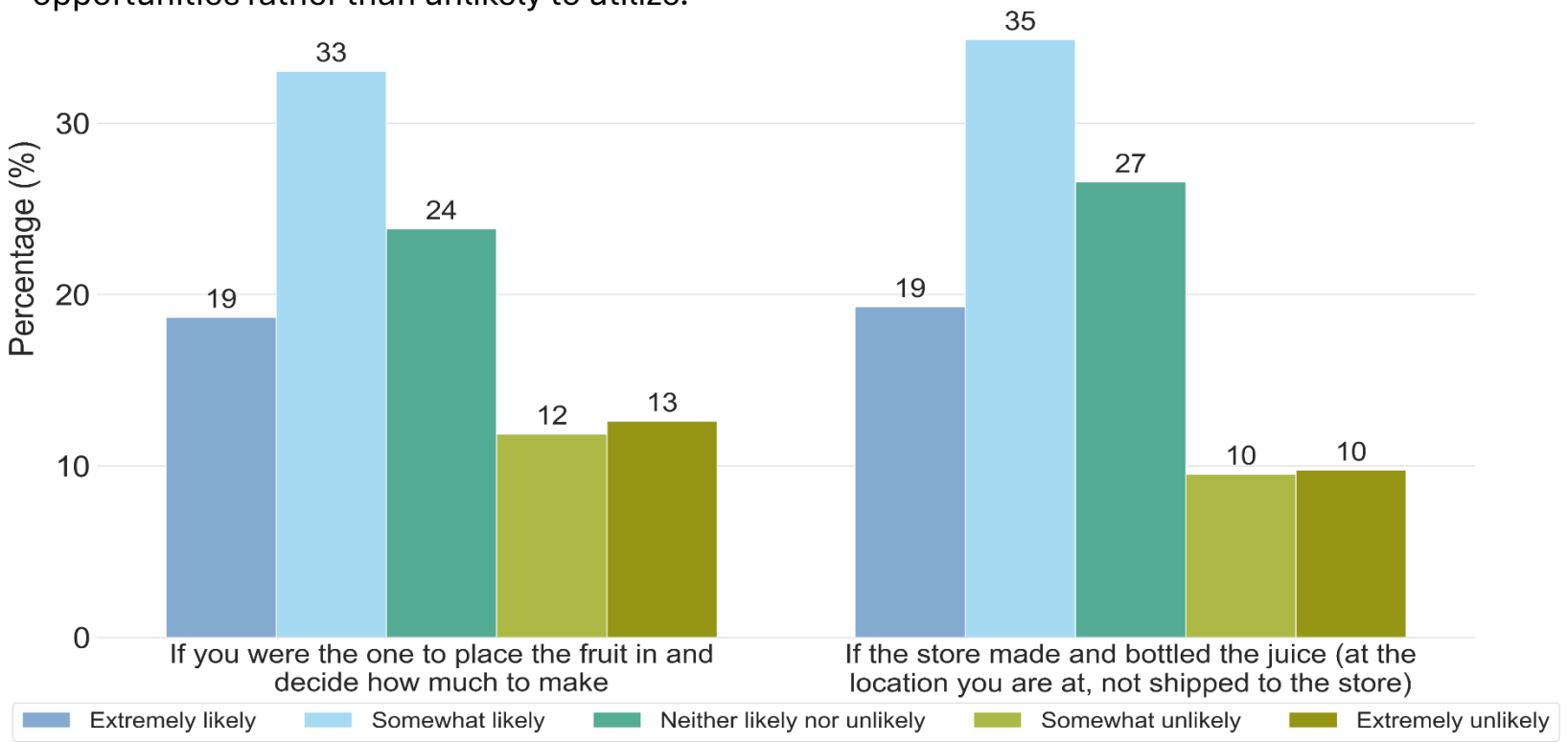


Q3.5: How do you prefer to eat the following fresh fruits? Please select all that apply [O(n)=1,467, G(n)=1,005, T(n)=1,298]

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Juicing Opportunity

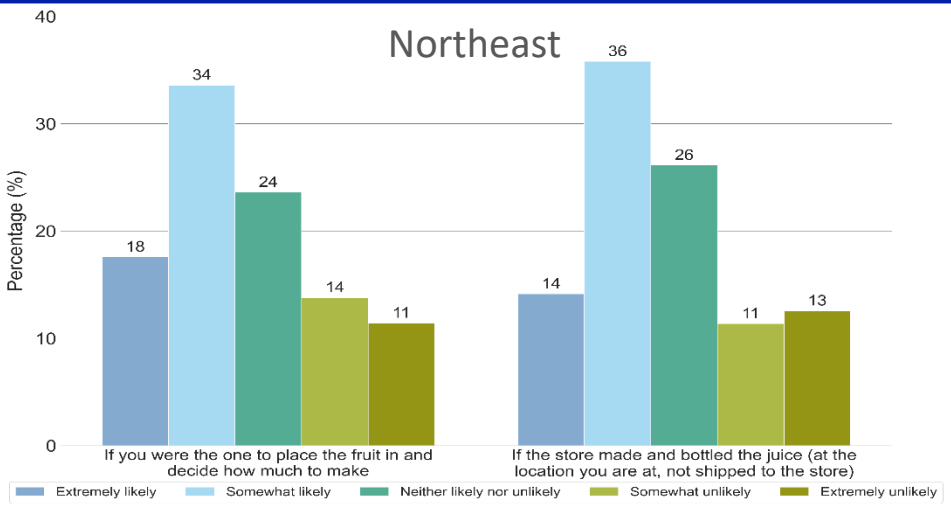
- *Only the regional differences for the question "If the store made and bottled…" are significant.*
- Consumers in the West (59%) and South (57%) regions are more likely to purchase store-made bottled juice than those in the Northeast (50%) or Midwest (48%).
- On average, more consumers indicated they were more than somewhat likely to utilize juicing opportunities rather than unlikely to utilize.

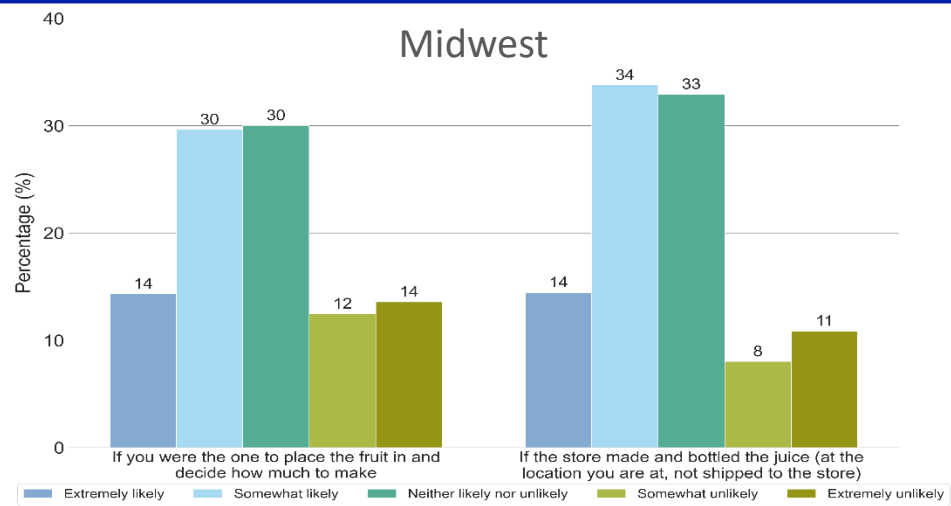


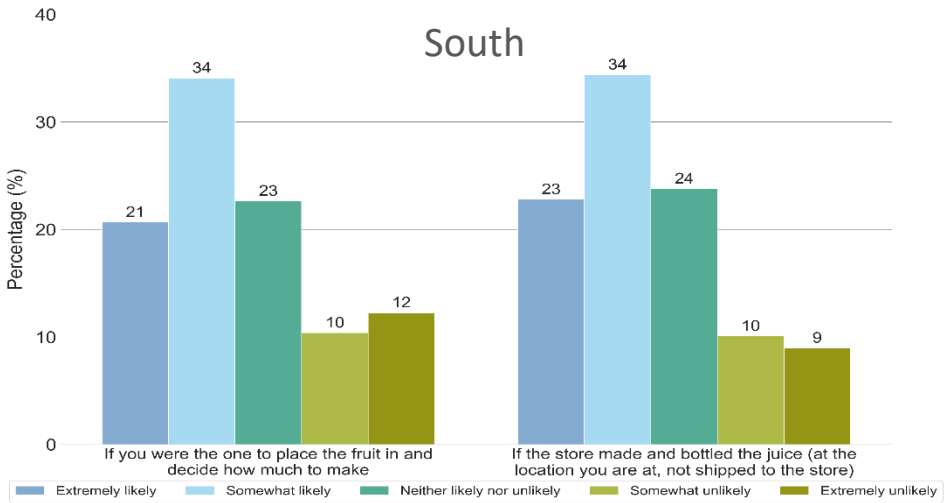
Q12.2: If you went to a grocery store, and they had a juicer in the produce section that let you make fresh squeezed orange juice from fruit at the store, how likely are you to purchase this product? [n=1,600]

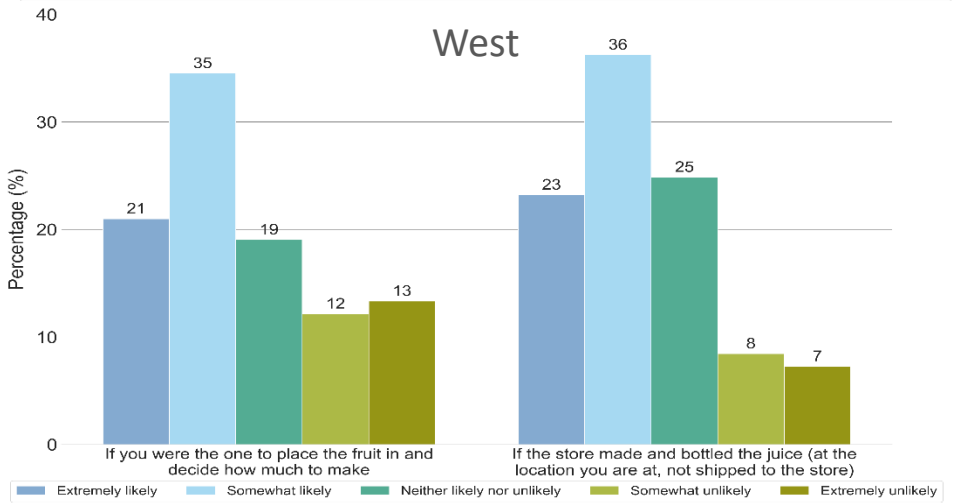
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Juicing Opportunity - Regional









Q12.2: If you went to a grocery store, and they had a juicer in the produce section that let you make fresh squeezed orange juice from fruit at the store, how likely are you to purchase this product?

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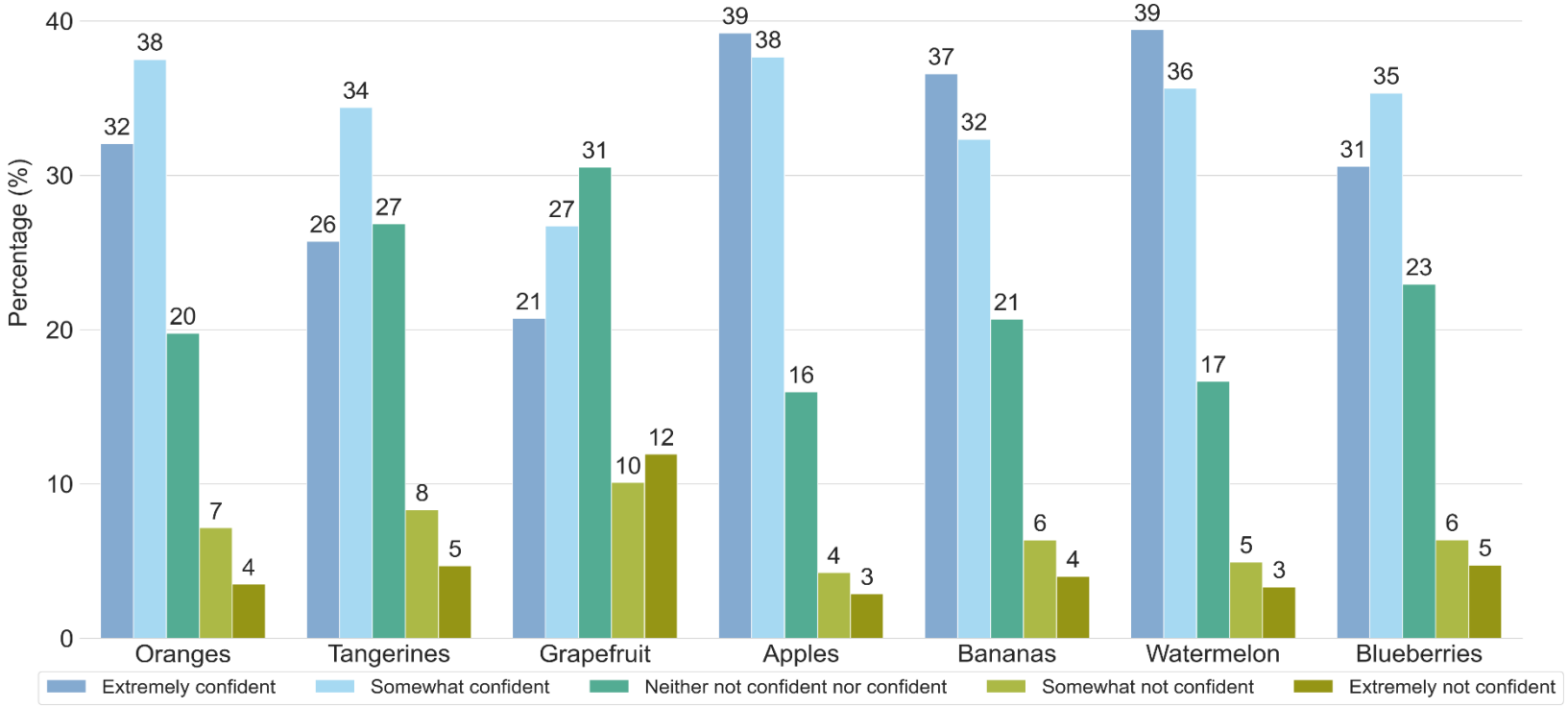
5. PERCEPTIONS: SEASONALITY, QUALITY, AND HEALTH

RO 3: Determine Perceptions of Fresh Including Differences among Citrus Types, Freshness, and Seasonality

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Seasonality Knowledge

- Apple consumers reported the highest confidence level (77%) regarding seasonality among the provided fruit options.
- Among consumers of oranges and tangerines, 70% and 60% respectively indicated they are confident about the fruit's seasonality.
- In contrast, only 48% of grapefruit consumers reported feeling confident about its seasonality.

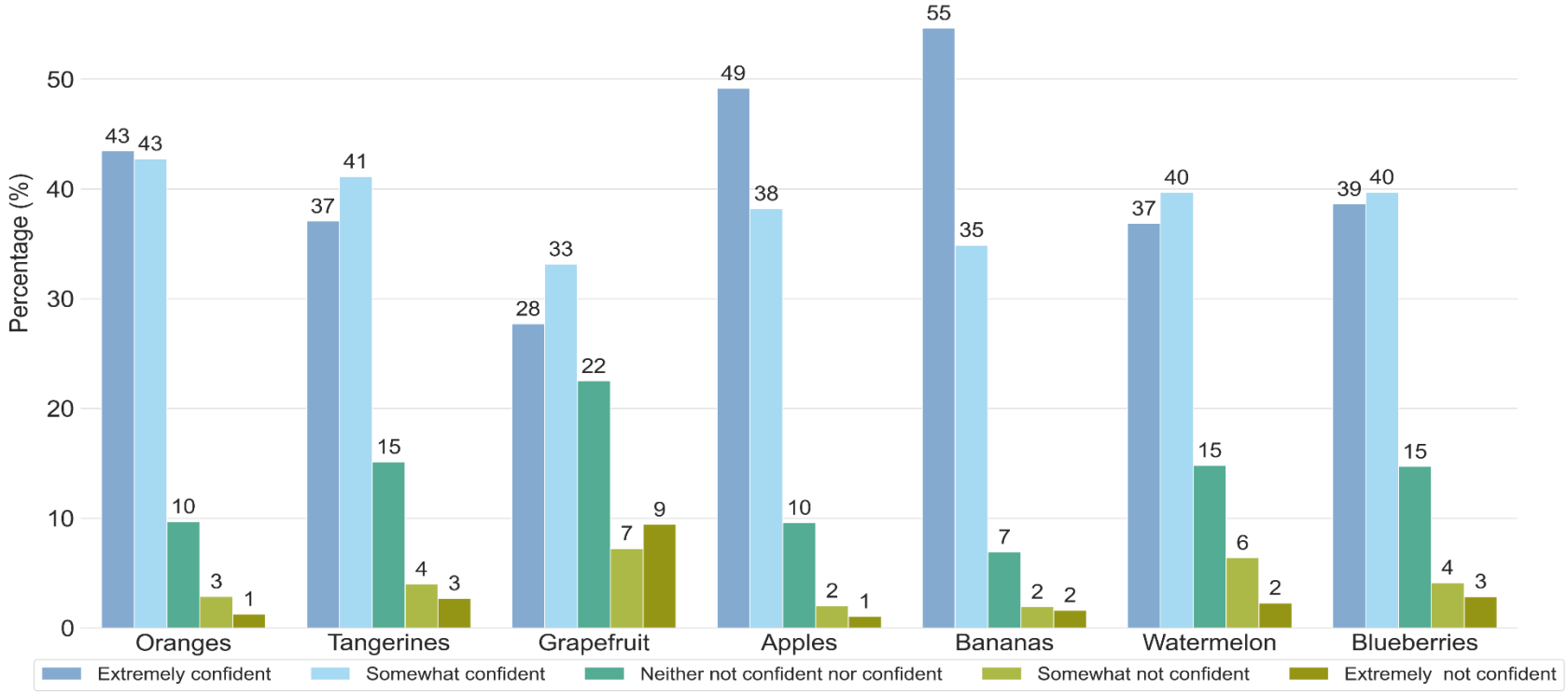


Q3.7: How confident are you about your knowledge of when the following fresh fruits are at their peak season? [n=1,600]

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Confidence in Selection

- Confidence in selecting high-quality bananas (90%), apples (87%), and oranges (86%) is higher than for any other fresh fruit options provided.
- Conversely, the confidence level for selecting high-quality grapefruit is the lowest among the fruits surveyed, at 61%.
- Nearly one-fourth of grapefruit consumers indicated they were "neither confident nor unconfident" when selecting high-quality fruit.

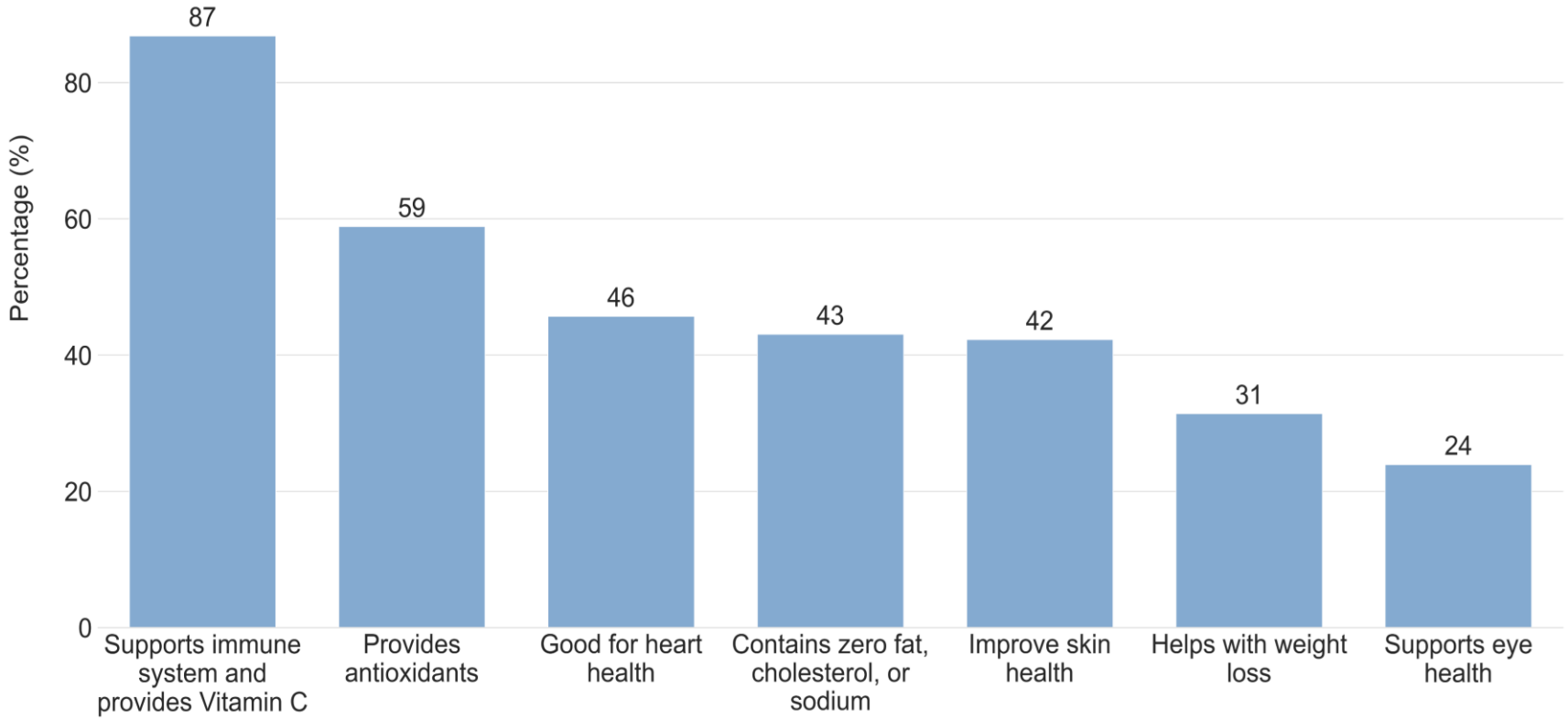


Q3.8: How confident do you feel in selecting high-quality fresh fruit at the store? [n=1,600]

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Health Benefits - Oranges

- *Both the temporal and regional differences are NOT significant.*
- More than half of consumers associate oranges with supporting the immune system and providing Vitamin C (87%), as well as providing antioxidants (59%).
- A relatively smaller percentage of consumers associated oranges with health benefits such as weight loss (31%) and eye health support (24%).

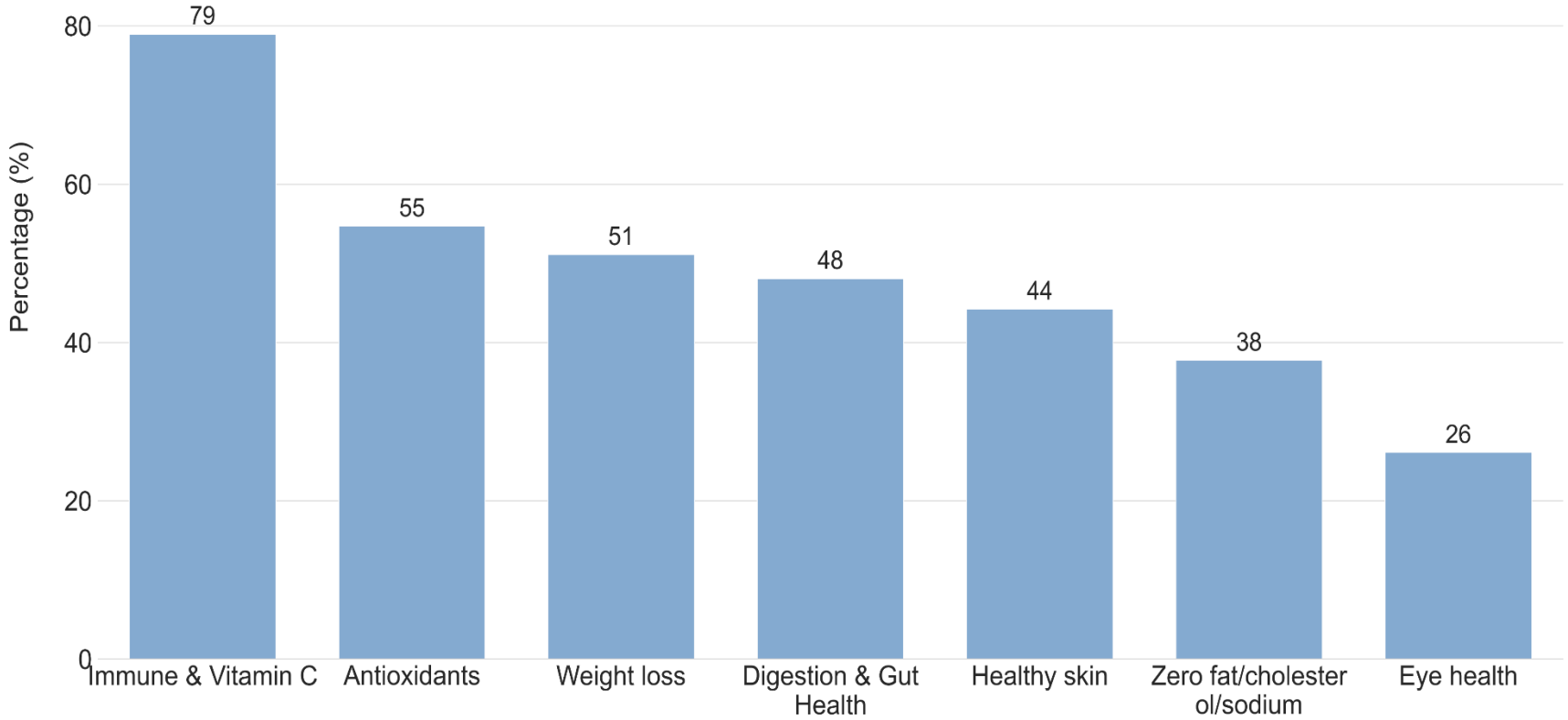


*Q7.2: Which of the following health benefits do you most associate with **oranges**? Select all that apply [n=1,309]*

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Health Benefits - Grapefruit

- *Both the temporal and regional differences are NOT significant.*
- Approximately 80% of consumers associate grapefruit with "Immune support and Vitamin C," followed by other benefits such as "Antioxidants" (55%) and "Weight loss" (51%).
- In contrast, only 26% of consumers associate grapefruit with "Eye health."

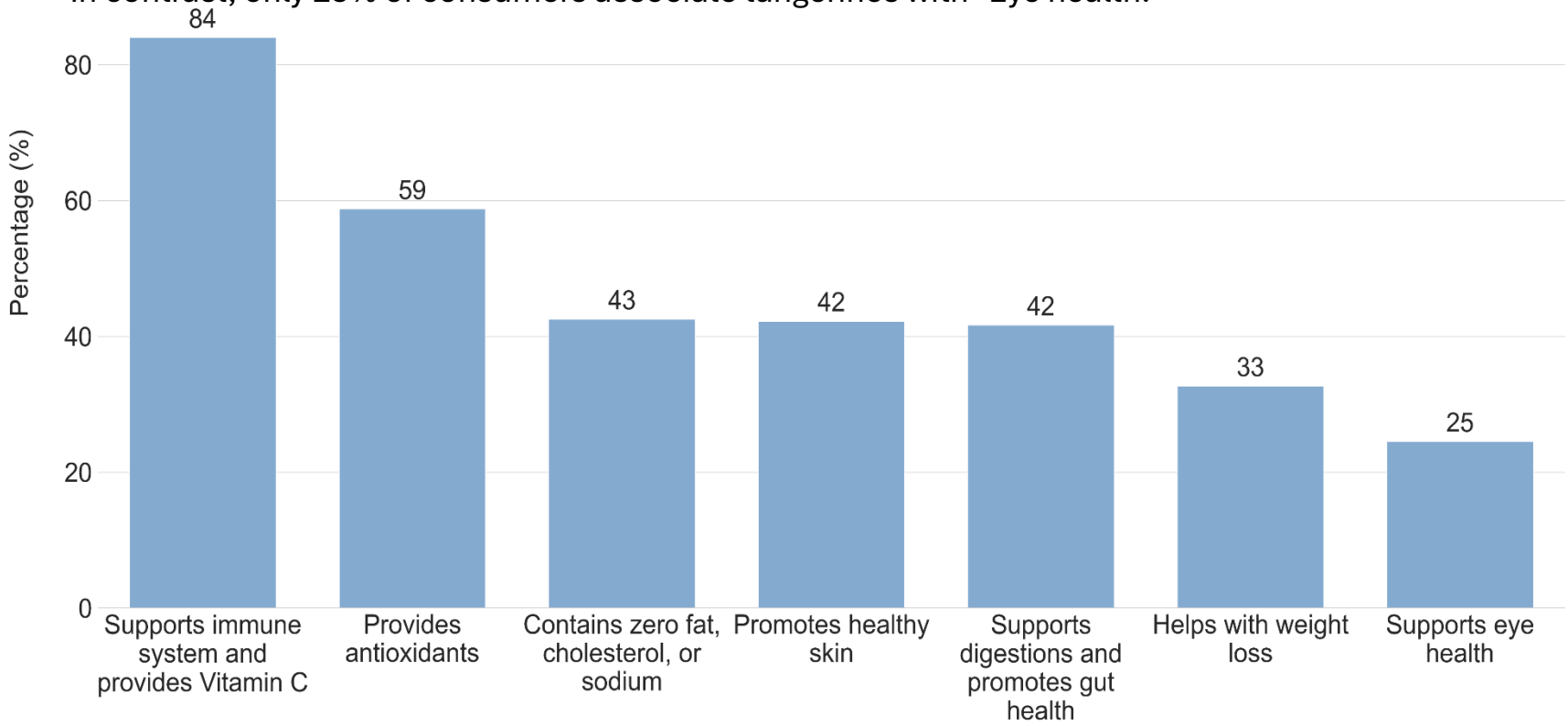


*Q6.2: Which of the following health benefits do you most associate with **grapefruit**? Select all that apply [n=689]*

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Health Benefits - Tangerines

- *Both the temporal and regional differences are NOT significant.*
- More than 80% of consumers associate tangerines with "Supporting the immune system and providing Vitamin C," followed by other benefits such as "Provides antioxidants" (59%) and "Contains zero fat, cholesterol, or sodium" (43%).
- In contrast, only 25% of consumers associate tangerines with "Eye health."



*Q8.2: Which of the following health benefits do you most associate with **tangerines**? Select all that apply [1,139]*

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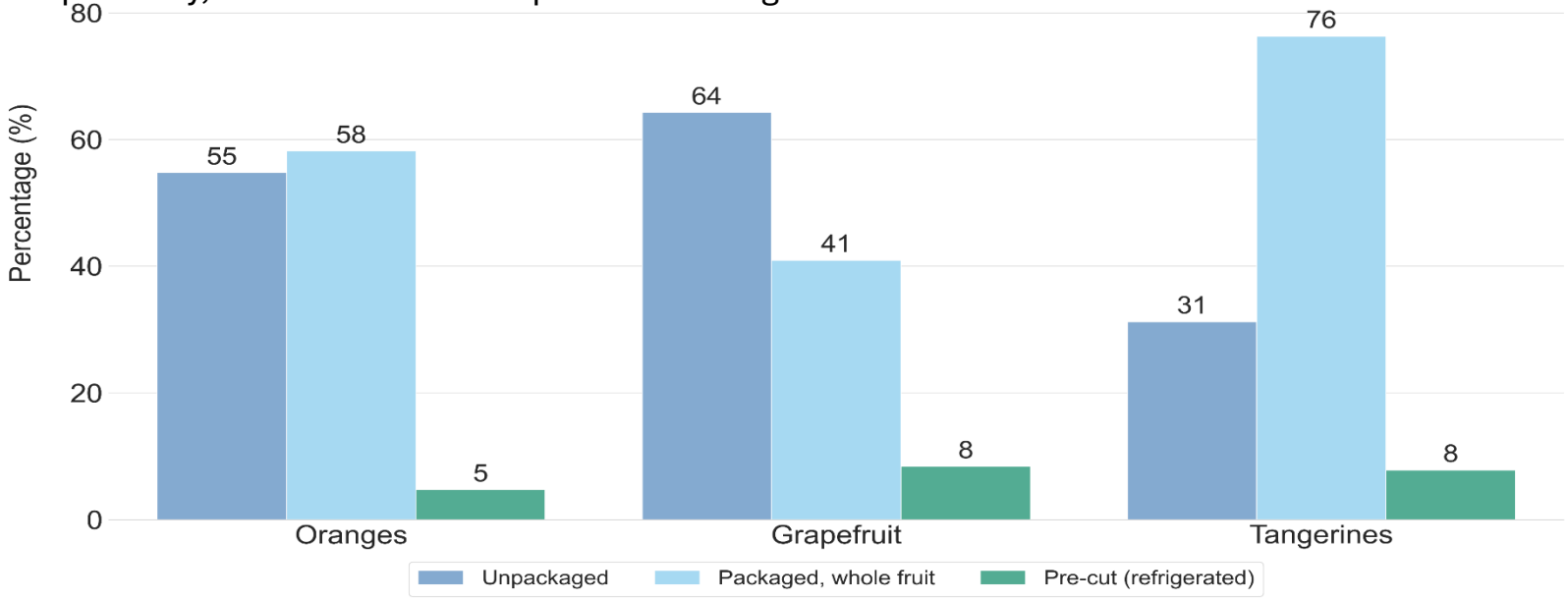
6. PACKAGING PREFERENCES

RO 4: Find Out what Goes into Decisions to Buy Fresh Fruit

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Packaged and/or Unpackaged

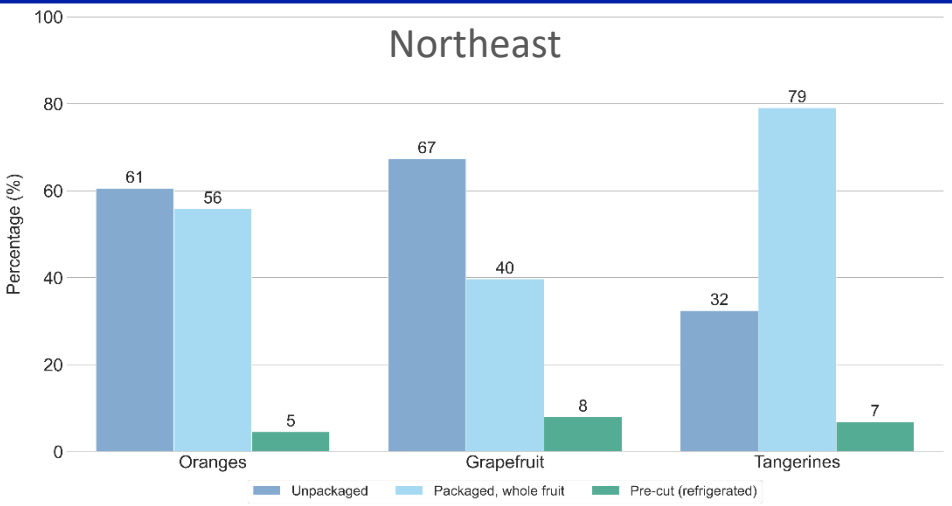
- *Only the regional differences among the orange and tangerine consumers are significant.*
- Among consumers in the West region, unpackaged oranges are purchased more frequently (68%) and packaged tangerines are purchased less frequently (69%) than in any other region.
- While consumers purchase oranges in nearly equal shares of unpackaged (55%) and packaged (58%) formats, a larger share purchase grapefruit unpackaged (64%) compared to packaged (41%).
- For tangerines, more than twice the share of consumers purchase them packaged (76%) rather than unpackaged (31%).
- **In 2018**, 45% and 22% of consumers purchased oranges in unpackaged and packaged formats, respectively, while 21% and 51% purchased tangerines in those same formats.

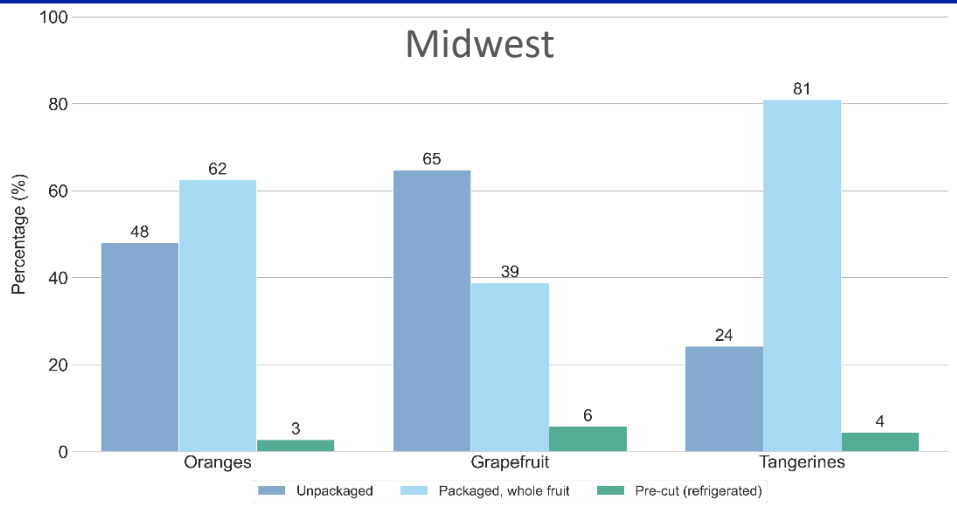


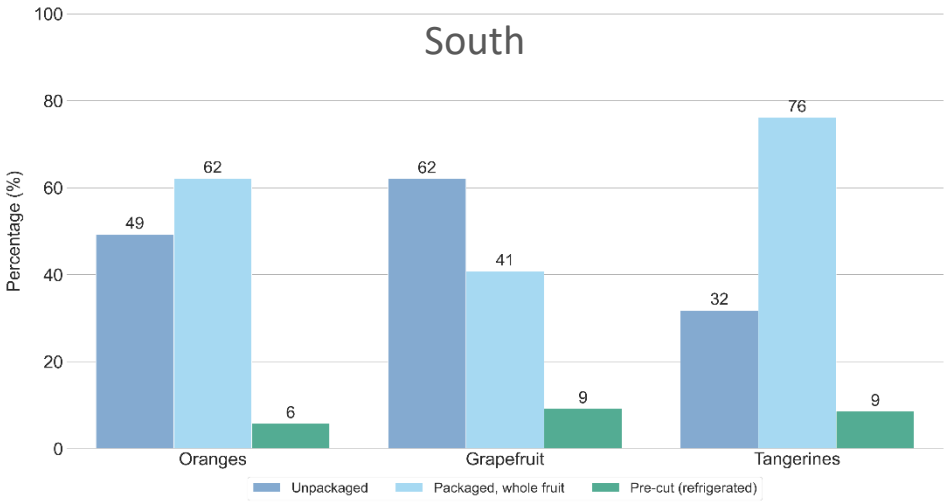
Q4.1: When you purchase the following fresh fruits, are they packaged (in a bag or box) or unpackaged (loose from the bin at the store)? [O(n)=1,475, G(n)=1,008, T(n)=1,266]

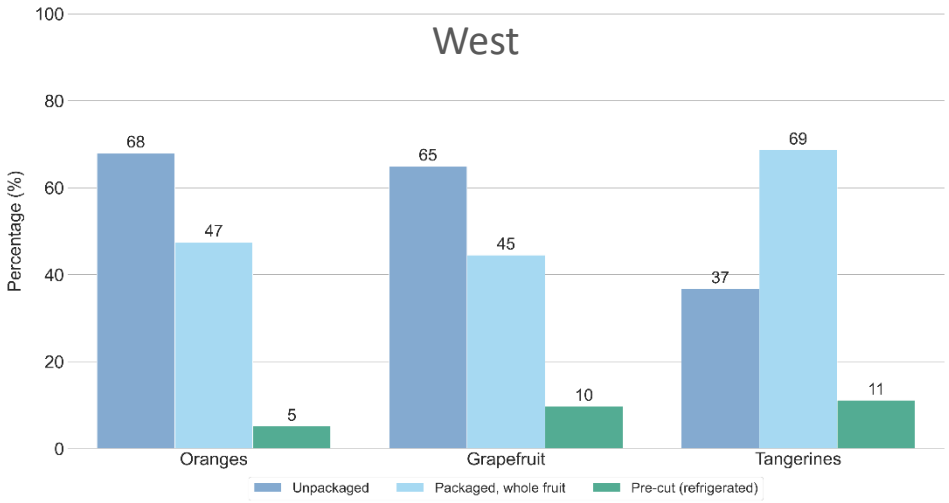
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Packaged and/or Unpackaged - Regional







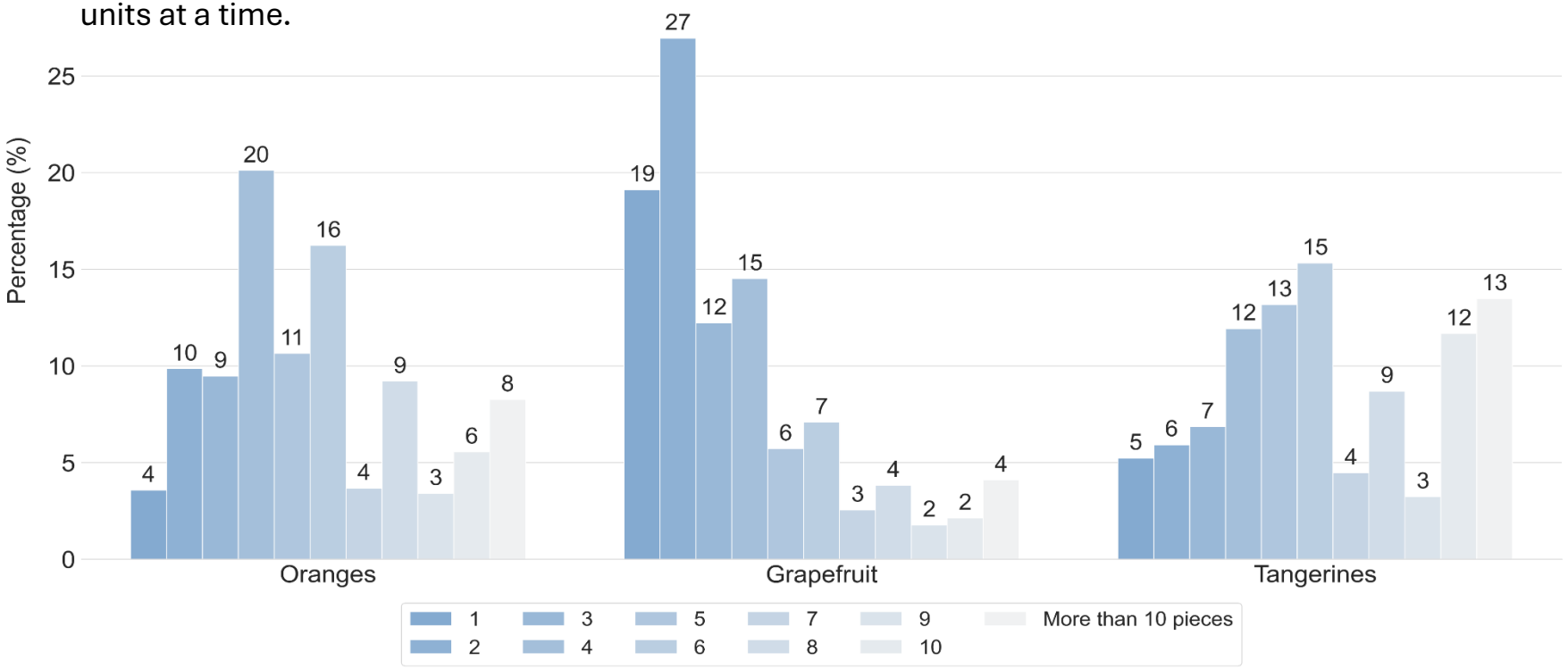


Q4.1: When you purchase the following fresh fruits, are they packaged (in a bag or box) or unpackaged (loose from the bin at the store)?

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Unpackaged Purchase - Quantity

- *Both the temporal and regional differences for each fresh fruit consumers are NOT significant*
- The most common purchase quantities for oranges are four and six units, which contrasts with grapefruit, where consumers typically purchase only one or two units.
- For tangerines, five or six units are the most frequent purchase quantities per transaction.
- Notably, a significant segment of tangerine consumers (over 20%) opt for larger quantities of 10 or more units at a time.

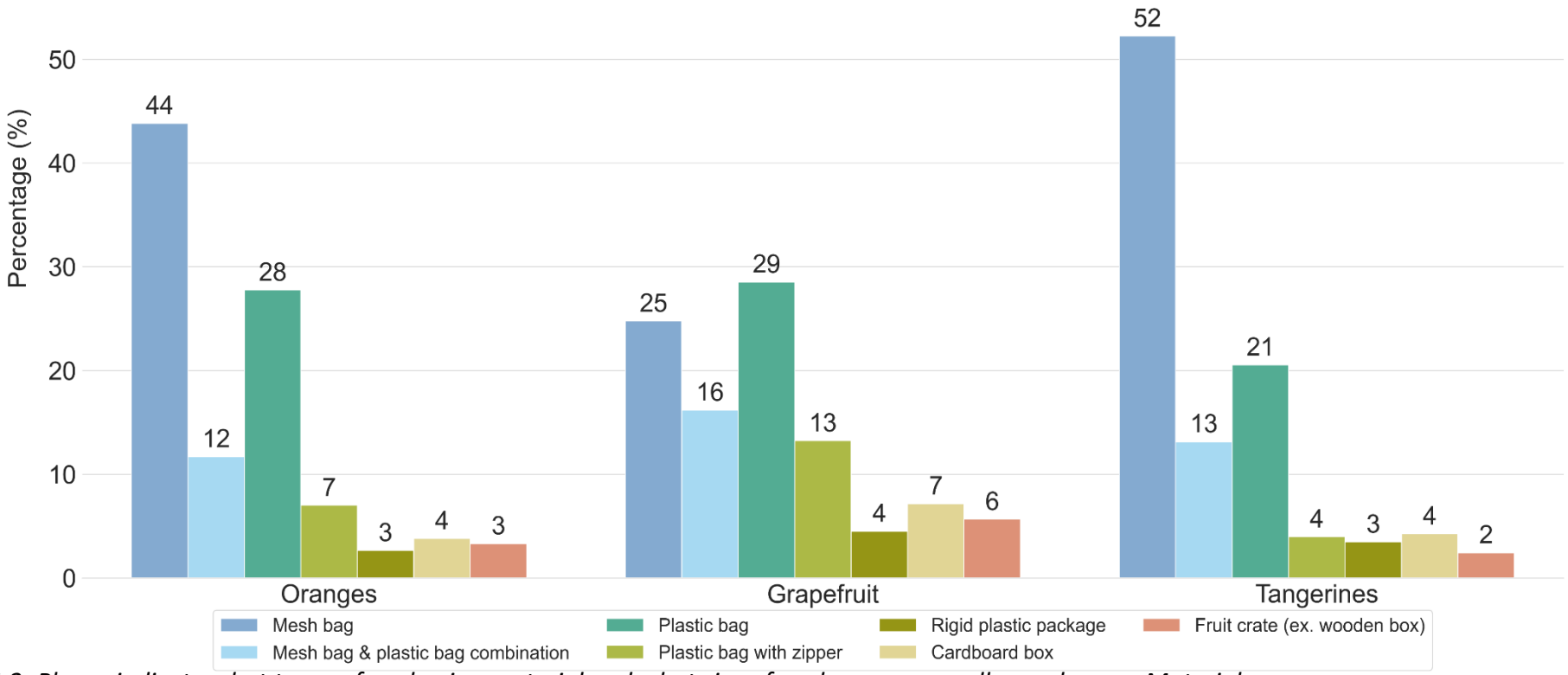


Q4.2: Please indicate how many pieces of the following fresh fruit do you usually purchase at a time when purchasing unpackaged fruit? [O(n)=808, G(n)=641, T(n)=397]

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Packaging Material

- *Both the temporal and regional differences for each fresh fruit consumers are NOT significant.*
- A mesh bag is the most preferred packaging material for both oranges (44%) and tangerines (52%).
- In contrast, plastic bags (29%) are the most frequently selected packaging for grapefruit, followed closely by mesh bags (25%).

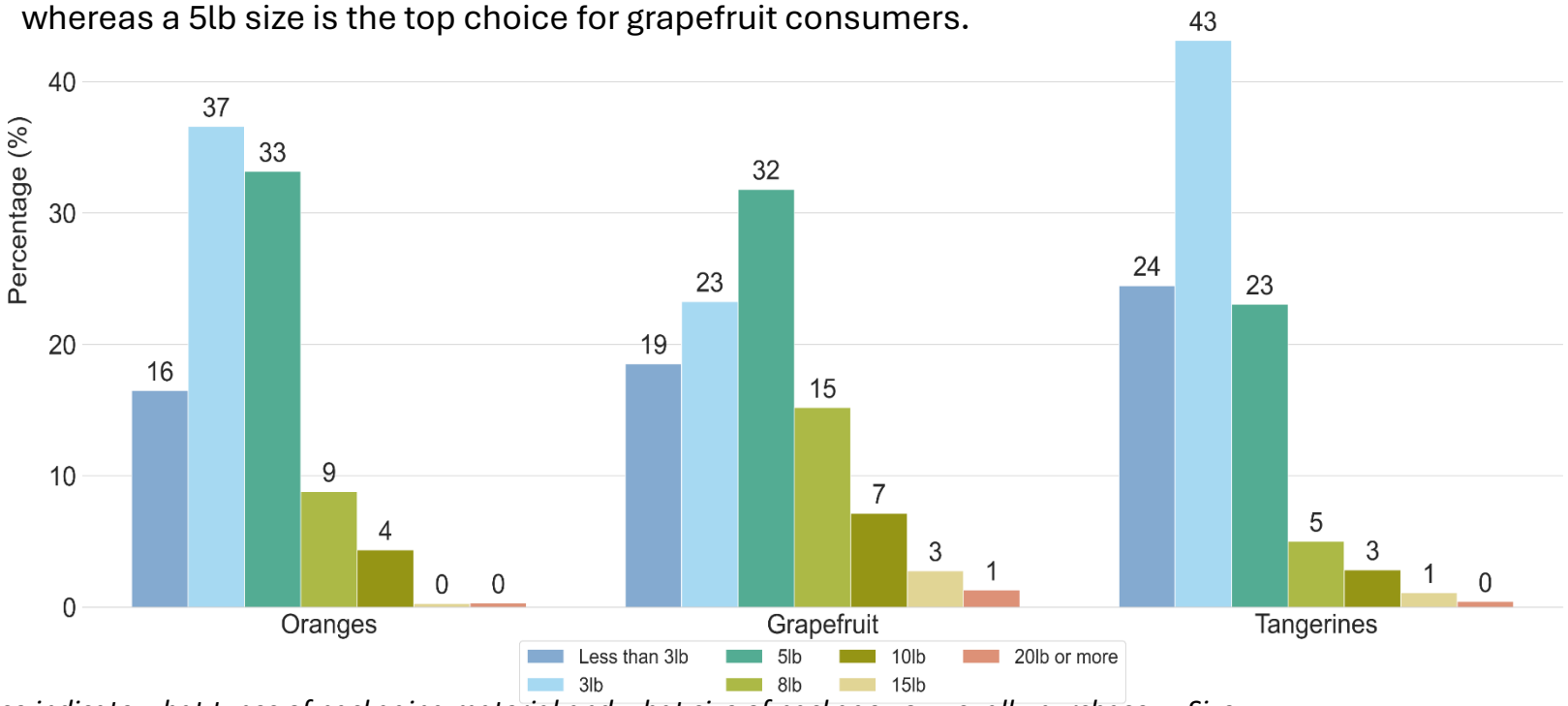


Q4.3: Please indicate what types of packaging material and what size of package you usually purchase. – Material [O(n)=854, G(n)=414, T(n)=958]

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Packaging Size

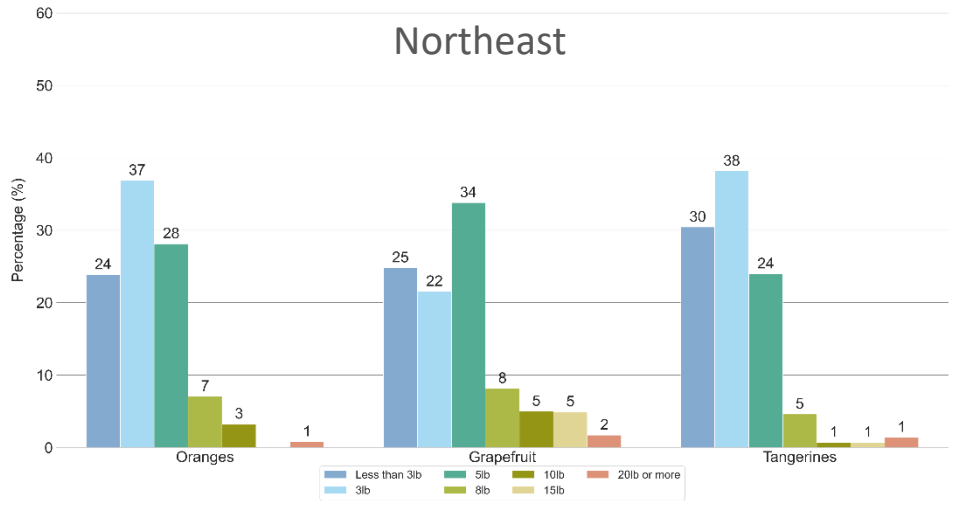
- *Only the regional differences among the oranges and tangerines customer are significant*
- In the West region, 5lb packaging is the most popular size for oranges, while 3lb packaging is preferred in all other regions.
- In the Midwest, tangerine consumers purchase 3lb packaging more than twice as often as they do smaller (less than 3lb) or larger (5lb) options.
- Generally, a 3lb packaging size is the most frequently purchased by orange and tangerine consumers, whereas a 5lb size is the top choice for grapefruit consumers.

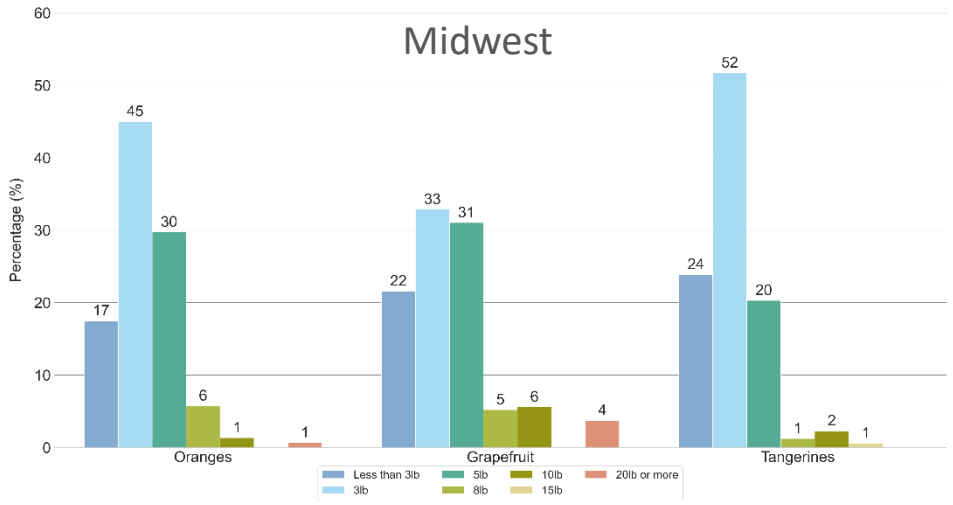


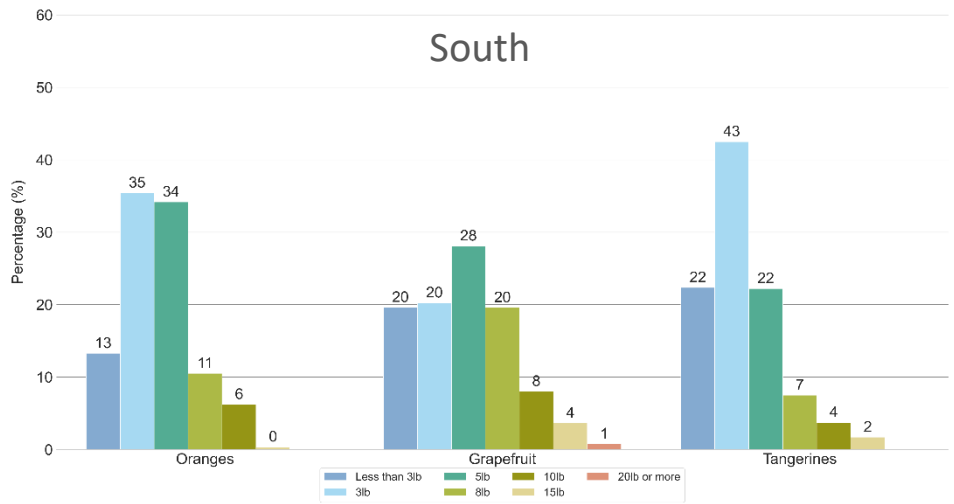
Q4.3: Please indicate what types of packaging material and what size of package you usually purchase. – Size [O(n)=657, G(n)=318, T(n)=717]

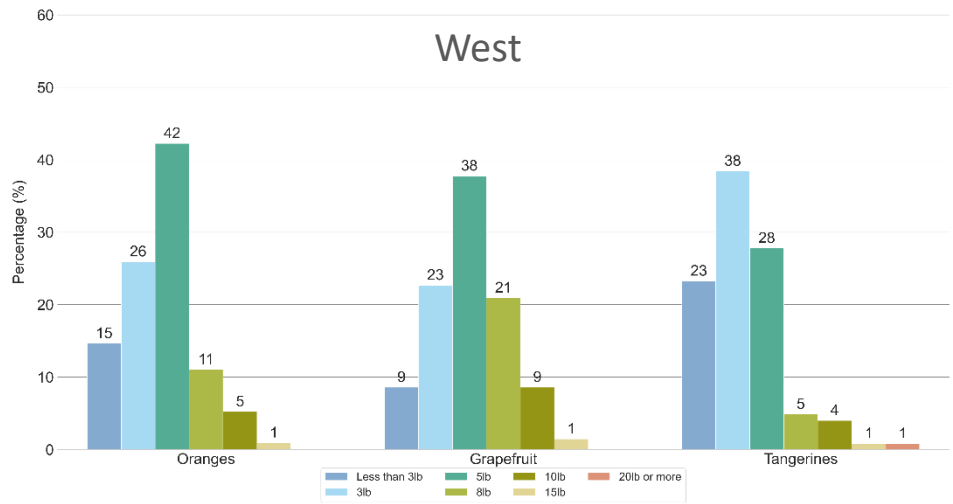
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Packaging Size - Regional







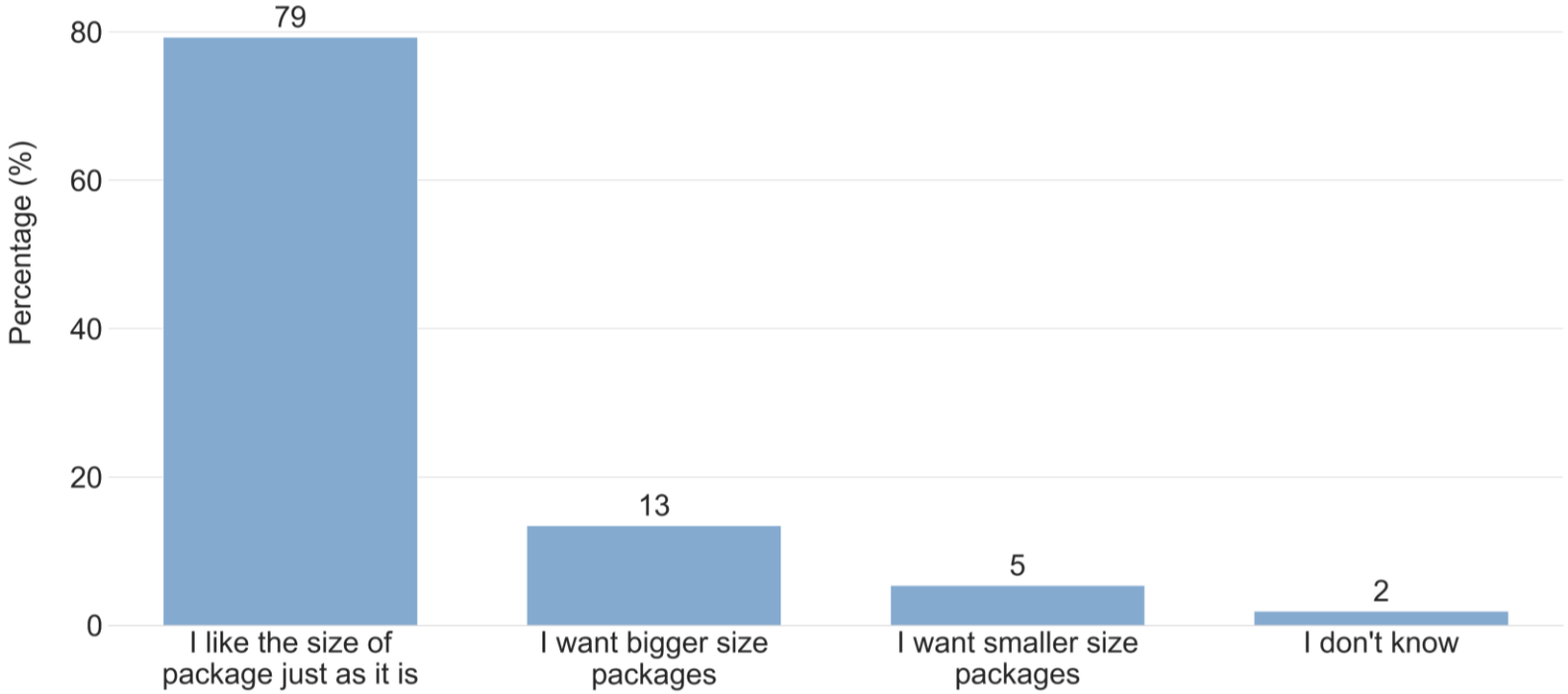


Q4.3: Please indicate what types of packaging material and what size of package you usually purchase. - Size

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Packaging Satisfaction

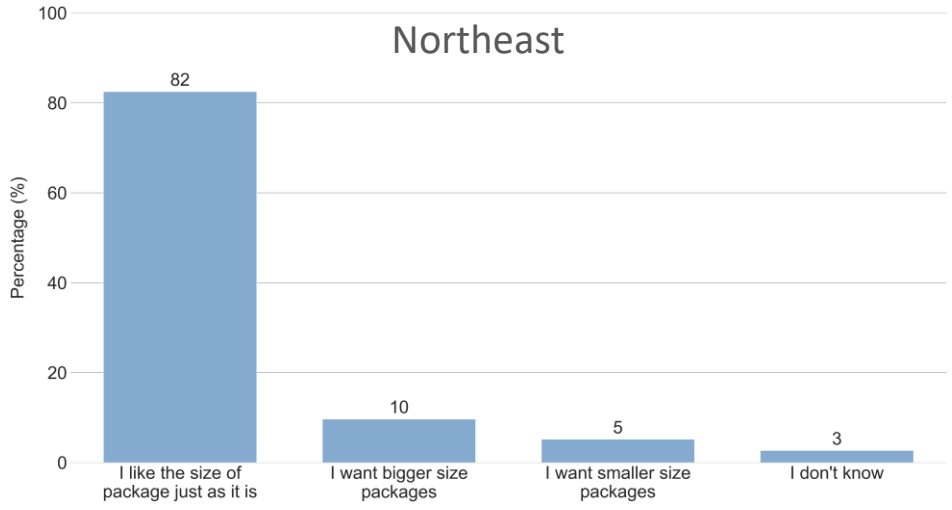
- *Only the regional differences are significant*
- Approximately 80% of consumers stated that they are satisfied with current package sizes, indicating they like the size "just as it is."
- Consumers in the West region showed the highest demand for larger options, with 20% stating they want bigger package sizes.
- This is notably higher than in other regions, where the desire for larger packaging was lower: the South (15%), Northeast (10%), and Midwest (9%).

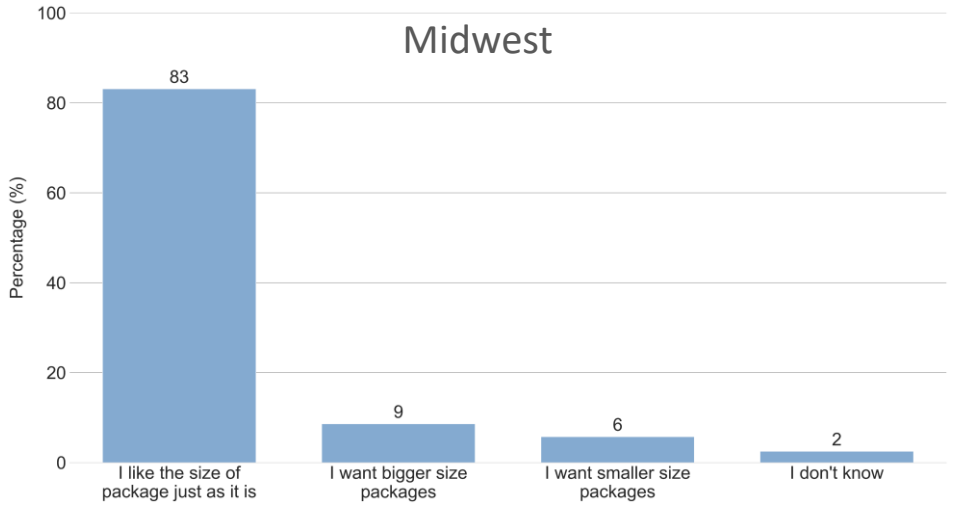


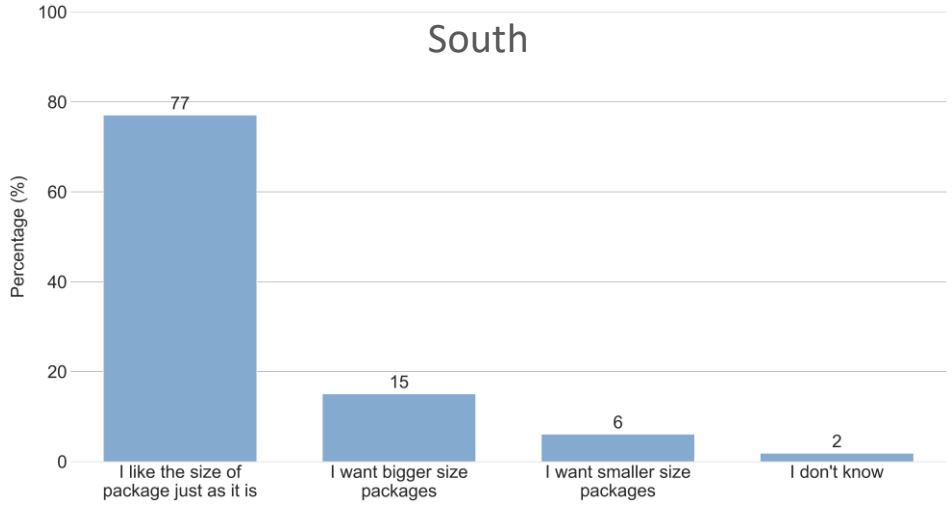
Q4.4: Please indicate how satisfied you are with the size of package you usually purchase [n=1,224]

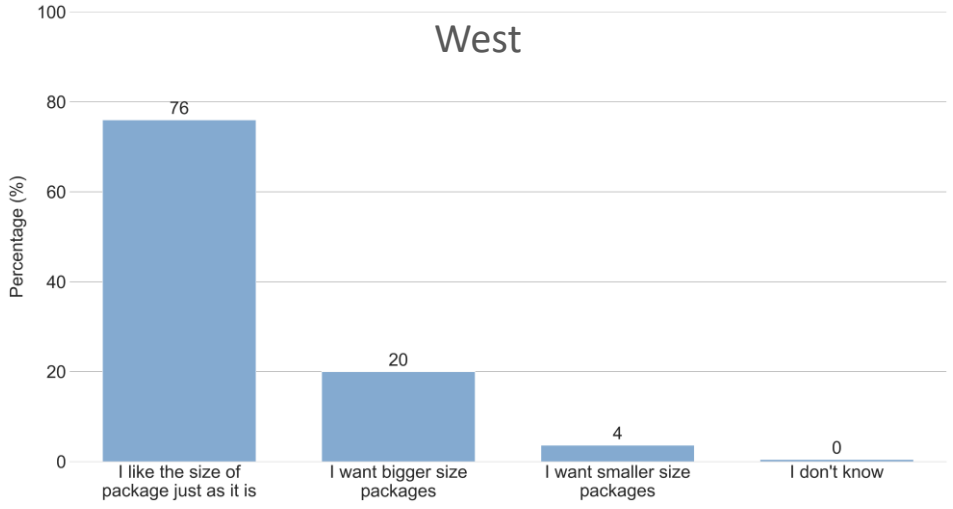
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Packaging Satisfaction - Regional







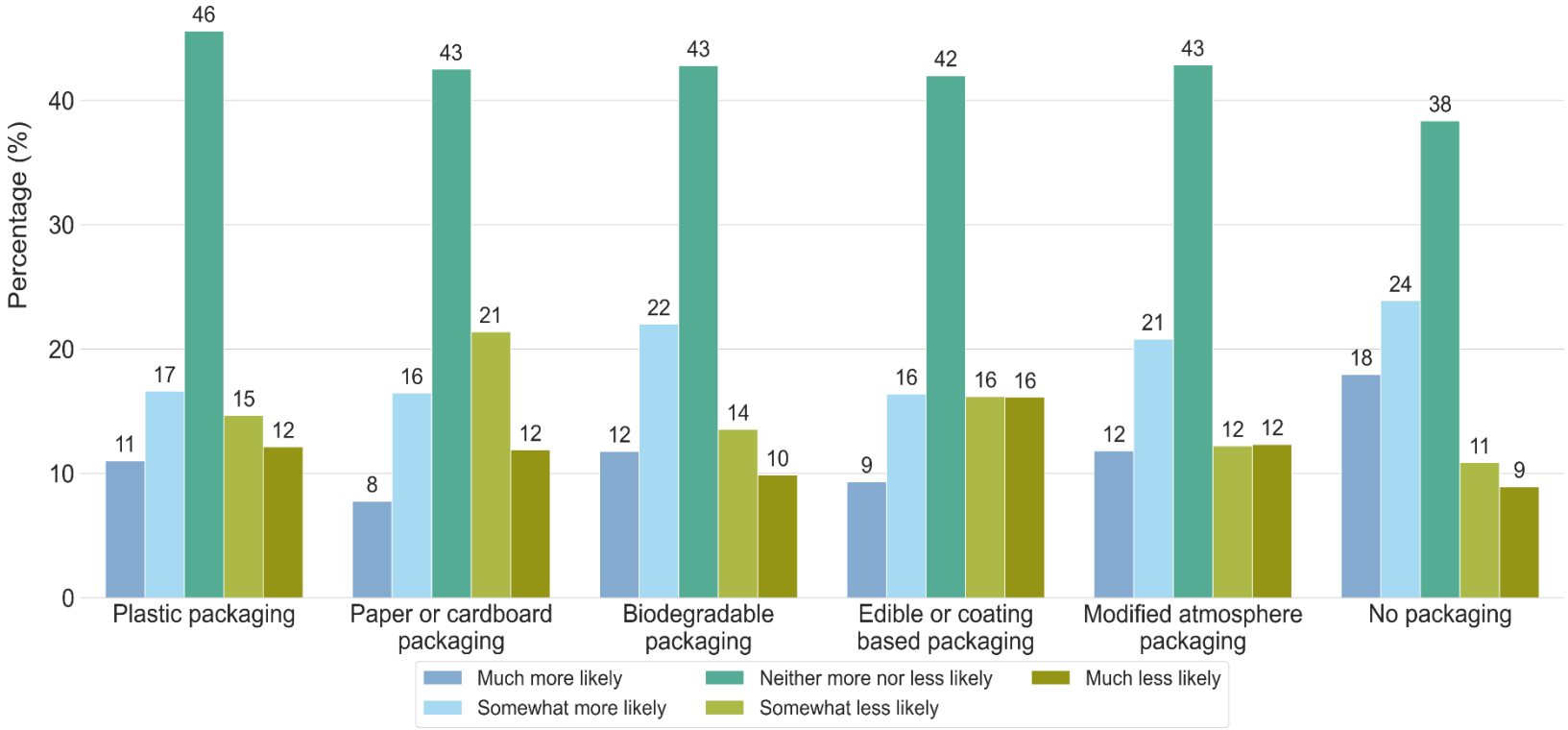


Q4.4: Please indicate how satisfied you are with the size of package you usually purchase

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Packaging Innovation

- In general, approximately 40% or more of consumers appear unaffected by the specific type of packaging used in their fresh citrus purchases.
- More than 40% of consumers indicated they would likely increase their purchase volume if no packaging were used at all.
- Regarding innovative packaging options, consumers stated they would be more likely to buy more if the packaging were biodegradable (34%), modified atmosphere (33%), or edible/coating (25%).



Q4.5: Would the following citrus packaging options make you more likely to purchase fresh citrus than you currently do? [n=1,600]

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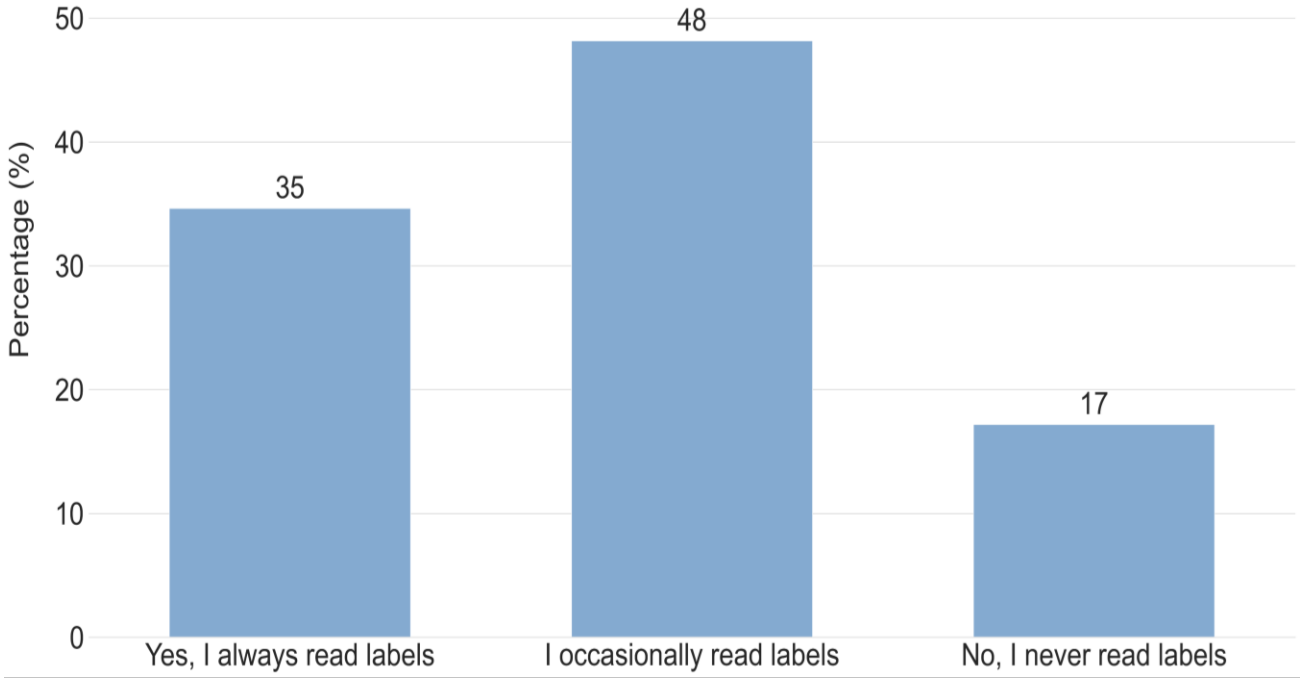
7. FLORIDA BRAND EQUITY AND WILLINGNESS-TO-PAY

RO 7: Measure Willingness-To-Pay for Florida Citrus Varieties which may be More Expensive

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Read Labels

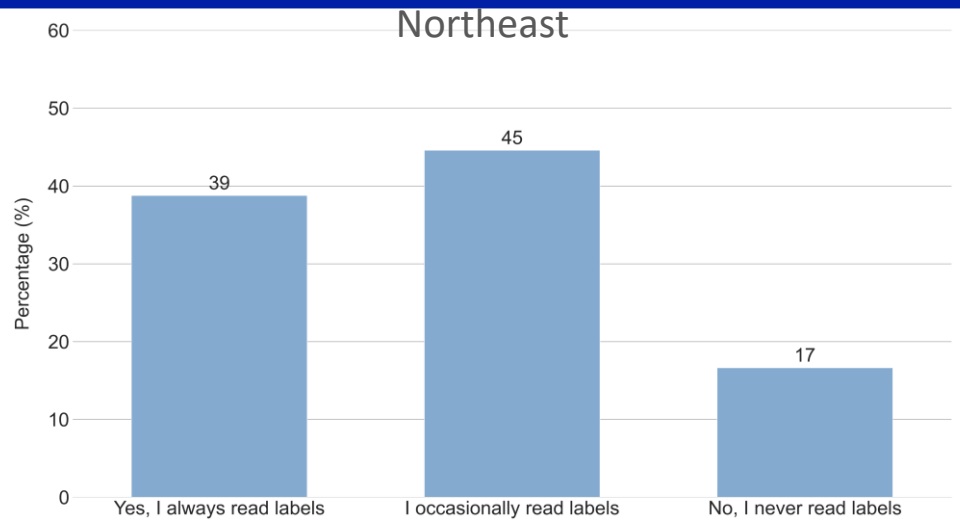
- *Only the regional differences are significant*
- Approximately half of all consumers (50%) occasionally read labels, while 17% stated they never read them.
- Consumers in the Midwest reported the lowest engagement with labels, with only 24% stating they always read them. This is significantly lower than in other regions, where the percentage of consumers who always read labels ranges from 37% to 39%.

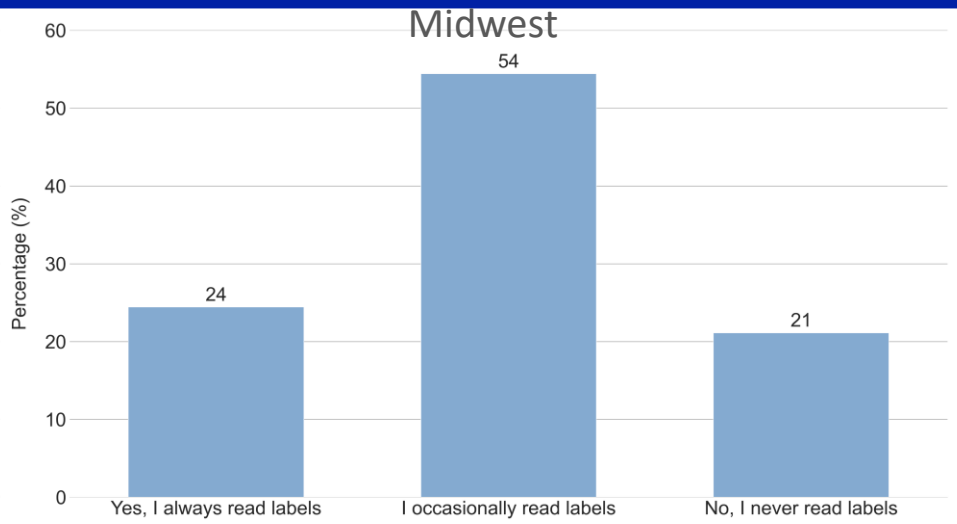


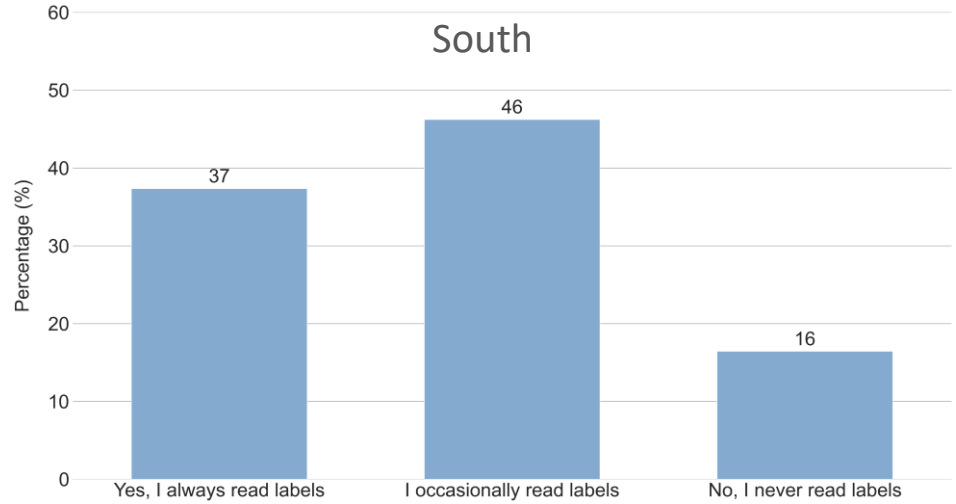
Q5.1: Do you read labels when you purchase fresh citrus? [n=1,600]

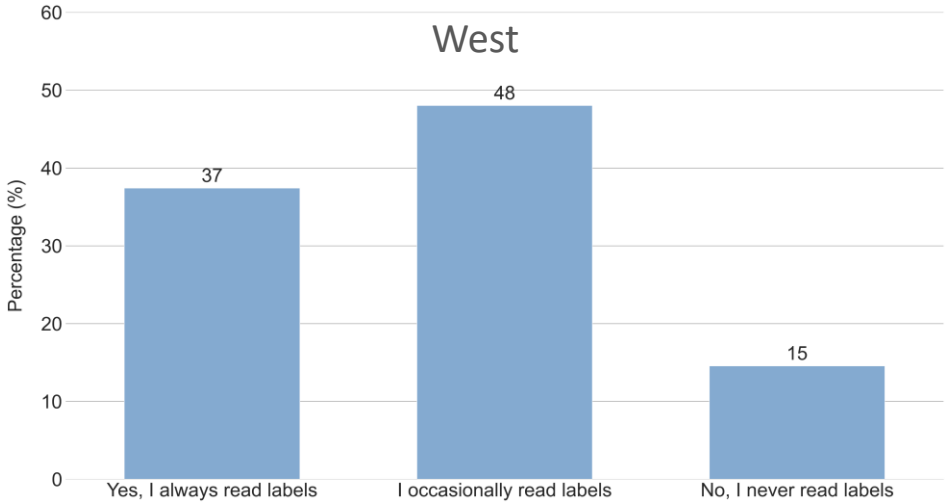
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Read Labels - Regional







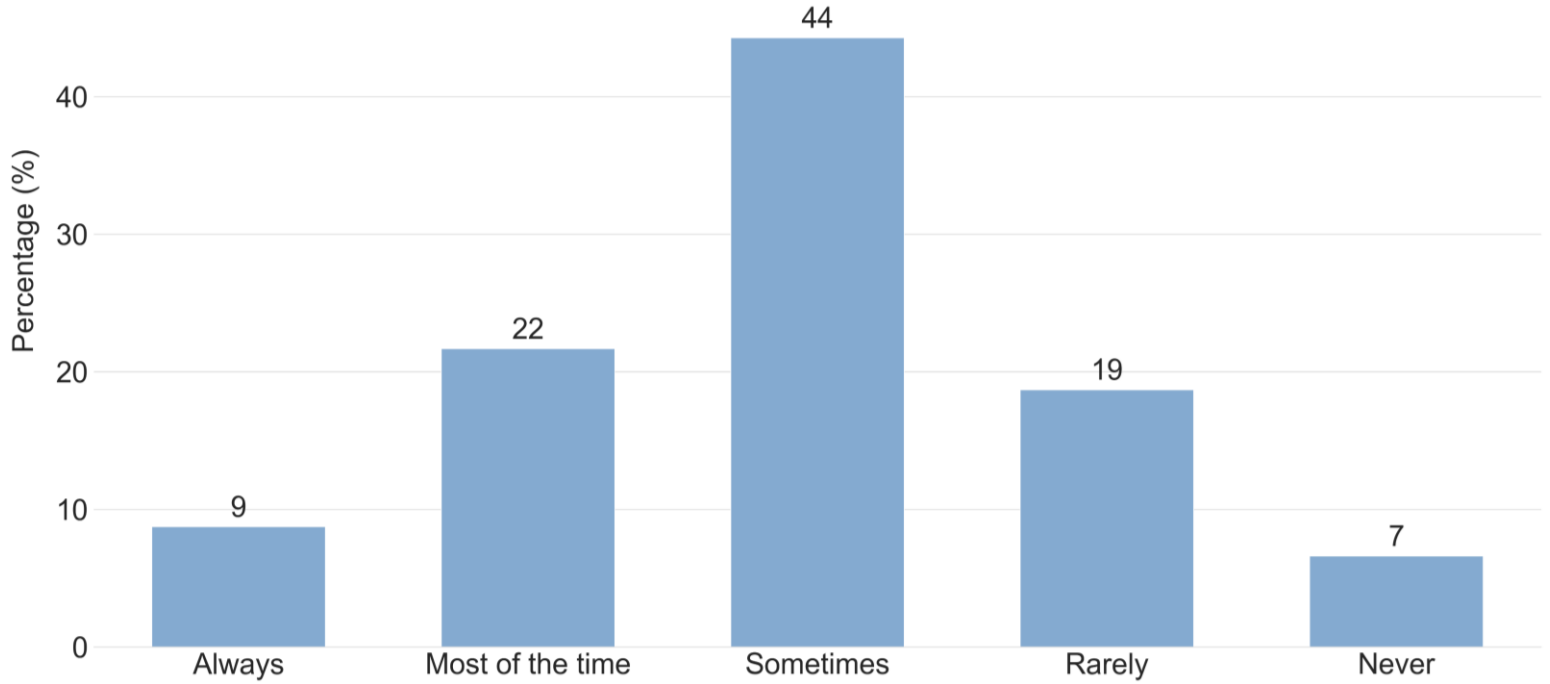


Q5.1: Do you read labels when you purchase fresh citrus?

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Origin Awareness

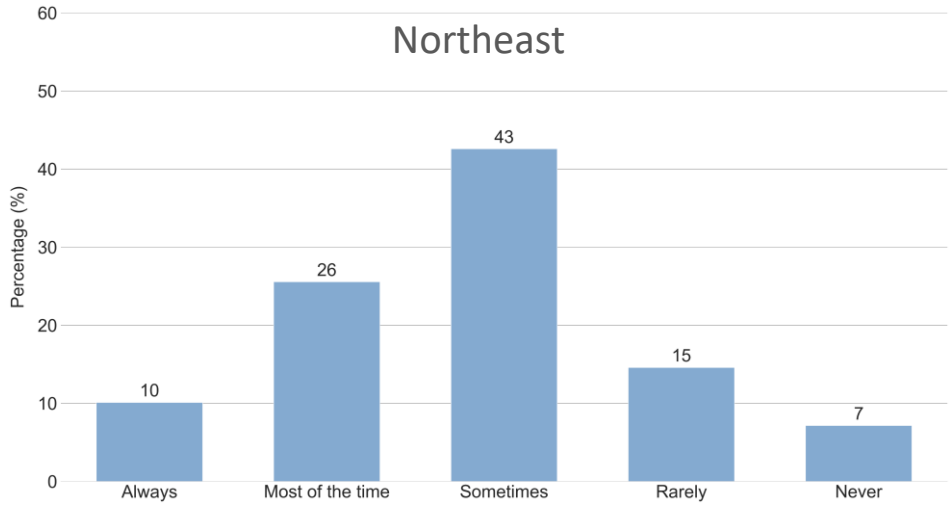
- *Only the regional differences are significant*
- Only 14% of consumers in the Midwest stated they are aware of the country or state of origin of the citrus they purchase most of the time.
- This level of awareness is lower than in other regions, including the Northeast (26%), West (25%), and South (23%).
- Overall, more than 40% of consumers indicated they are aware of the origin of their citrus "sometimes."
- Approximately 10% of consumers reported that they are "always" aware of the fruit's origin.

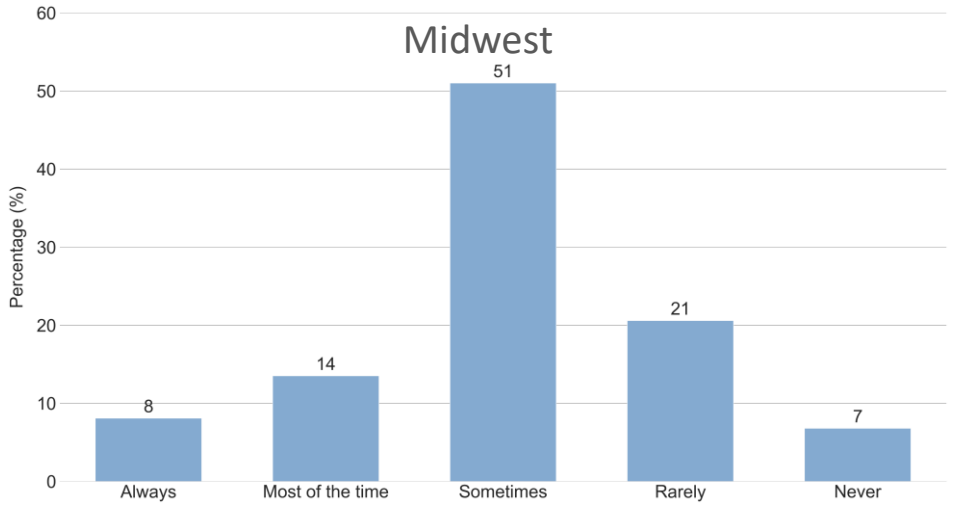


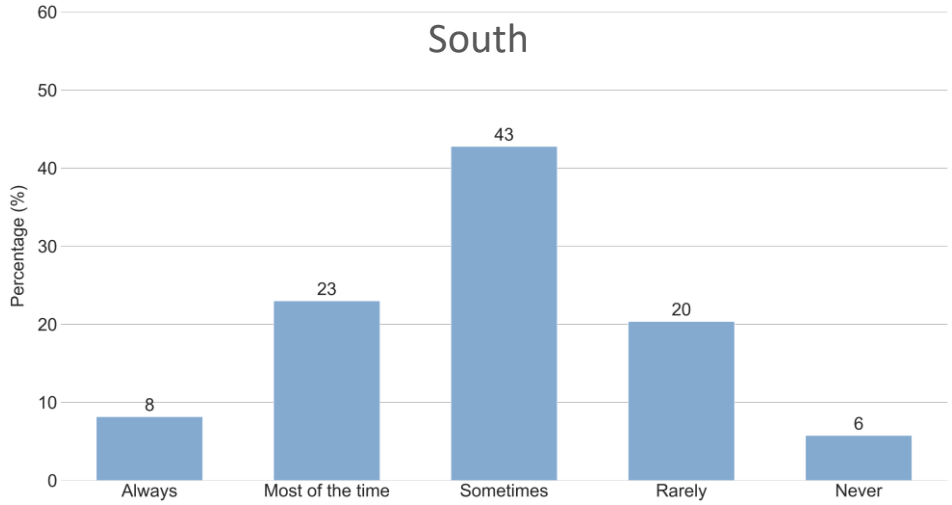
Q5.2: When you purchase citrus are you aware of its country or state of origin? [n=1,600]

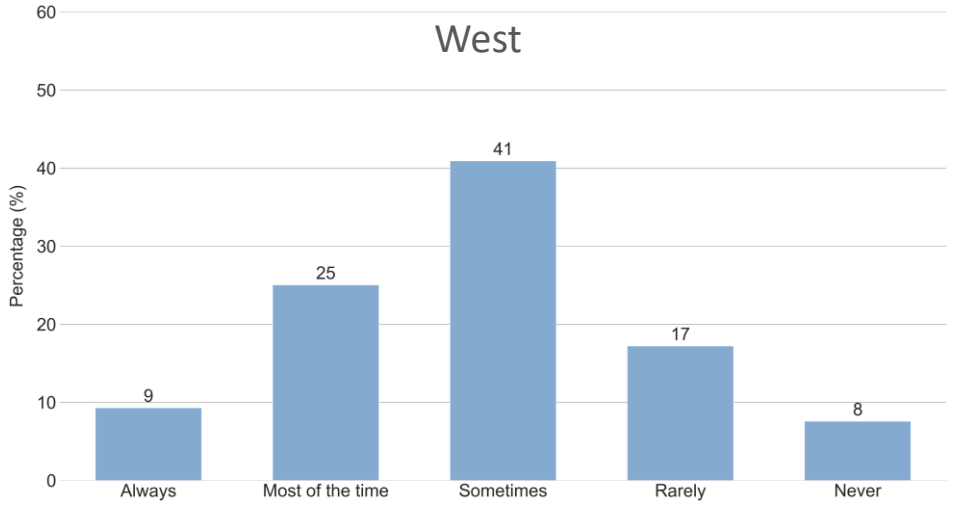
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Origin Awareness - Regional







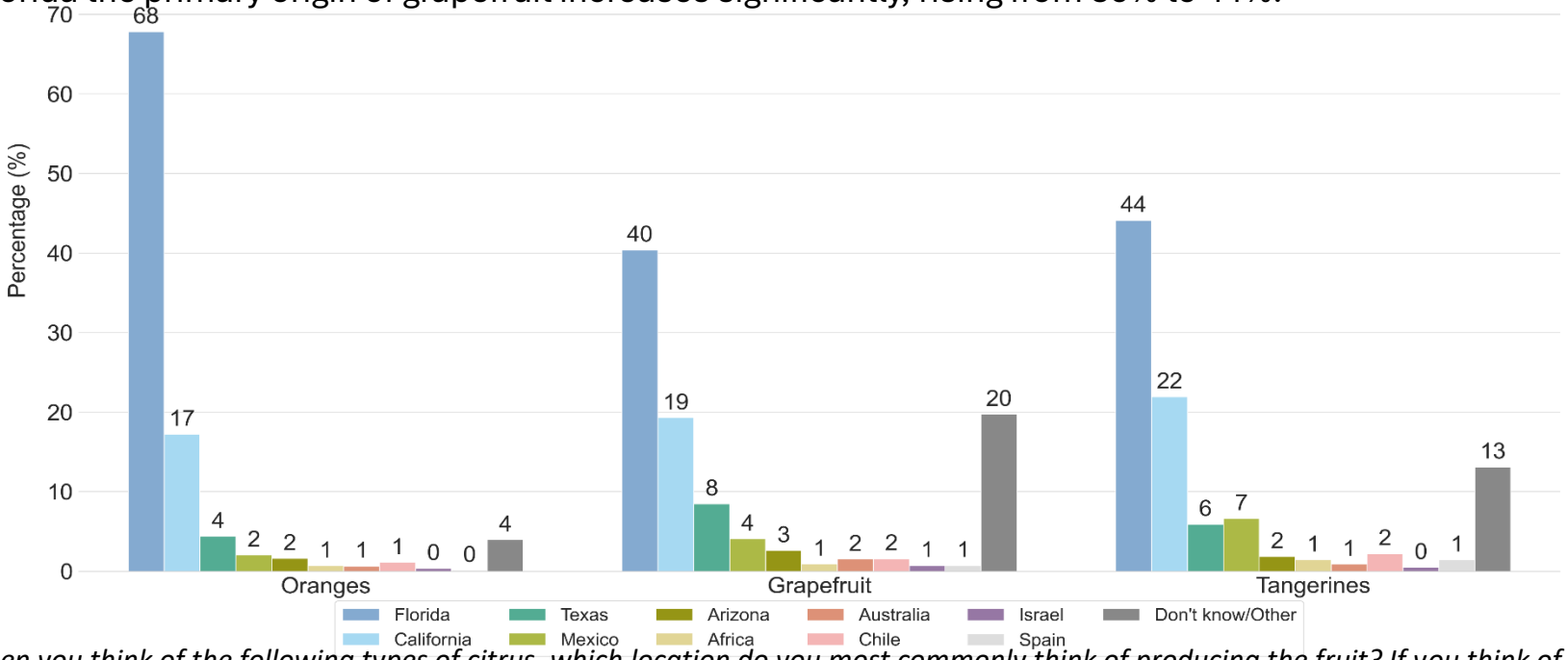


Q5.2: When you purchase citrus are you aware of its country or state of origin?

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Top Favorite Origin

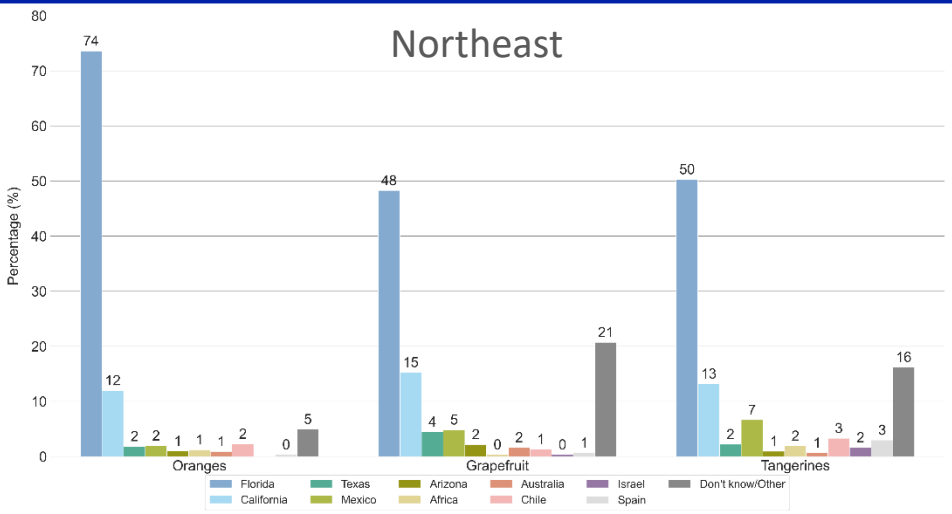
- *The regional differences for each fresh fruit consumers are significant. The temporal differences are only significant among grapefruit consumers.*
- Overall, Florida is the most commonly recognized origin for citrus fruit production among consumers, followed by California.
- Consumers in the West region, however, identify California as the most common origin for grapefruit and tangerines.
- Seasonality appears to influence perception: after the holidays, the percentage of consumers who consider Florida the primary origin of grapefruit increases significantly, rising from 36% to 44%.

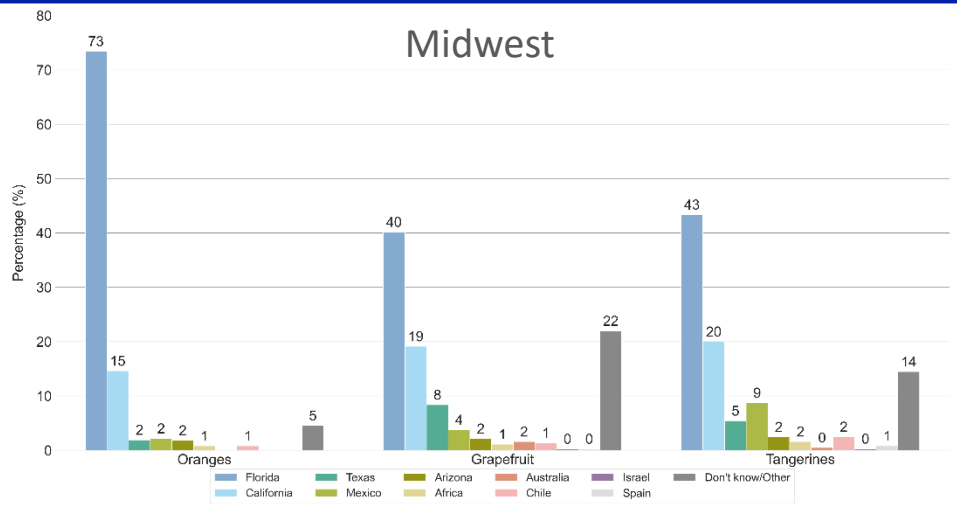


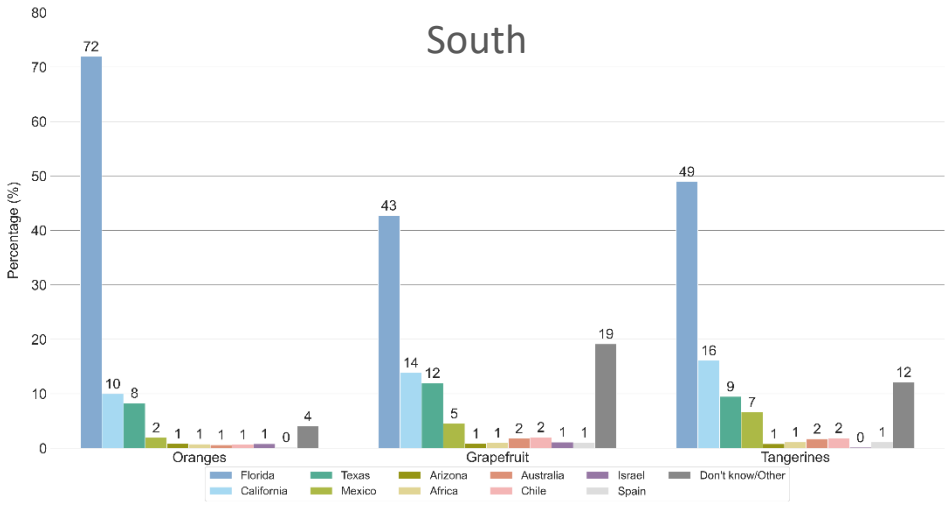
Q5.3: When you think of the following types of citrus, which location do you most commonly think of producing the fruit? If you think of more than once location, pick the location you most often would see at the place you purchase fruit [O(n)=1600, G(n)=1,598, T(n)=1,598]

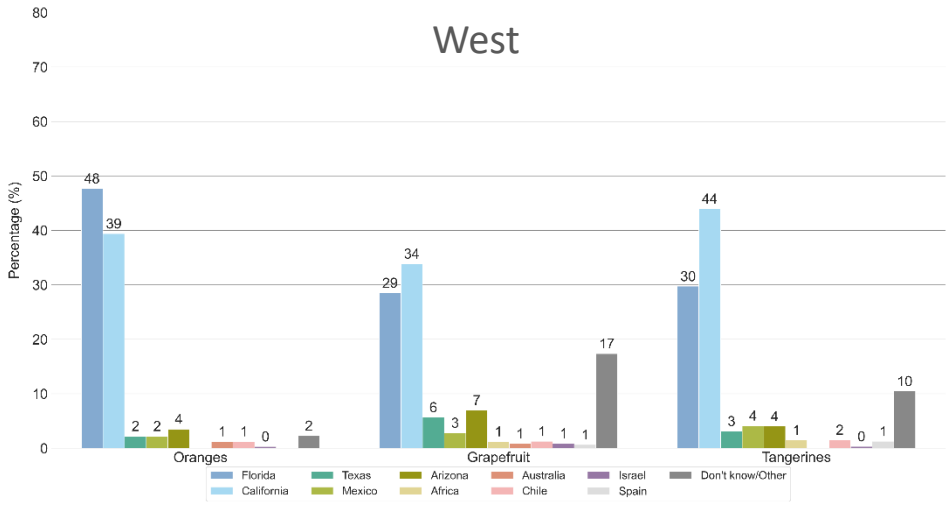
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Top Favorite Origin - Regional







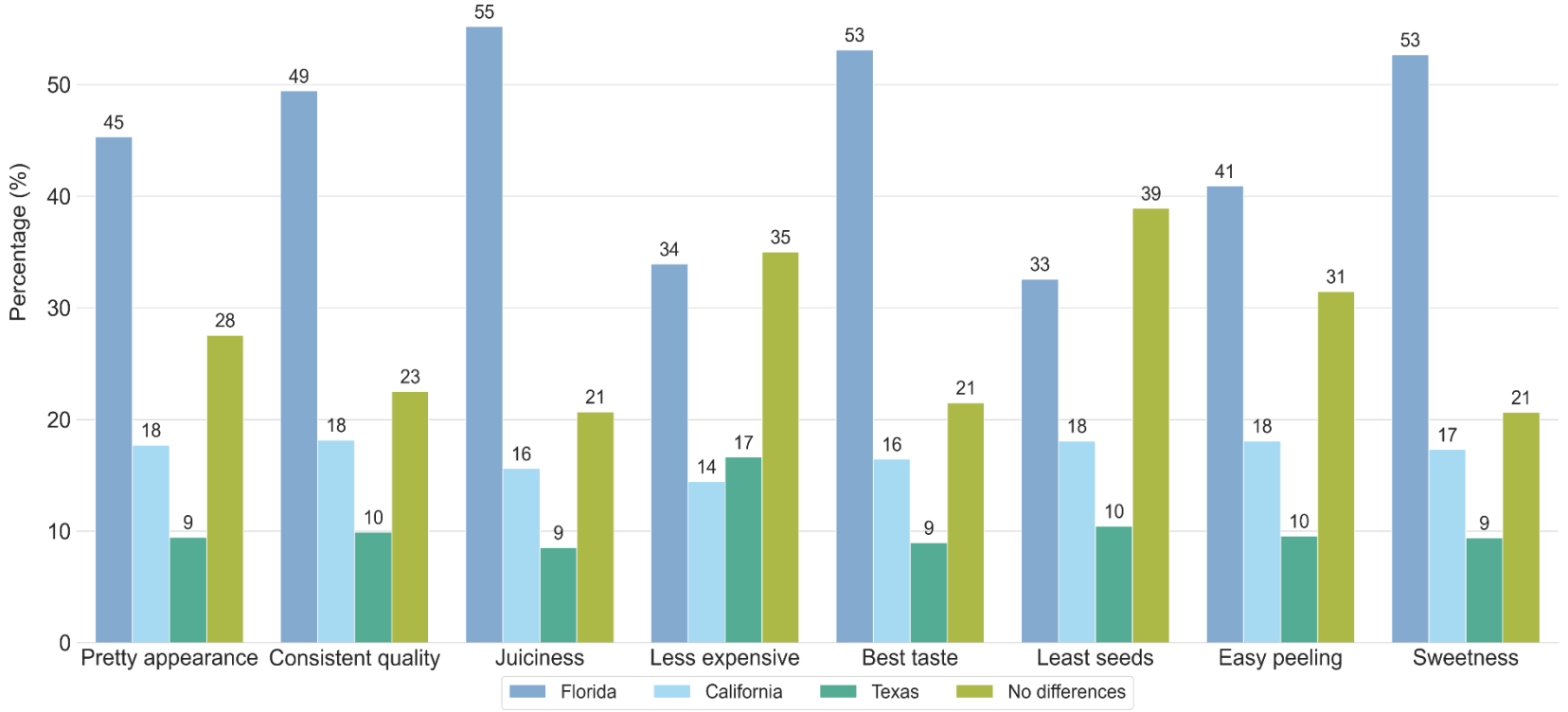


Q5.3: When you think of the following types of citrus, which location do you most commonly think of producing the fruit? If you think of more than once location, pick the location you most often would see at the place you purchase fruit

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Associated characteristics

- Approximately 50% or more of consumers associate the attributes of Consistent quality, Juiciness, Best taste, and Sweetness with Florida, followed by California.
- A sizable gap exists between the two regions regarding specific flavor profiles: Florida leads California in Juiciness (55% vs. 16%) and Sweetness (53% vs. 17%).
- In terms of physical characteristics, most consumers indicated that there are no perceived differences between Florida, California, and Texas regarding the amount of seeds in the fruit.

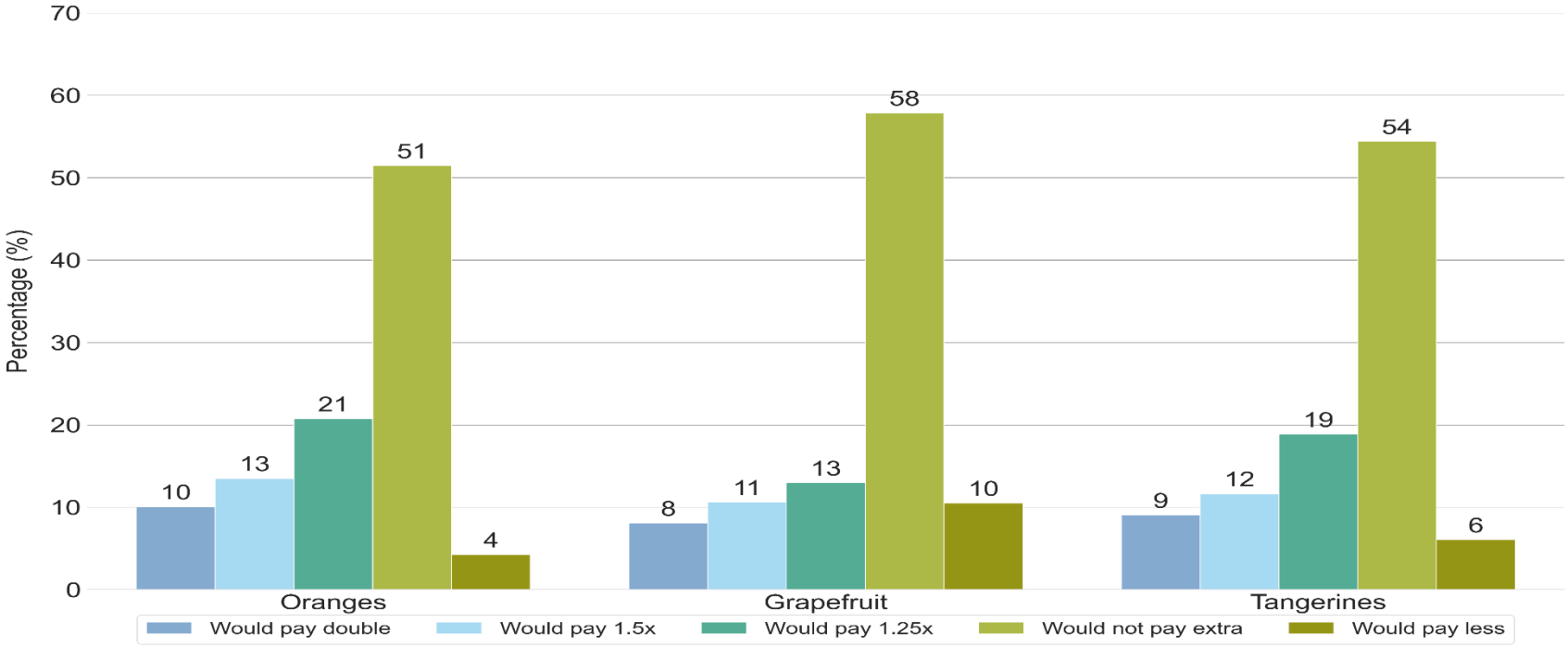


Q5.4: Which state's citrus fruit do you associate with these characteristics: [n=1,600]

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Willingness-To-Pay

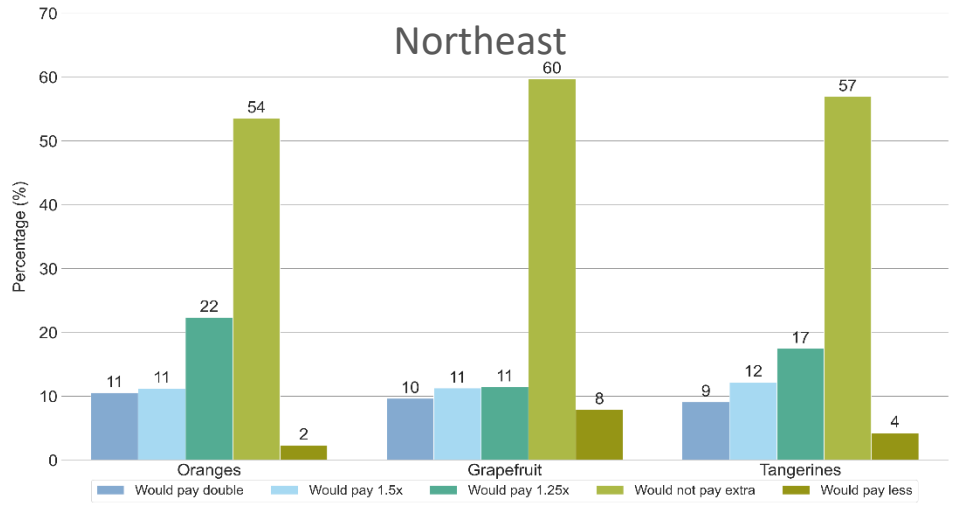
- *Only the regional differences among oranges consumers are significant*
- Overall, more than 50% of consumers indicated they would not pay a premium for Florida citrus over citrus from other locations.
- Despite this, a significant portion of consumers stated they would pay more for Florida-grown fruit, specifically for oranges (44%), tangerines (40%), and grapefruit (32%).
- Willingness to pay a 100% premium (double the price) for Florida citrus is lowest in the Midwest at 6%, compared to the Northeast (10%), West (10%), and South (10%), on average.

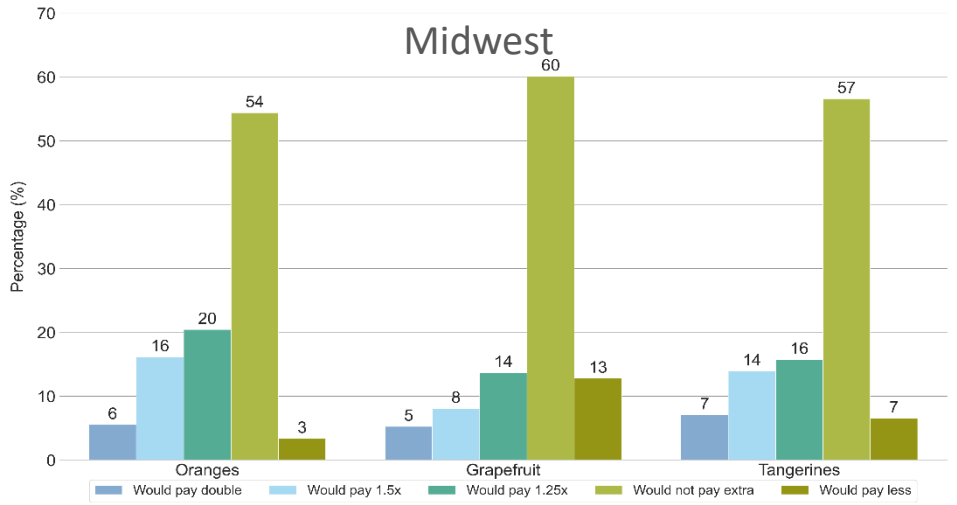


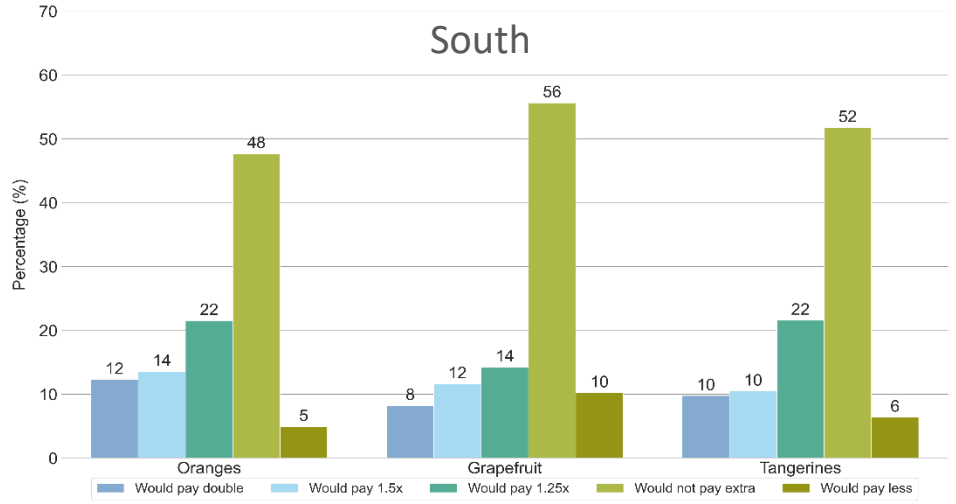
Q5.5: Would you be willing to pay more for citrus fruit from Florida than from other locations? [O(n)=1,598, G(n)=1,597, T(n)=1,596]

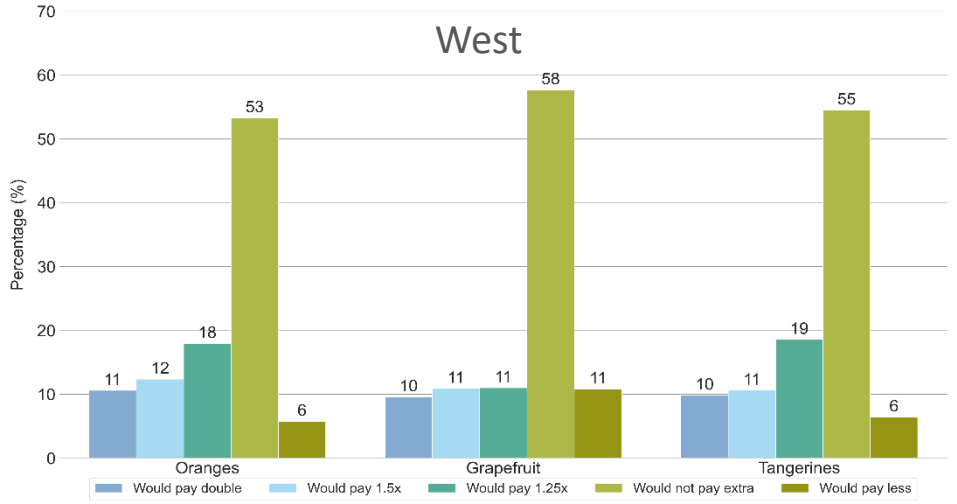
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Willingness-To-Pay - Regional







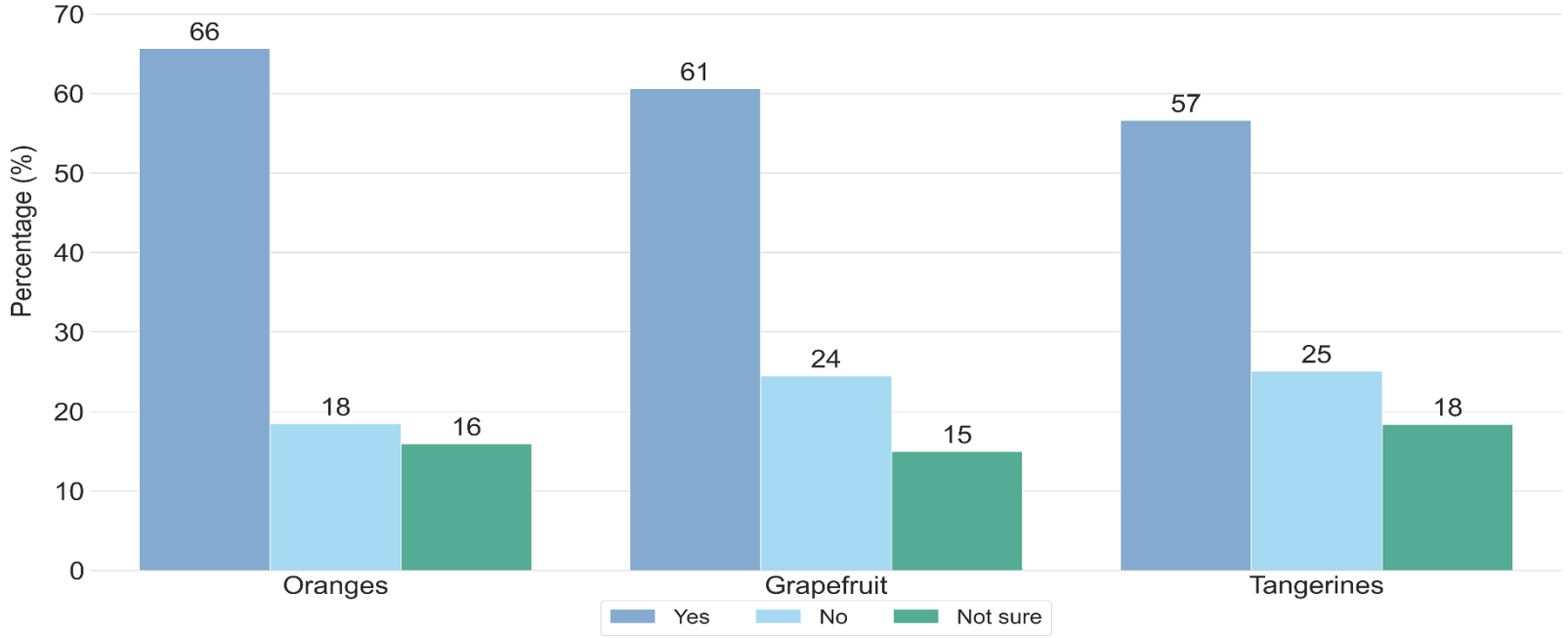


Q5.5: Would you be willing to pay more for citrus fruit from Florida than from other locations?

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Logo Recognition

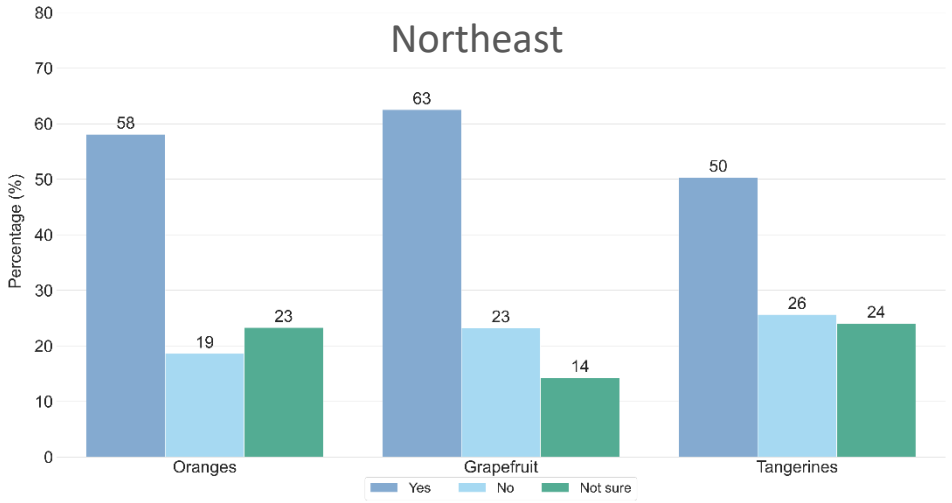
- *Only the regional differences among oranges and tangerines consumers are significant*
- Overall, approximately 60% or more of consumers indicated they have seen the logos for oranges, grapefruit, and tangerines.
- Fewer orange consumers in the Northeast (58%) reported seeing the logo compared to those in the Midwest (68%), South (68%), and West (66%).
- For tangerines, logo recognition was lowest in the Northeast (50%) and West (53%) compared to the Midwest (59%) and South (60%).

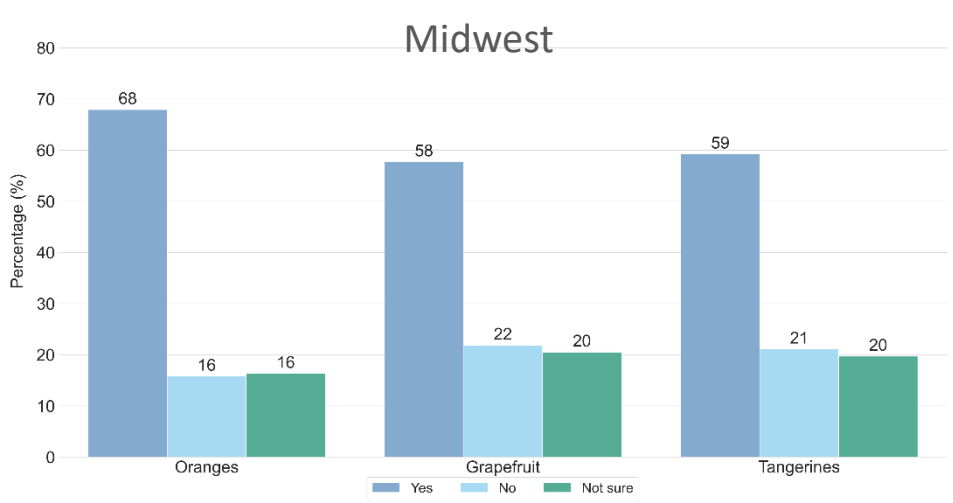


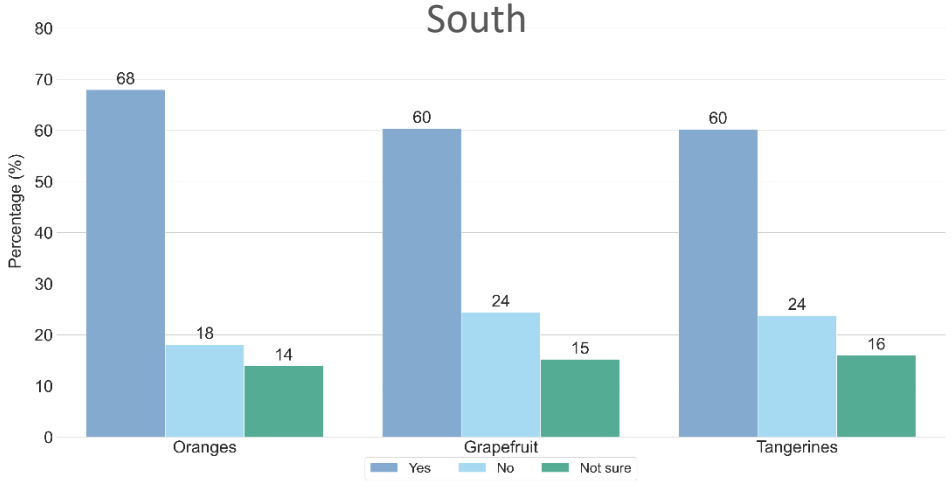
Q7.5/6.5/8.5: Have you ever seen this logo on promotional materials at a grocery store, in an advertisement, or on social media? [O(n)=1,312, G(n)=692, T(n)=1,143]

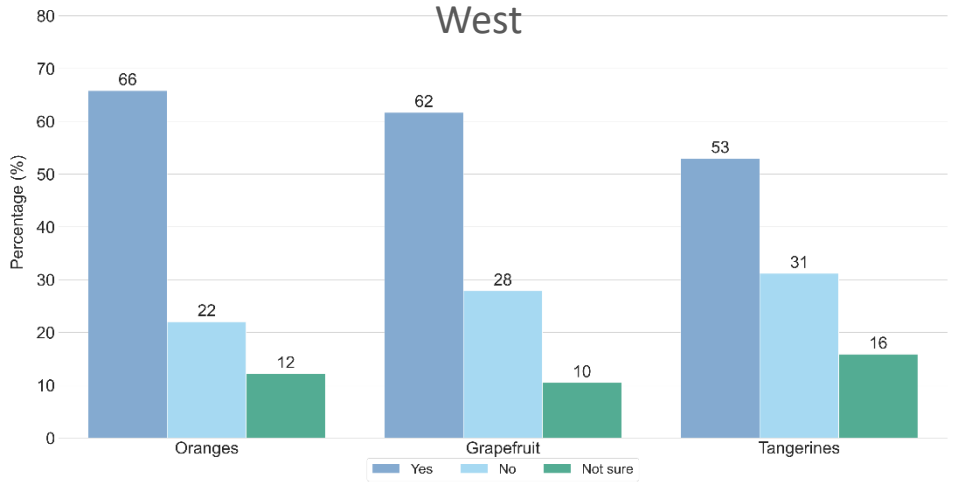
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Logo Recognition - Regional









Q7.5/6.5/8.5: Have you ever seen this logo on promotional materials at a grocery store, in an advertisement, or on social media?

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8. INNOVATION AND BARRIERS TO ENTRY

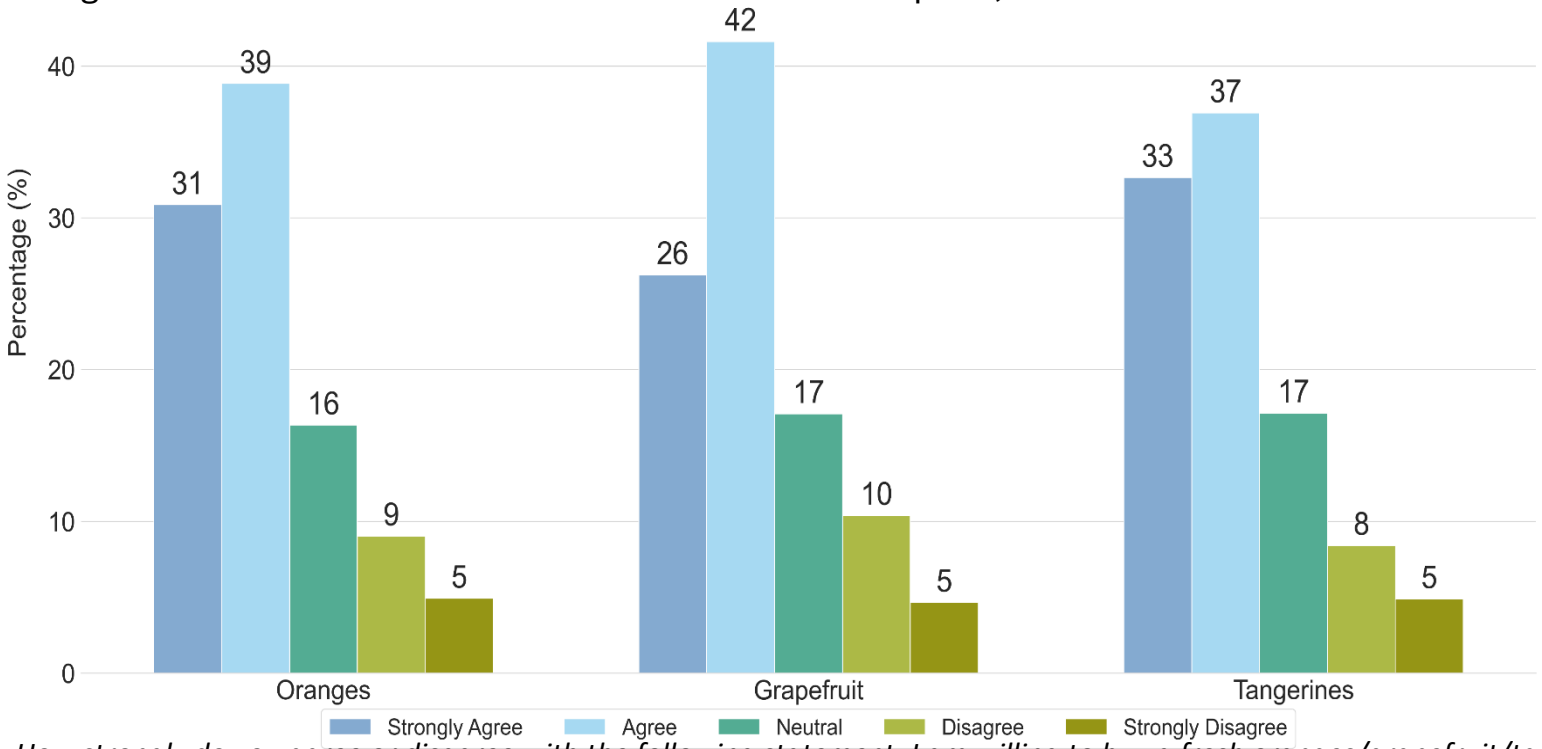
RO 8: Assess Willingness-To-Accept Fruit with Cosmetic Blemishes if Quality is the Same

RO 9: Assess Willingness-To-Accept GMO or CRISPR Varieties

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Cosmetic Blemish

- *Both the temporal and regional differences are NOT significant.*
- Approximately 70% or more of consumers for each citrus type (oranges, grapefruit, and tangerines) indicated they would be willing to purchase fruit with cosmetic blemishes, provided the taste and quality remain the same.
- **In 2018,** about three-quarters of oranges or tangerines consumers indicated they would buy oranges or tangerines with an external blemish at full or a reduced price, or if the fruit was in season.

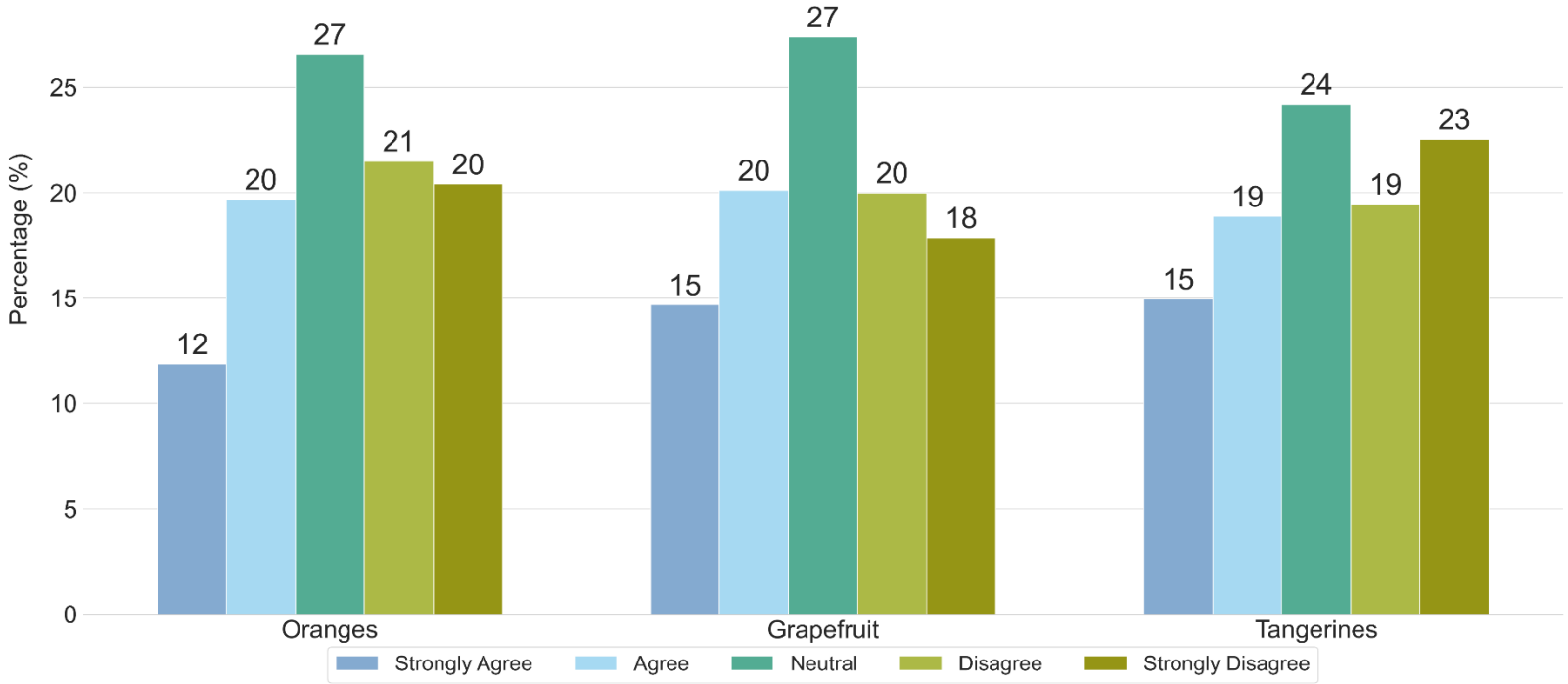


Q7.3/6.3/8.3: How strongly do you agree or disagree with the following statement: I am willing to buy a fresh oranges/grapefruit/tangerines with cosmetic blemishes if the taste and quality are the same [O(n)=1,288, G(n)=691, T(n)=1,121]

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Genetically Modified

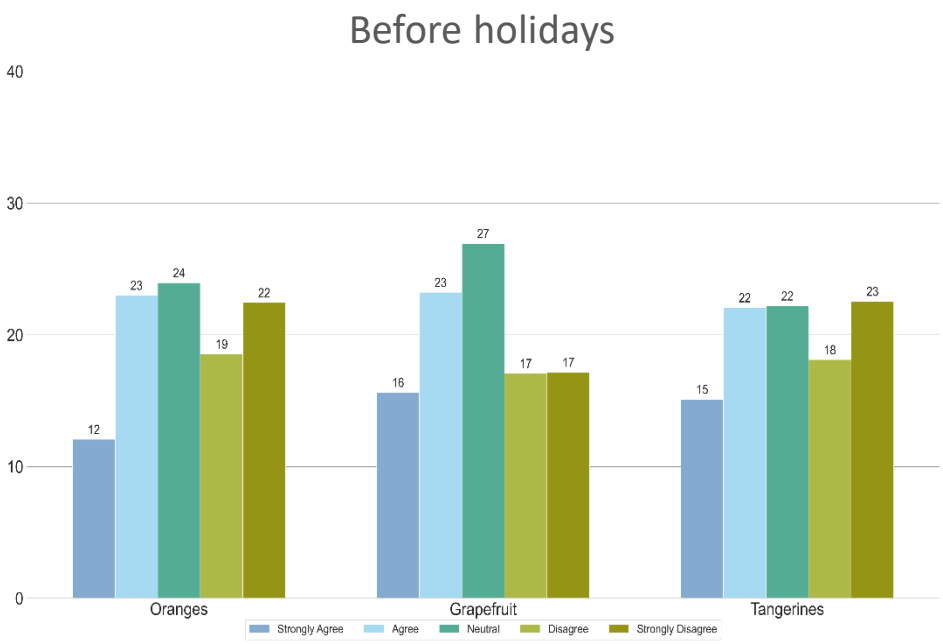
- *Only the temporal differences among oranges consumers are significant.*
- Overall, more than 30% of consumers for each citrus category indicated they would be willing to purchase gene-edited oranges, grapefruit, or tangerines.
- Consumer acceptance shifted significantly based on timing: a higher share of consumers agreed to purchase gene-edited fruit before the holidays compared to after the holidays.
- Specifically, willingness to purchase dropped across all categories: oranges fell from 35% to 28%, grapefruit from 39% to 31%, and tangerines from 37% to 31%.

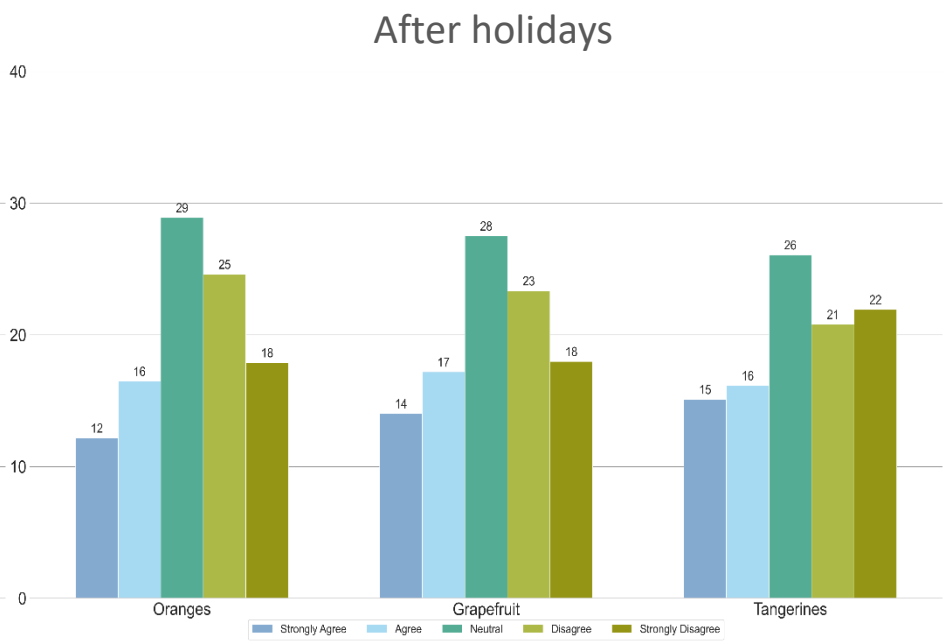


Q7.3/6.3/8.3: How strongly do you agree or disagree with the following statement: I am willing to buy a genetically modified or gene-edited oranges/grapefruit/tangerines [O(n)=1,255, G(n)=687, T(n)=1,098]

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Genetically Modified - Temporal



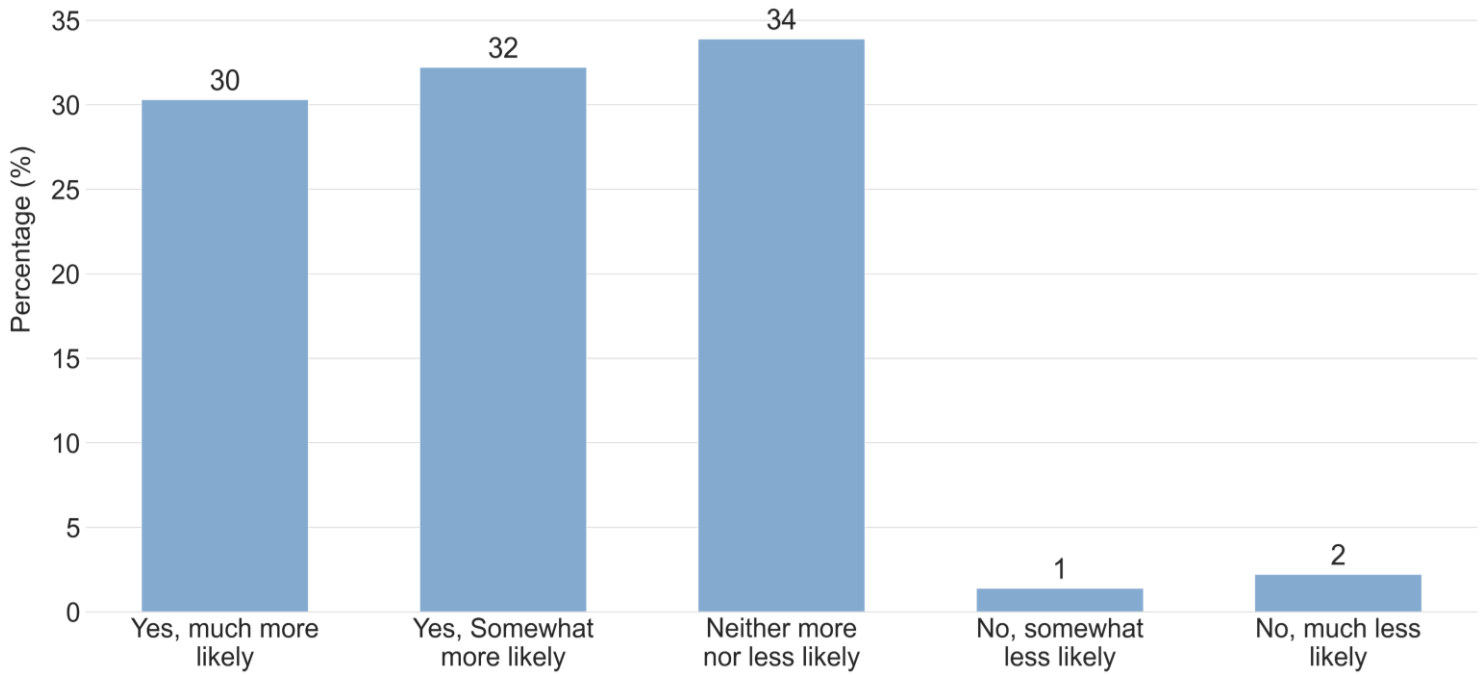


Q7.3/6.3/8.3: How strongly do you agree or disagree with the following statement: I am willing to buy a genetically modified or gene-edited oranges/grapefruit/tangerines

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Sustainable Agricultural Practices

- *Both the temporal and regional differences are NOT significant.*
- More than 60% of consumers indicated they are more likely to purchase citrus (oranges, grapefruit, or tangerines) if it is grown using sustainable agricultural practices.
- Approximately one-third of consumers stated they are "neither more nor less likely" to purchase the fruit based on these practices, suggesting a neutral stance.

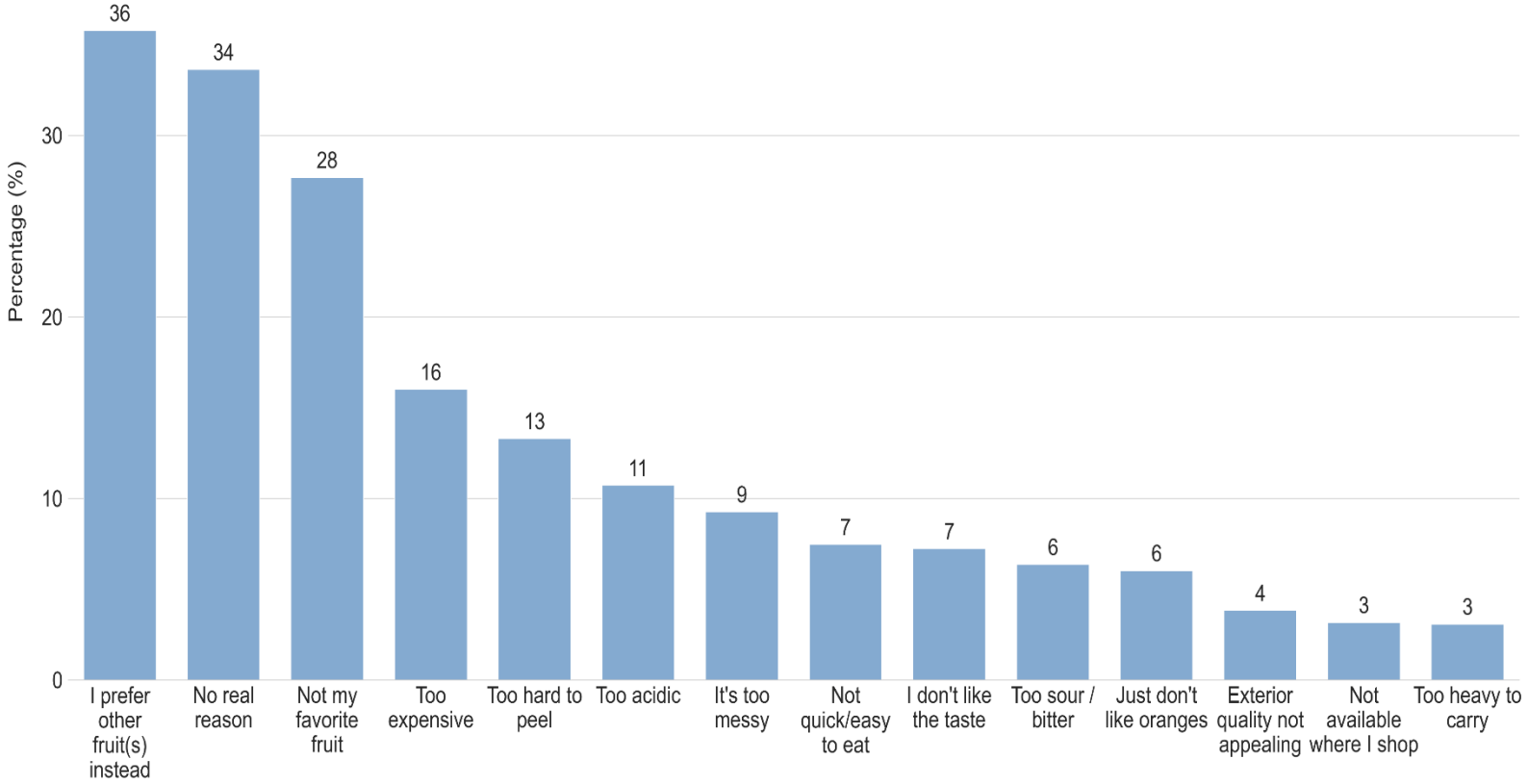


Q12.1: Would you be more likely to purchase citrus (oranges, grapefruit, or tangerines) if it is grown using sustainable agricultural practices (e.g., water conservation, reduced pesticide use, eco-friendly farming)? [n=1,599]

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Barriers on the Purchase - Oranges

- *Both the temporal and regional differences are NOT significant.*
- The top five reasons the consumers have not purchased oranges are "I prefer other fruit instead (36%)", "No real reason (34%)", "Not my favorite fruit (28%)", "Too expensive (16%)", and "Too hard to peel (13%)."

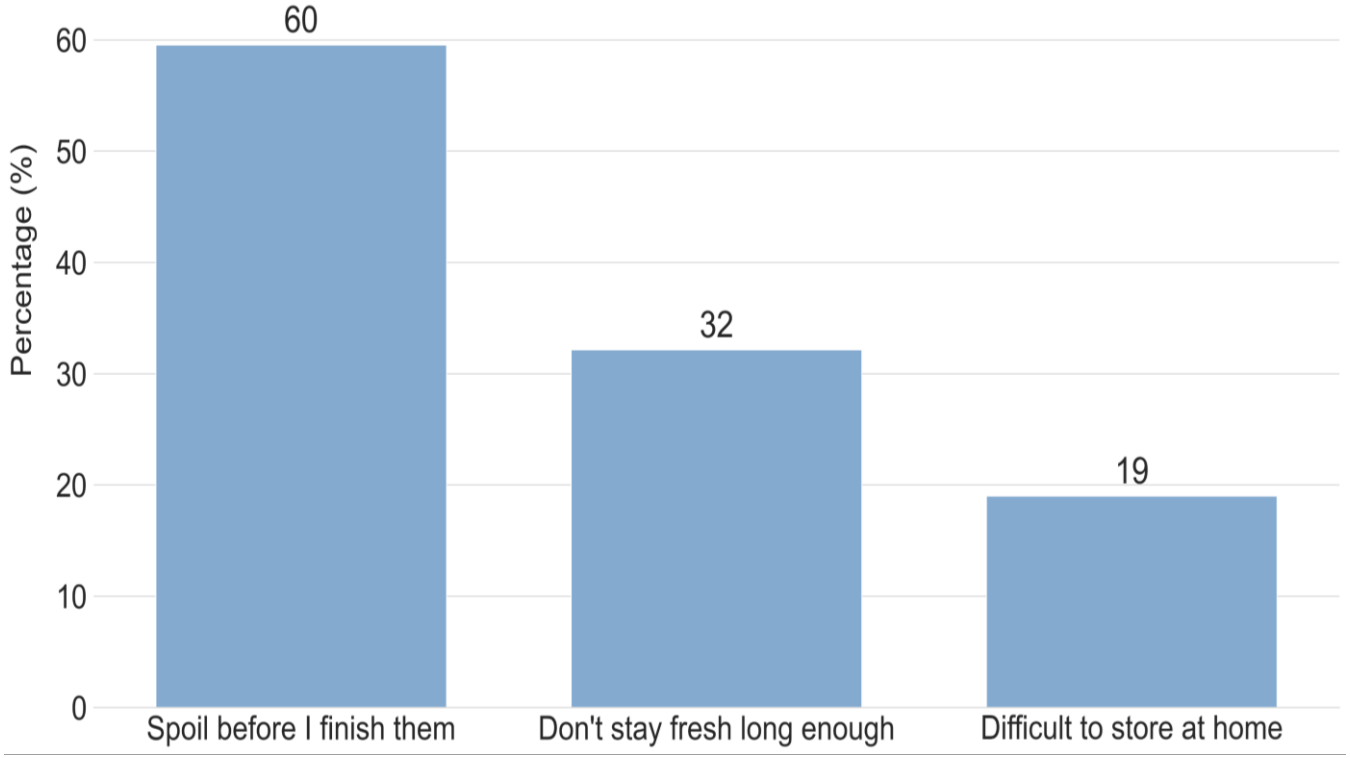


Q10.1: You mentioned that you have not purchased oranges during the last 6 months. Which of the following reasons describe why you have not purchased oranges? (select all that apply) [n=276]

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Concerns on the Purchase - Oranges

- *Both the temporal and regional differences are NOT significant.*
- More than half of consumers indicated they are less likely to purchase oranges because they spoil before they can be finished.
- Additionally, 32% of consumers stated that the fruit does not stay fresh long enough.
- Furthermore, 19% of consumers found that oranges are difficult to store at home.

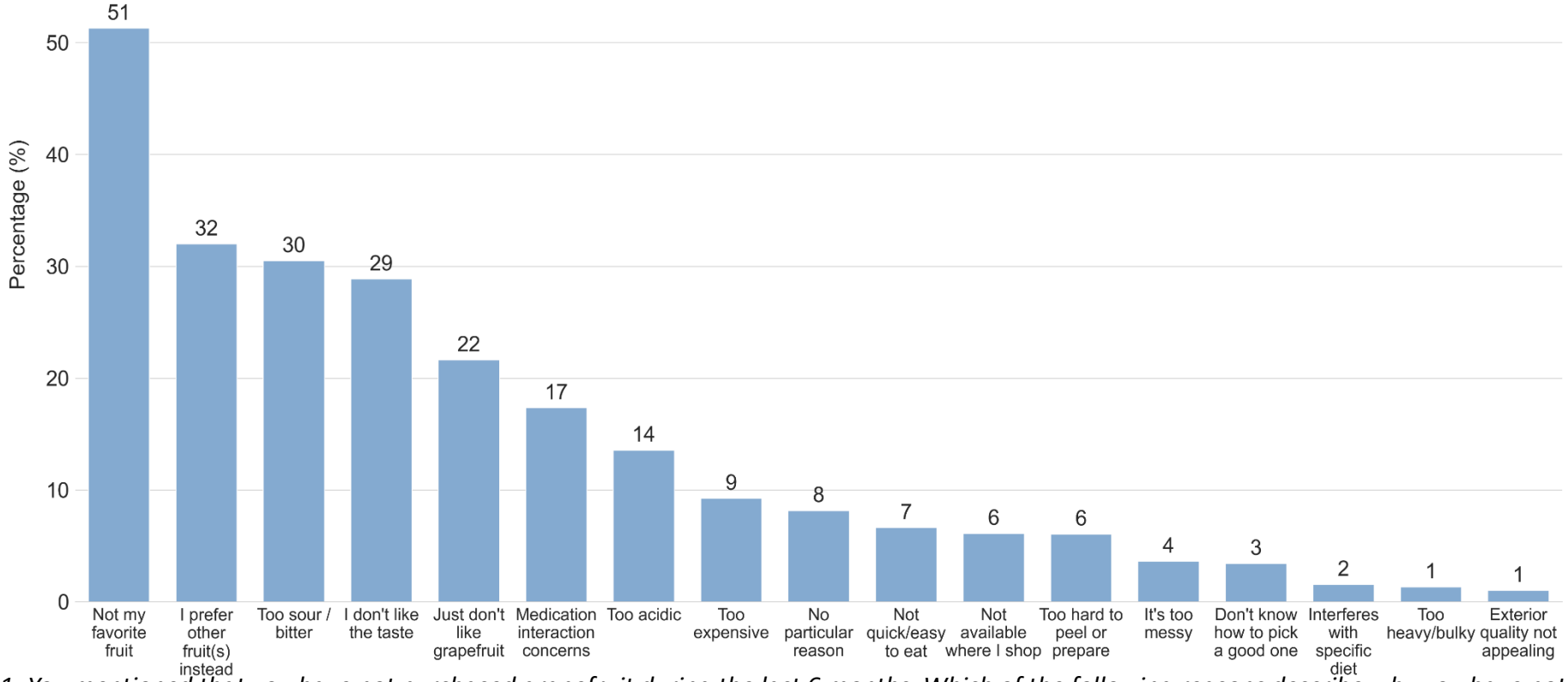


Q10.2: Which of the following concerns make you less likely to purchase oranges? (Select all that apply) [n=279]

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Barriers on the Purchase - Grapefruit

- *Only the temporal differences are significant.*
- Following the holidays, the share of consumers who cited medication interaction concerns as a reason for not purchasing grapefruit nearly doubled.
- More than half of consumers indicated that they have not purchased grapefruit simply because it is not their favorite fruit.

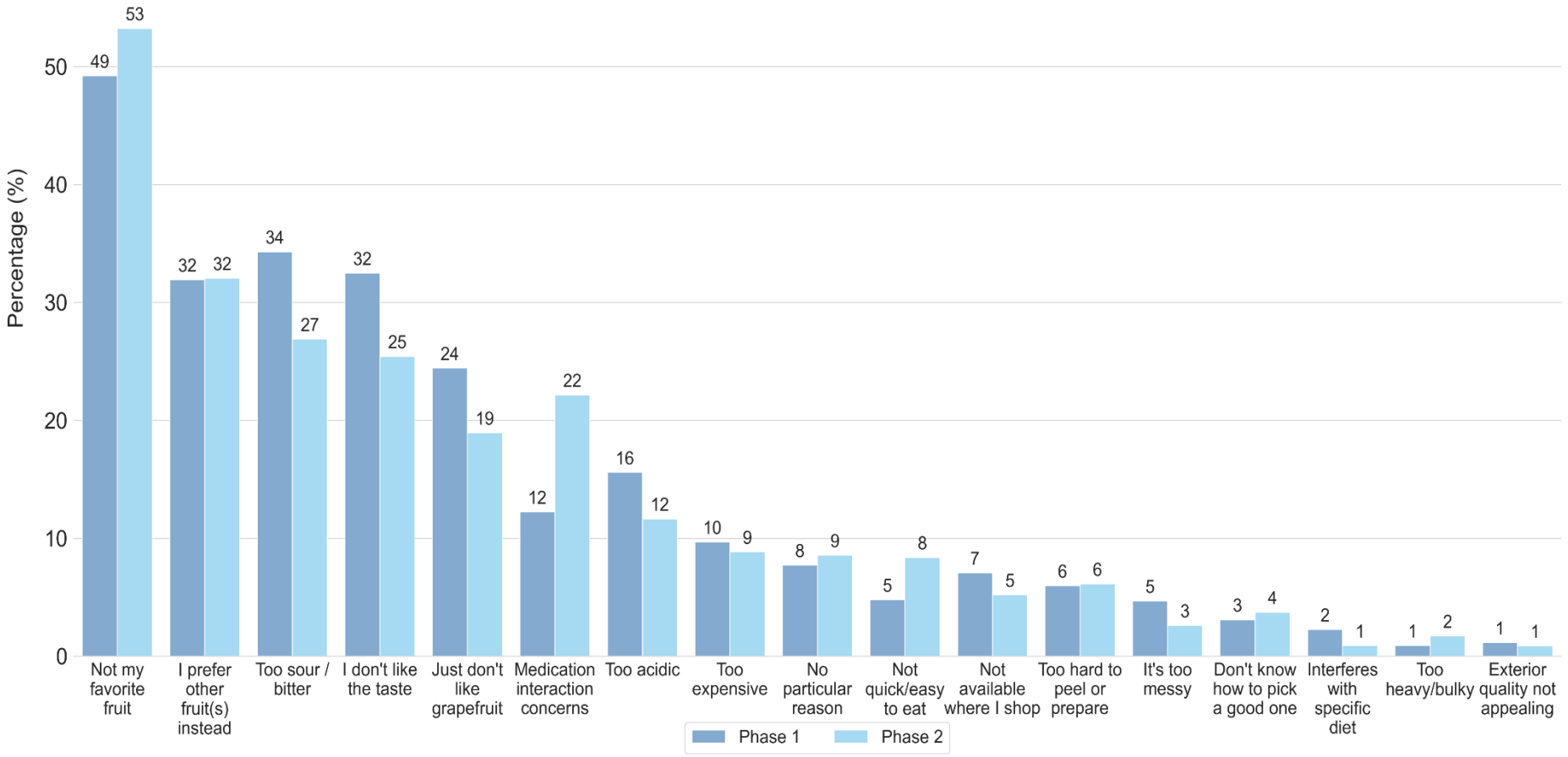


9.1: You mentioned that you have not purchased grapefruit during the last 6 months. Which of the following reasons describe why you have not purchased grapefruit? (select all that apply) [n=899]

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Barriers on the Purchase – Grapefruit - Temporal

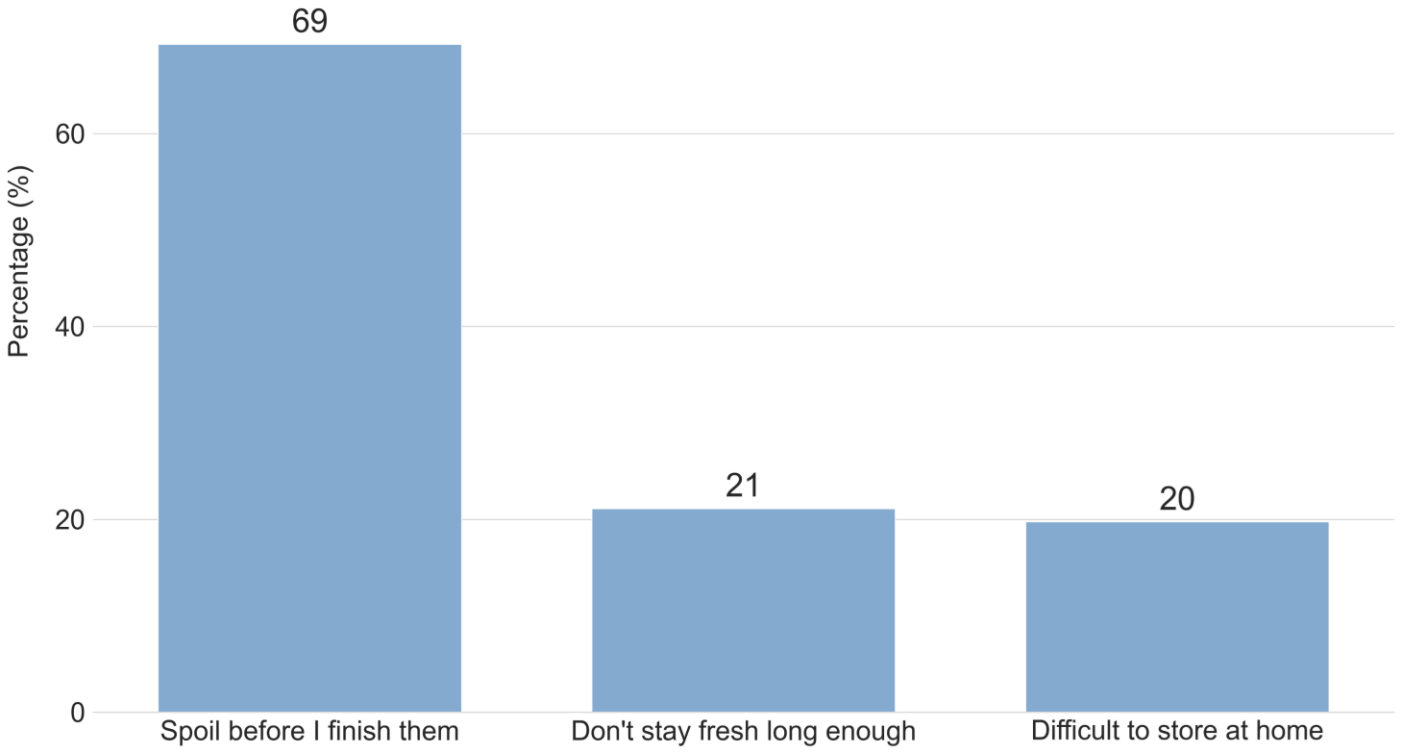


9.1: You mentioned that you have not purchased grapefruit during the last 6 months. Which of the following reasons describe why you have not purchased grapefruit? (select all that apply)

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Concerns on the Purchase - Grapefruit

- *Both the temporal and regional differences are NOT significant.*
- More than two-thirds of consumers indicated they are less likely to purchase grapefruit because the fruit spoils before they can finish it.
- Additionally, 21% of consumers stated that grapefruit does not stay fresh long enough.
- Approximately 20% of consumers reported that grapefruit is difficult to store at home.

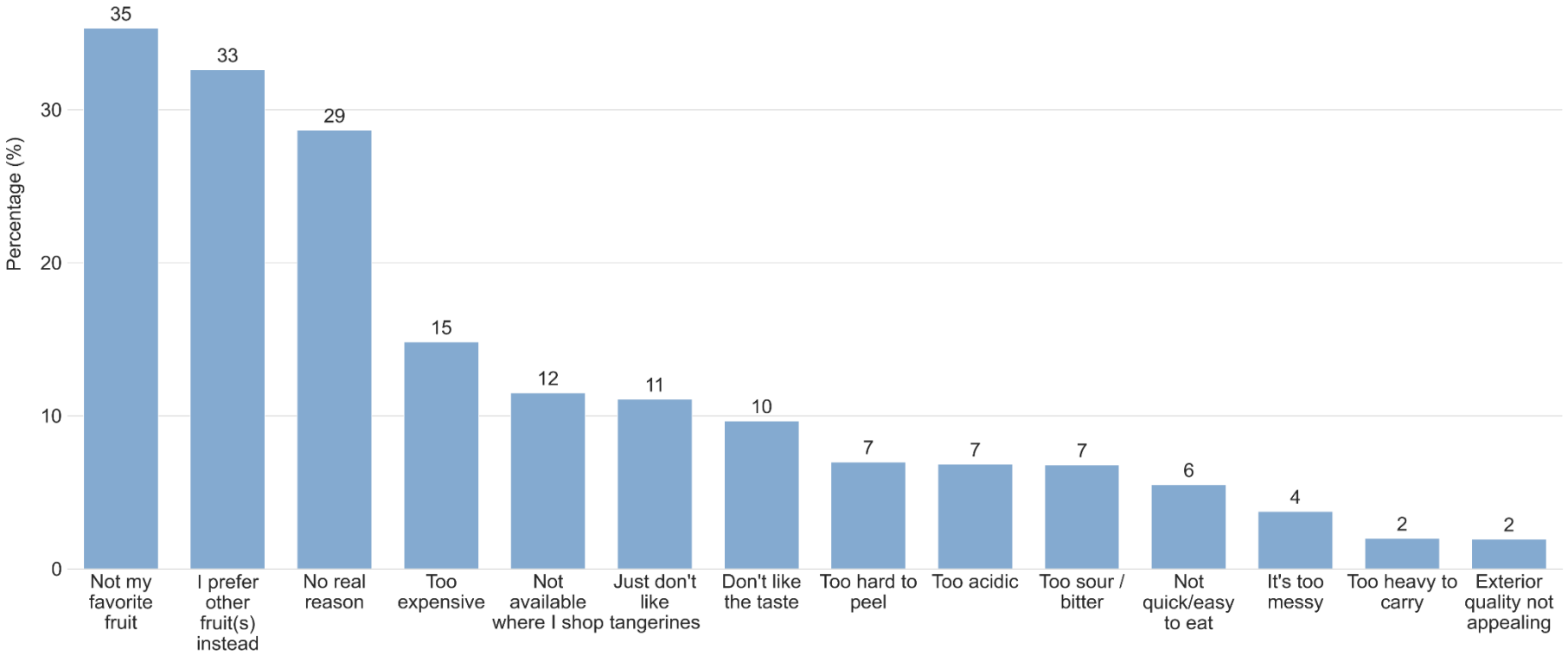


Q9.2: Which of the following concerns make you less likely to purchase grapefruit? (Select all that apply) [n=866]

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Barriers on the Purchase - Tangerines

- *Both the temporal and regional differences are NOT significant.*
- The top five reasons the consumers have not purchased tangerines are "Not my favorite fruit (35%)", "I prefer other fruit instead (33%)", "No real reason (29%)", "Too expensive (15%)", and "Not available where I shop (12%)."

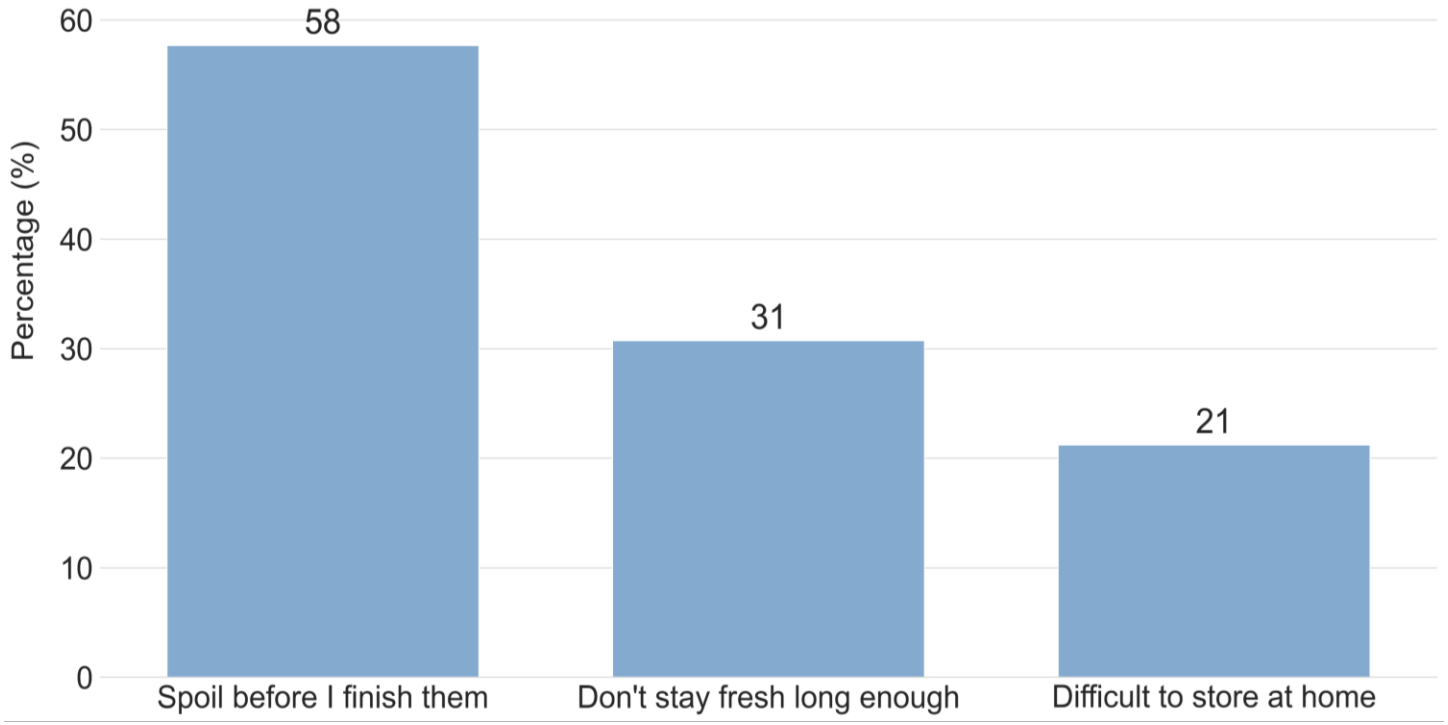


11.1: You mentioned that you have not purchased tangerines during the last 6 months. Which of the following reasons describe why you have not purchased tangerines? (select all that apply) [n=442]

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Concerns on the Purchase - Tangerine

- *Both the temporal and regional differences are NOT significant.*
- More than half of consumers indicated they are less likely to purchase tangerines because the fruit spoils before they can finish it.
- Additionally, 31% of consumers stated that tangerines do not stay fresh long enough.
- One-fifth of consumers reported that tangerines are difficult to store at home.



11.2: Which of the following concerns make you less likely to purchase tangerines? (Select all that apply) [n=445]

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9. DEMOGRAPHICS

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Sample Demographic Information

* Throughout the analysis, the full survey data (*N=1,600*) and the data from waves 1 and 2 were each weighted by age distribution to be nationally representative.

Age	Percentage (%)			
	Census	Full	1st Wave	2nd Wave
18 – 24	12	13	13	13
25 – 34	18	16	20	13
35 – 44	16	16	16	15
45 – 54	16	16	16	17
55 – 64	17	17	16	19
Over 65	21	21	19	24

Region	Percentage (%)			
	Census	Full	1st Wave	2nd Wave
Northeast	17	19	19	18
Midwest	21	23	24	22
South	38	39	37	40
West	24	20	20	20

Gender	Percentage (%)
Male	46
Female	54

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Sample Demographic Information

Education Level	Percentage (%)
Less than a high school	3
High school graduate	29
Some college	33
Bachelor's degree	23
Graduate degree	12

Income Level	Percentage (%)
Less than $24,999	20
$25,000 – $34,999	14
$35,000 – $49,999	13
$50,000 – $74,999	19
$75,000 – $99,999	13
$100,000 – $149,999	12
$150,000 – $199,999	5
Over $200,000	2

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