

Consumer Perceptions:

Dairy and Plant-based Milks Phase II

DAI DAIRY MANAGEMENT INC.™



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Background & Objectives



- DMI would like to deepen its understanding of consumer perceptions of milk and plant-based milk alternatives to include an understanding of ingredients, nutritional content and purchase motivations.
- The learnings from this study will be used to inform DMI across departments and industry partners.

Methodology



Design

- Study conducted by IPSOS, a global market research and consulting firm
- Online data collection
- 12 minute interview
- Interviews were conducted October 30-31, 2018

Sample

- N=2,006 Gen Pop (Adults 18+)
- N=858 Exclusive dairy milk buyers (once a month or more often)
- N=768 Dual buyers of dairy milk and plant-based milks (once a month or more often)
- N=101 Exclusive plant-based milk buyers (once a month or more often)

Areas of Questioning

- Respondents were asked about their perceptions of milk and milk alternative products via both open-ended and closed-ended questions.
- Questions are included on the bottom of each slide.
(Please note that there is no question #4)

Summary of Findings

Purchasing

- Dairy milk is purchased by a greater number of consumers in the general population compared to plant-based milks based on self-report (87% past 6 month buyers vs. 42%).
- Purchasing of both dairy milk and plant-based milk (i.e., dual buyers) is common.
 - Among past year purchasers, 48% purchased both types, 47% only purchased dairy milk and 5% only purchased plant-based milk.
- Purchasing of dairy milk is more frequent than purchasing of plant-based milk.
 - Among those who purchase only dairy milk, 50% purchase at least once a week.
 - Among those who only purchase plant-based milk, 40% report purchasing it at least once a week.
 - Among those who are dual buyers, 46% purchase dairy milk at least once a week and 23% report purchasing plant-based milk once a week.

Summary of Findings

Purchase Drivers

- Taste, health, nutrition and good source of vitamins and minerals are important purchase drivers for both dairy milk and plant-based milks. Both exclusive dairy milk buyers and exclusive plant-based milk buyers include these factors as key reasons to purchase the products.
- While nutrition overall is an important purchase driver for both dairy and plant-based milks among those who purchase both products, dual buyers see calcium, vitamins & minerals as more important to the dairy milk purchase decision than the plant-based milk decision and see overall health as more important to the plant-based milk purchase.
- Plant-based milk reasons strengthen among those who only purchase plant-based milks. This group cites nutrition, taste, healthy, natural, lactose-free and milk allergies as key reasons for purchasing.

Summary of Findings

Nutrition

- Just over half of the general population agrees that plant-based milks are a good source of nutrients (58%) and a good substitute for dairy milk (55%). However, a fair amount (33% good source nutrients/26% good substitute) say they aren't sure, suggesting some lack of awareness regarding the nutritional content of these products.
- Consumer perceptions about the quality of protein in dairy vs. plant-based milk vary, though the largest group in the general population (42%) admits that they aren't sure which milk offers a higher quality protein. When asked about the amount of nutrients in plant-based milk compared to dairy milk, consumers overall are split, with the largest group (38%) saying that they are not sure.
- However, exclusive plant-based milk buyers are significantly more likely to say that plant-based milk has higher quality protein and more nutrients.

Summary of Findings

Ingredients

- Overall, one-half of the general population perceives that the main ingredient in plant-based milks is the plant itself (soy, nuts, etc...).
- Regardless of purchaser type, consumers tend to perceive dairy milks to have fewer ingredients (generally 3 or less) and plant-based beverages to have more ingredients (generally 4 or more).
- The majority of consumers agree that some plant-based milks have added vitamins, emulsifiers, thickeners and sweeteners. However, few believe that all plant-based milks have these.
- There is a wide range of beliefs regarding sugar content in both dairy and plant-based milk.
 - A fair amount are not sure, but when it comes to added sugar, plant-based milks are considered more likely to have this ingredient.

Labeling Perceptions

- If U.S. Dietary Guidelines do not recommend most plant-based milks as a substitute for dairy milk, half of consumers (49%) agree that they should not then be labeled as 'milk' and another 1/3 (31%) are not sure.
 - Among exclusive plant-based milk buyers, 29% say that plant-based milks should not have the label "milk".

Over Half of Consumers have Ever Purchased Plant-based Milk, With 4 in 10 Having Purchased in Past 6 Months.

Almond is Most Commonly Purchased, Followed by Coconut, then Soy.

Frequency of Purchase (Among Total)

	Dairy Milk					Plant-Based Milk								
	Total (Net)	Skim (fat free)	1% (reduced fat)	2% (reduced fat)	Whole	Total (Net)	Almond	Soy	Coconut	Cashew	Rice	Pea Milk	Flax	Hemp
Ever (Net)	91%	46%	54%	68%	67%	56%	49%	31%	34%	24%	17%	12%	14%	13%
Past 6 month (Subnet)	87%	34%	42%	56%	52%	42%	34%	20%	23%	14%	11%	9%	9%	9%
Once a month or more (Sub-Subnet)	79%	26%	30%	46%	42%	32%	25%	12%	12%	9%	7%	6%	6%	5%
Once a week or more often	43%	10%	10%	19%	21%	12%	9%	3%	3%	2%	2%	2%	2%	2%
Once every 2 or 3 weeks	26%	10%	12%	17%	14%	11%	9%	4%	5%	3%	2%	2%	3%	2%
Once a month/every four weeks	10%	6%	8%	10%	7%	8%	7%	5%	4%	3%	2%	2%	2%	2%
Once every 2 or 3 months	5%	5%	6%	7%	6%	6%	6%	4%	6%	3%	2%	2%	2%	2%
Once every 4 to 6 months	3%	4%	5%	4%	4%	4%	4%	3%	4%	2%	2%	1%	1%	1%
Once or twice a year	2%	4%	5%	5%	6%	6%	6%	4%	5%	3%	2%	1%	2%	2%
Less often than once a year	3%	7%	8%	7%	9%	8%	8%	7%	6%	7%	4%	3%	3%	3%
Never	9%	54%	46%	32%	33%	44%	51%	69%	66%	76%	83%	88%	86%	87%

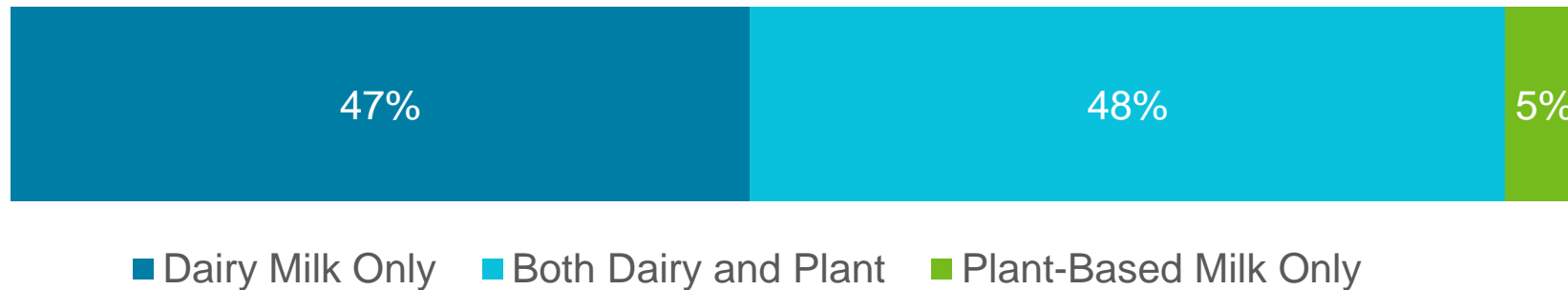
Base: Total Respondents (n=2,006)

Q1: Please indicate how frequently you purchase each of the following.

Among Purchasers, there is an Even Split Between Exclusive Dairy Milk Buyers and Dual Dairy + Plant Milk Buyers.

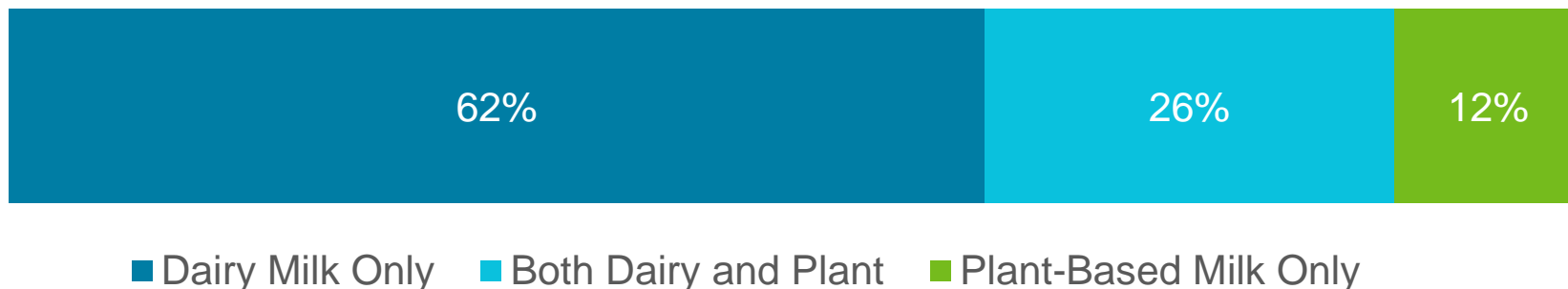
Exclusive Plant-based Milk Buyers are a Small Group.

% Purchase (Within the Past Year)



When looking at personal consumption, however, there is a stronger share of dairy milk only consumers and plant-based only milk consumers, suggesting that individuals are more likely to be drinking one type of milk.

Past 6 Month Consumption



Base: Past Year Milk Purchasers (n=1745); Past 6 Month Milk Consumers (n=1875)

Q1: Please indicate how frequently you purchase each of the following.

Q2: And which of the following have you consumed in the past 6 months?

Among Dual Dairy and Plant-based Milk Buyers, Dairy Milk is Purchased More Frequently (46% Weekly) vs. 23% Weekly).

Frequency of Purchase (Among Dairy Milk and Plant-Based Purchasers)

	Dairy Milk					Plant-Based Milk								
	Total (Net)	Skim (fat free)	1% (reduced fat)	2% (reduced fat)	Whole	Total (Net)	Almond	Soy	Coconut	Cashew	Rice	Pea Milk	Flax	Hemp
<u>Ever (Net)</u>	<u>100%</u>	<u>60%</u>	<u>69%</u>	<u>79%</u>	<u>80%</u>	<u>100%</u>	<u>89%</u>	<u>60%</u>	<u>66%</u>	<u>47%</u>	<u>34%</u>	<u>25%</u>	<u>28%</u>	<u>25%</u>
<u>Past 6 month (Subnet)</u>	<u>97%</u>	<u>48%</u>	<u>56%</u>	<u>68%</u>	<u>66%</u>	<u>87%</u>	<u>71%</u>	<u>43%</u>	<u>49%</u>	<u>30%</u>	<u>23%</u>	<u>19%</u>	<u>21%</u>	<u>19%</u>
<u>Once a month or more (Sub-Subnet)</u>	<u>88%</u>	<u>34%</u>	<u>41%</u>	<u>54%</u>	<u>52%</u>	<u>64%</u>	<u>49%</u>	<u>27%</u>	<u>27%</u>	<u>18%</u>	<u>15%</u>	<u>12%</u>	<u>14%</u>	<u>12%</u>
Once a week or more often	46%	12%	12%	20%	25%	23%	16%	7%	7%	5%	5%	4%	4%	4%
Once every 2 or 3 weeks	29%	13%	15%	21%	18%	23%	18%	10%	11%	7%	5%	4%	6%	4%
Once a month/every four weeks	13%	9%	14%	13%	9%	17%	15%	11%	8%	6%	5%	3%	5%	3%
Once every 2 or 3 months	6%	9%	8%	9%	8%	14%	12%	9%	13%	7%	4%	5%	4%	5%
Once every 4 to 6 months	3%	5%	8%	5%	6%	10%	10%	6%	10%	5%	4%	3%	3%	3%
Once or twice a year	3%	6%	6%	5%	7%	13%	13%	9%	10%	7%	5%	3%	3%	3%
Less often than once a year	-	7%	7%	6%	7%	-	5%	8%	7%	10%	5%	3%	4%	3%
Never	-	40%	31%	21%	20%	-	11%	40%	34%	53%	66%	75%	72%	75%

Top Purchase Drivers for Dairy Milk

- Calcium
- Taste
- Nutritious
- Healthy
- Good source vitamins & minerals

for Plant-based Milk

- Healthy
- Nutritious
- Lactose-free
- Flavorful
- Taste
- Good for milk allergies
- Natural
- Good source vitamins & minerals

No Differences Between Products:

- Taste
- Nutritious
- Healthy
- Good source vitamins & minerals
- Protein
- Safe
- Limited number of ingredients

Q3: Please select statements below that best describe why you would purchase DAIRY MILK/PLANT BASED MILK.	Exclusive Dairy Milk Buyers (A)	Exclusive Plant-based Milk Buyers (B)
It is a good source of calcium	69% B	46%
It tastes good	69%	62%
It is nutritious	62%	69%
It is healthy	64%	70%
It is a good source of vitamins and minerals	56%	56%
It is a good source of protein	48%	52%
It is safe to consume	48%	54%
It is flavorful	51%	63% A
It is all natural	40%	58% A
It has a good texture	31%	47% A
It contains the 9 essential vitamins and minerals	33% B	22%
It has a limited number of ingredients	28%	31%
It contains no added sugar	26%	41% A
It comes from a sustainable food source	27%	50% A
It contains no artificial ingredients	24%	36% A
It is low in fat	20%	43% A
It contains no additives	18%	34% A
It is produced in an environmentally responsible way	17%	38% A
Manufacturers transparent about how milk is produced	15%	28% A
It is low in calories	14%	40% A
It is low in cholesterol	10%	38% A
It is lactose free	2%	69% A
It is a good for someone with milk allergies	3%	62% A
Animals are not used in their production	3%	47% A

A/B = Sig. Difference at 95%

Base: Dairy Milk Purchasers Only (n=858), Plant-Based Purchasers Only (n=101)

Q3: Please select statements below that best describe why you would purchase DAIRY MILK/PLANT-BASED MILK

Purchase Drivers for Dual Buyers of Dairy and Plant-based Milks

- Dual buyers perceive plant-based milks to be healthier overall and more natural than Dairy Milk
- Calcium, taste, vitamins & minerals and protein are more important purchase drivers for dairy milk
- Nutrition is a highly important driver for both products
- Healthy, milk allergies/lactose-free, natural, animals not used in their production, low in fat/cholesterol, limited number of ingredients, sustainable food source, and environmental responsibility are more important drivers for plant-based milks

Q3: Please select statements below that best describe why you would purchase DAIRY MILK/PLANT BASED MILK.	Dairy Milk (C)	Plant-Based Milk (D)
It is a good source of calcium	61% BD	29%
It tastes good	60% D	48%
It is nutritious	54%	52%
It is healthy	49%	58% C
It is a good source of vitamins and minerals	52% D	43%
It is a good source of protein	48% D	38%
It is safe to consume	42%	41%
It is flavorful	42%	46%
It is all natural	35%	43% C
It has a good texture	37% AD	27%
It contains the 9 essential vitamins and minerals	26%	22%
It has a limited number of ingredients	25%	30% C
It contains no added sugar	27%	27%
It comes from a sustainable food source	22%	39% AC
It contains no artificial ingredients	25%	27%
It does not contain artificial ingredients	23%	26%
It is low in fat	20%	38% AC
It contains no additives	17%	24% AC
It is produced in an environmentally responsible way	17%	30% AC
Manufacturers transparent about how milk is produced	16%	15%
It is low in calories	16%	39% AC
It is low in cholesterol	13%	31% AC
It is lactose free	10%	44% AC
It is a good for someone with milk allergies	6%	49% AC
Animals are not used in their production	5%	42% AC

C/D = Sig. Difference at 95%

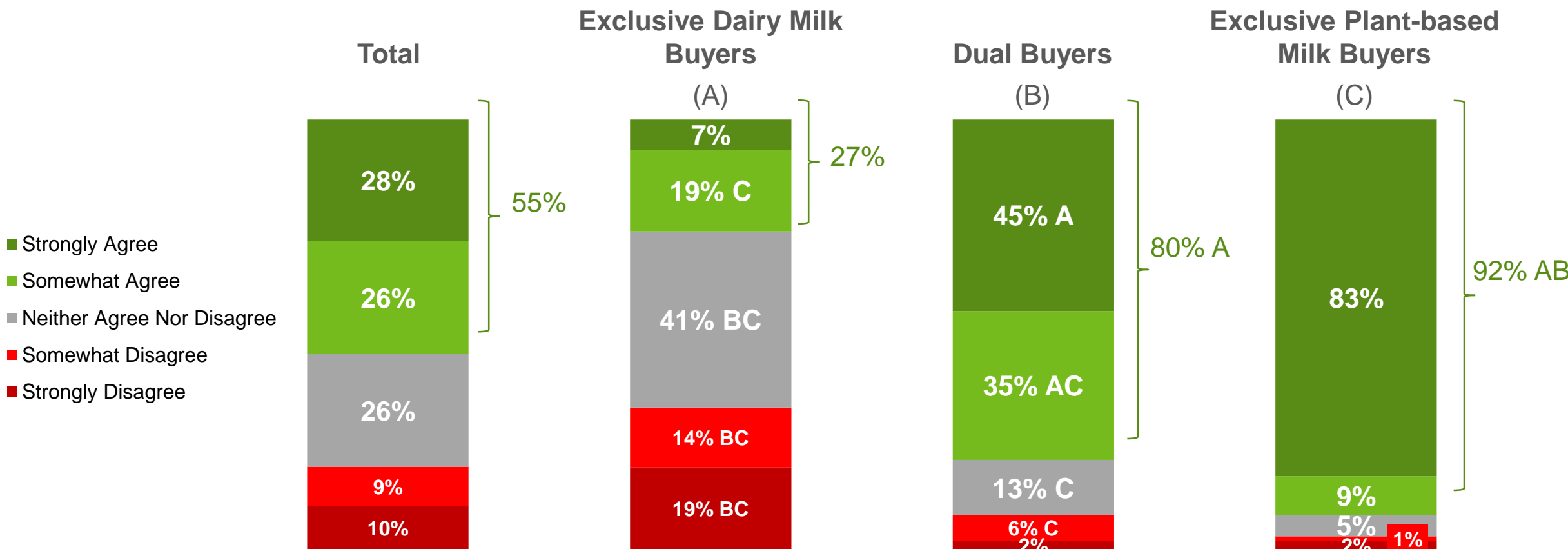
Base: Dual buyers of dairy milk and plant-based milks (N=786)

Q3: Please select statements below that best describe why you would purchase DAIRY MILK/PLANT-BASED MILK

Over Half of General Population Consumers Perceive Plant-based Milk as a Good Substitute for Dairy Milk.

80% Dual Buyers of Dairy and Plant-based Milks and 92% Exclusive Plant-based Milk Buyers Believe Plant-based are a Good Substitute for Dairy Milk.

Agreement – Plant-Based Milk is a Good Substitute for Dairy Milk



A/B/C = Sig. Difference at 95%
Base: Total (n=2,006), Dairy Milk Purchasers Only (n=858), Dairy Milk and Plant-Based Purchasers (n=786), Plant-Based Purchasers Only (n=101)
Q5: How much do you agree or disagree with the statement below? *Plant-based milk is a good substitute for milk.*

Plant-Based Milk Buyers Associate Nutrients More with the Product than Exclusive Dairy Milk Buyers

Top of Mind Nutrients

	Total	Exclusive Dairy Milk Buyers (A)	Dual Buyers (B)	Exclusive Plant-based Milk Buyers (C)
Plant-Based Milk Nutrients Come to Mind: Yes	33%	12%	51% A	68% AB

A/B/C = Sig. Difference at 95%

Base: Total (n=2,006), Dairy Milk Purchasers Only (n=858), Dairy Milk and Plant-Based Purchasers (n=786), Plant-Based Purchasers Only (n=101)

Q6a: Thinking about plant-based milk, do any nutrients come to mind? | Q6b: Thinking about plant-based milk, do any nutrients come to mind? OPEN END

Consumers Overall Perceive that Some, *but Not All*, Plant-based Milks have Added Vitamins, Emulsifiers, Thickeners and Sweeteners

Ingredients in Plant-Based Milk

	Total			Exclusive Dairy Milk Buyers			Dual Buyers			Exclusive Plant-based MilkBuyers		
	All Plant-based Milk (A)	Some Plant-based Milk (B)	No Plant-based Milk (C)	All Plant-based Milk (A)	Some Plant-based Milk (B)	No Plant-based Milk (C)	All Plant-based Milk (A)	Some Plant-based Milk (B)	No Plant-based Milk (C)	All Plant-based Milk (A)	Some Plant-based Milk (B)	No Plant-based Milk (C)
Added Vitamins	22% C	64% AC	13%	23% C	62% AC	15%	24% C	66% AC	10%	26% C	68% AC	6%
Emulsifiers (ingredients added to prevent separation)	19%	59% AC	22% A	21%	58% AC	21%	19%	61% AC	20%	10%	66% AC	24% A
Thickeners	15%	61% AC	24% A	17%	60% AC	23% A	15%	63% AC	22% A	11%	59% AC	30% A
Sweeteners	13%	66% AC	21% A	15%	60% AC	25% A	12%	72% AC	16% A	5%	85% AC	10%

A/B/C = Sig. Difference at 95%

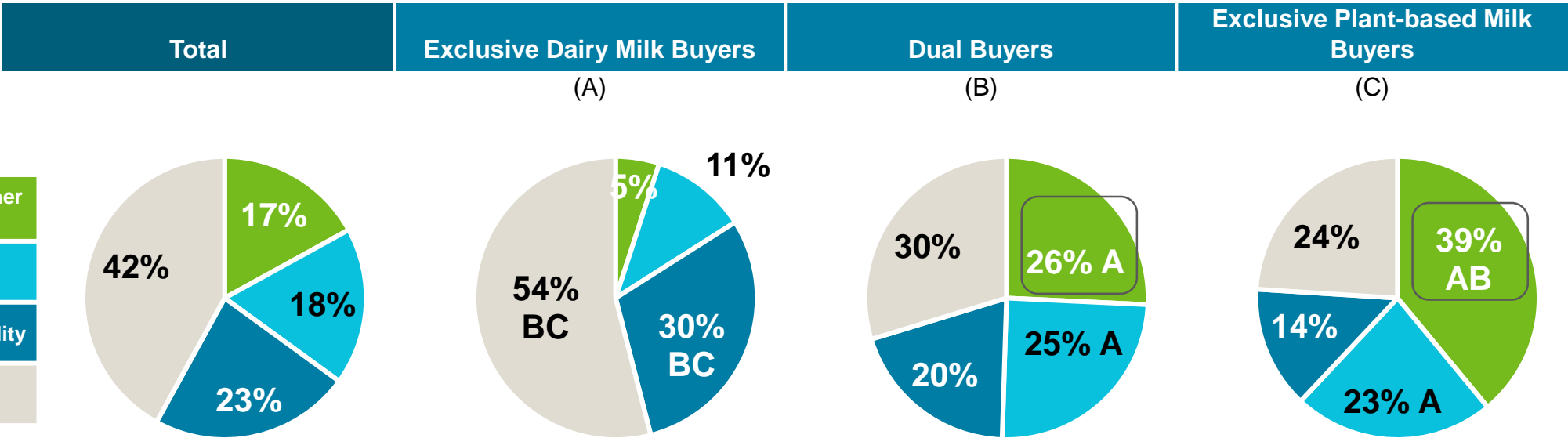
Base: Total (n=2,006), Dairy Milk Purchasers Only (n=858), Dairy Milk and Plant-Based Purchasers (n=786), Plant-Based Purchasers Only (n=101)

Q7: Thinking about ingredients that may or may not be included in plant-based milk, would you say that all, some, or no plant-based milk contains...?

Four in 10 General Population Consumers Claim they Aren't Sure Whether Plant-based or Dairy Milk has Higher Quality Protein

- Those Who Buy Plant-based Milks are More Likely to Believe that Plant-based Milks have an Advantage Over Dairy Milk in Protein Quality.

Protein in Plant-Based Compared to Dairy

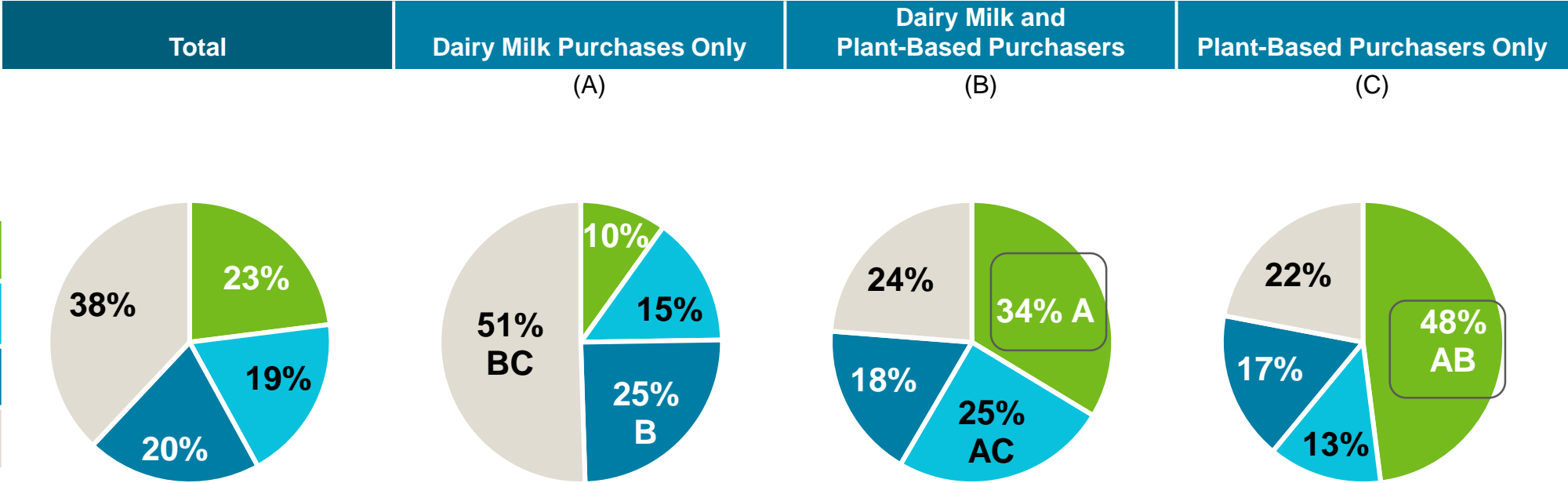


A/B/C = Sig. Difference at 95%
 Base: Total (n=2,006), Dairy Milk Purchasers Only (n=858), Dairy Milk and Plant-Based Purchasers (n=786), Plant-Based Purchasers Only (n=101)
 Q8: How does the protein in plant-based milk compare to protein in dairy products?

Similarly, Four in 10 General Population Consumers Claim they Aren't Sure Whether Plant-based or Dairy Milk has More Nutrients

- Those Who Buy Plant-based Milks are More Likely to Believe that Plant-based Milks have an Advantage Over Dairy Milk in Nutrients.

Nutrients in Plant-Based Compared to Dairy

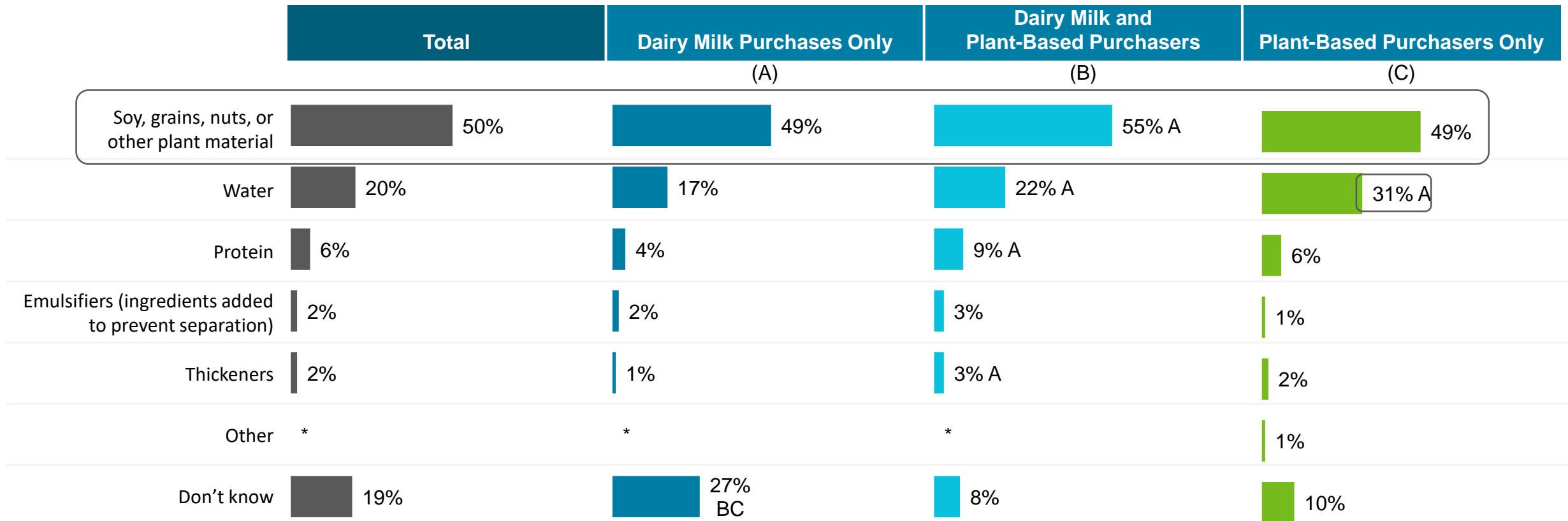


A/B/C = Sig. Difference at 95%
Base: Total (n=2,006), Dairy Milk Purchasers Only (n=858), Dairy Milk and Plant-Based Purchasers (n=786), Plant-Based Purchasers Only (n=101)
Q9: Thinking about dairy milk and plant-based milk, would you say that plant-based milk contains...?

Half of Consumers Believe the Main Ingredient in Plant-based Milks is the Plant Itself

Exclusive Plant-based Milk Buyers are More Likely to Say Water is a Key Ingredient than Other Buyers

Main Ingredient of Plant-Based Milk

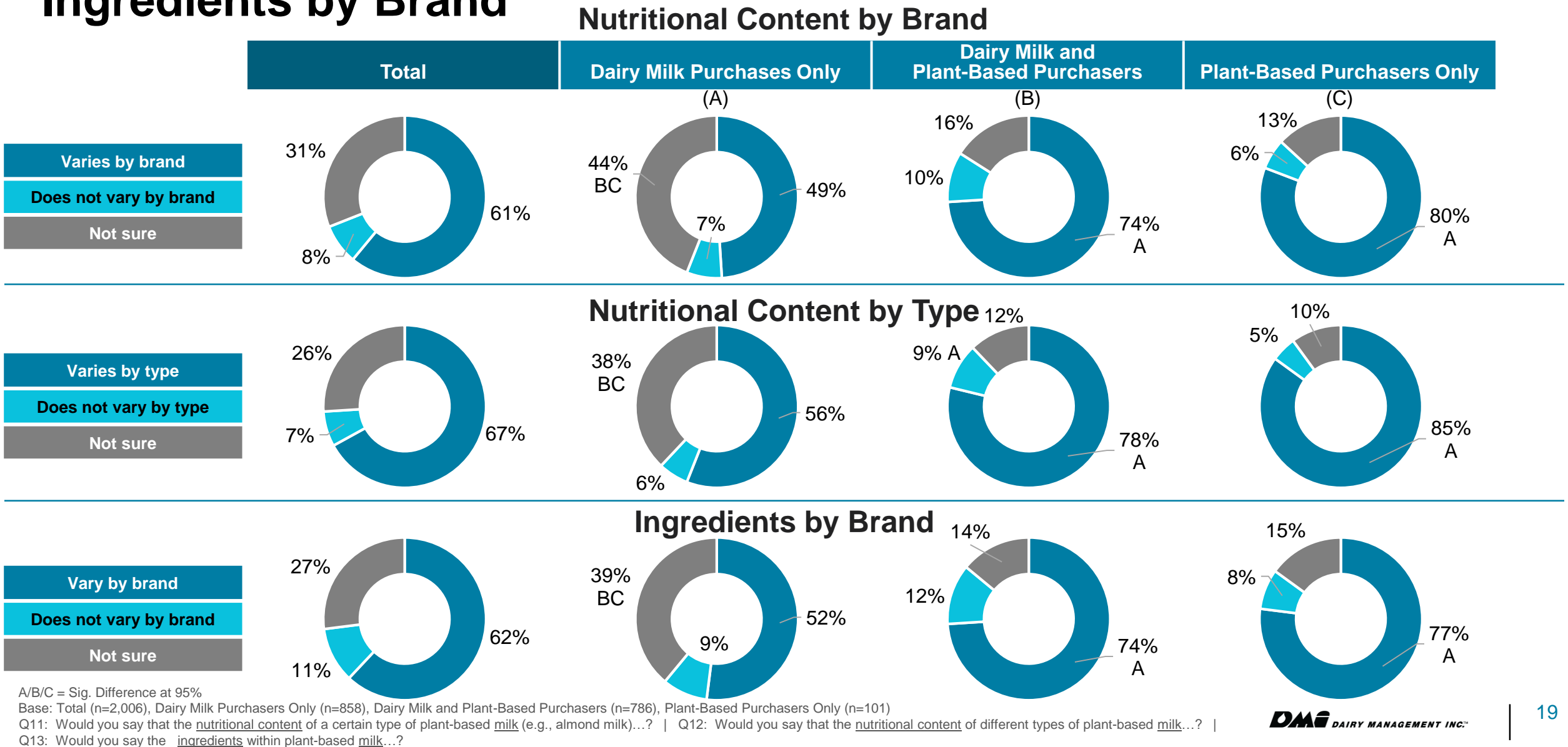


A/B/C = Sig. Difference at 95% | * Less than 0.5%

Base: Total (n=2,006), Dairy Milk Purchasers Only (n=858), Dairy Milk and Plant-Based Purchasers (n=786), Plant-Based Purchasers Only (n=101)

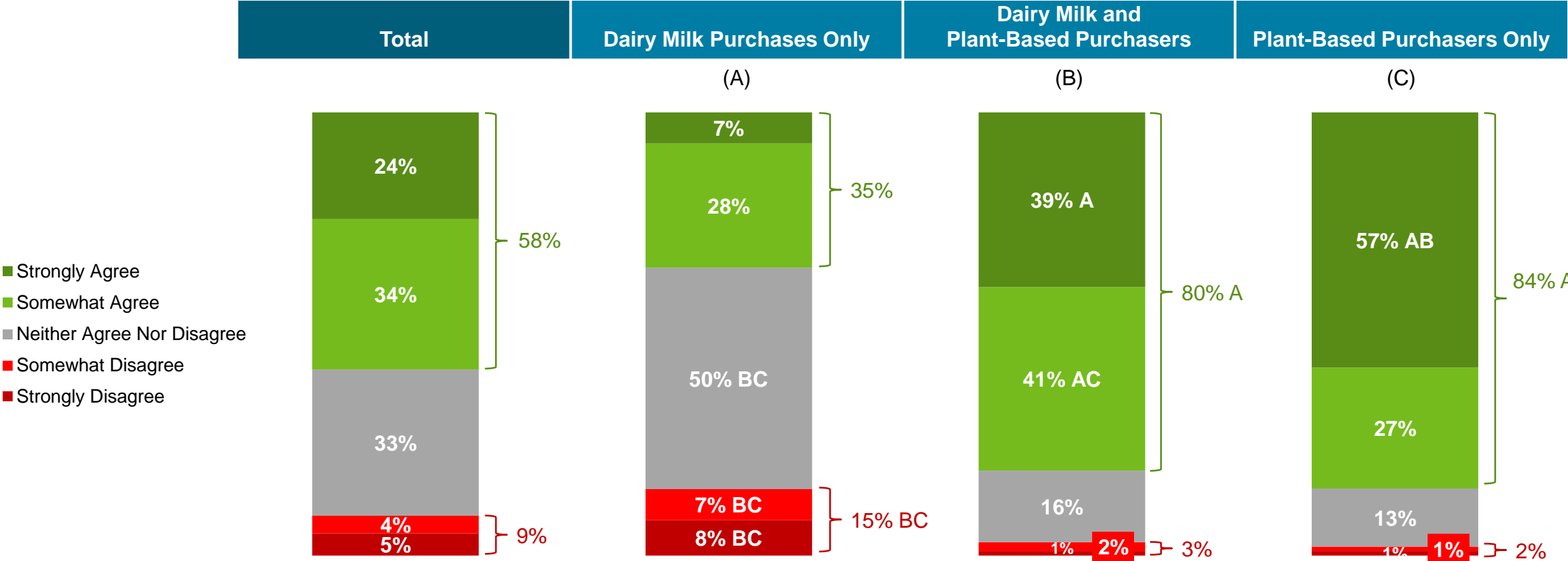
Q10: Which of the following do you consider to be the main ingredient of plant-based milk?

Most Consumers Believe Plant-based Milks Vary in Nutrition and Ingredients by Brand



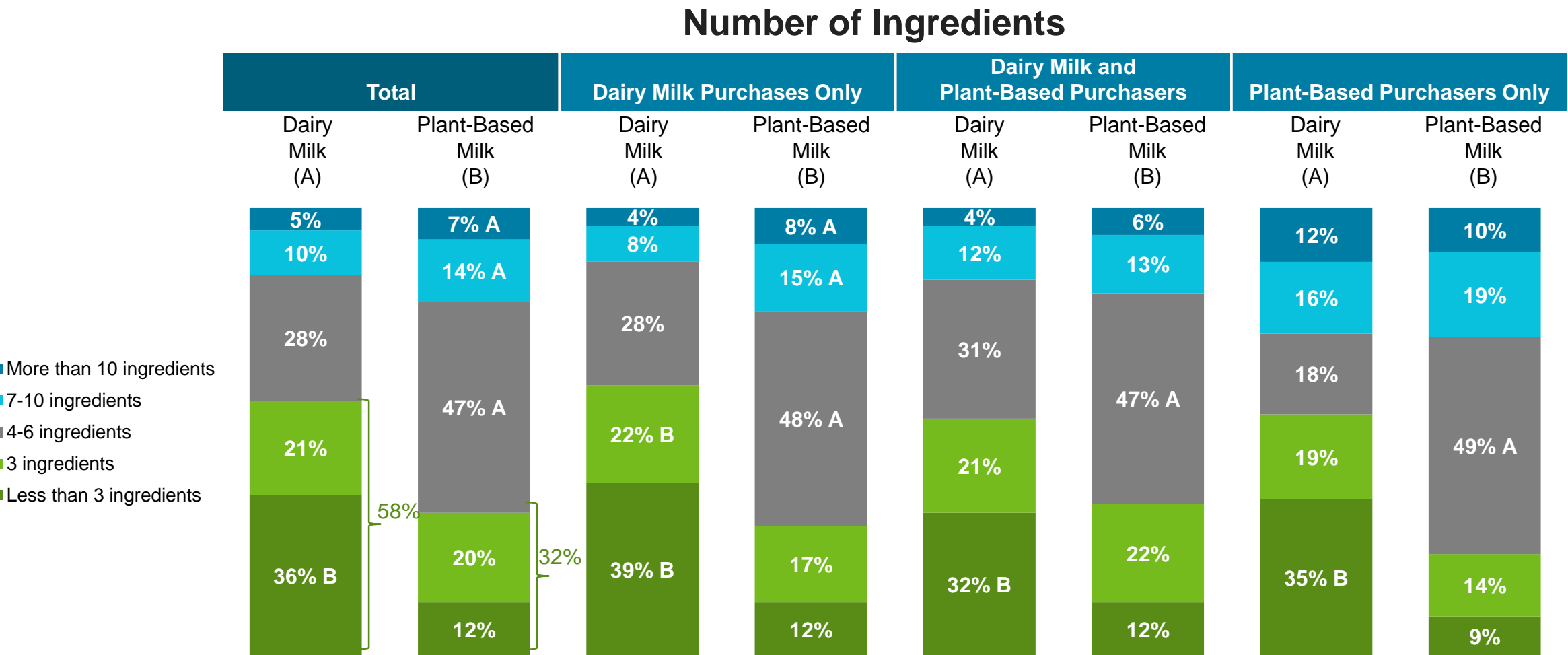
Overall, Consumers Agree Plant-based Milks Provide a Good Source of Nutrition. Exclusive Plant-based Milk Buyers are More Likely to Agree.

Agreement – Plant-Based Milk is a Good Source of Nutrients in the Diet



A/B/C = Sig. Difference at 95%
 Base: Total (n=2,006), Dairy Milk Purchasers Only (n=858), Dairy Milk and Plant-Based Purchasers (n=786), Plant-Based Purchasers Only (n=101)
 Q14: How much do you agree or disagree with the statement below? Plant-based milk is a good source of nutrients in the diet.

Six in 10 Consumers Perceive Dairy Milk to have 3 or Fewer Ingredients Compared to Three in 10 for Plant-based Milks



A/B = Sig. Difference at 95%
Base: Total (n=2,006), Dairy Milk Purchasers Only (n=858), Dairy Milk and Plant-Based Purchasers (n=786), Plant-Based Purchasers Only (n=101)
Q16: How many ingredients would you say the following contain?

There is a Wide Range of Perceptions Regarding Sugar Content of Dairy Milk and Plant-based Milk with Many Consumers not Sure.

Buyers of Plant-based Milks (Exclusive and Dual Buyers) are More Likely to Believe Plant-based Milks Contain No/No Added Sugar.

Sugar Content of Dairy Milk

	Total	Exclusive Dairy Milk Buyers (A)	Dual Buyers (B)	Exclusive Plant-based Milk Buyers (C)
Contains no sugar	17%	19% BC	17% C	9%
Contains no added sugar	36%	35%	39%	28%
Contains added sugar	20%	13%	27% A	32% A
Not sure	26%	32% B	17%	31% B

Sugar Content of Plant-Based Milk

	Total	Exclusive Dairy Milk Buyers (A)	Dual Buyers (B)	Exclusive Plant-based Milk Buyers (C)
Contains no sugar	8%	5%	10% A	8% A
Contains no added sugar	23%	15%	32% A	26% A
Contains added sugar	34%	30%	39%	34%
Not sure	35%	50%	19%	32% B

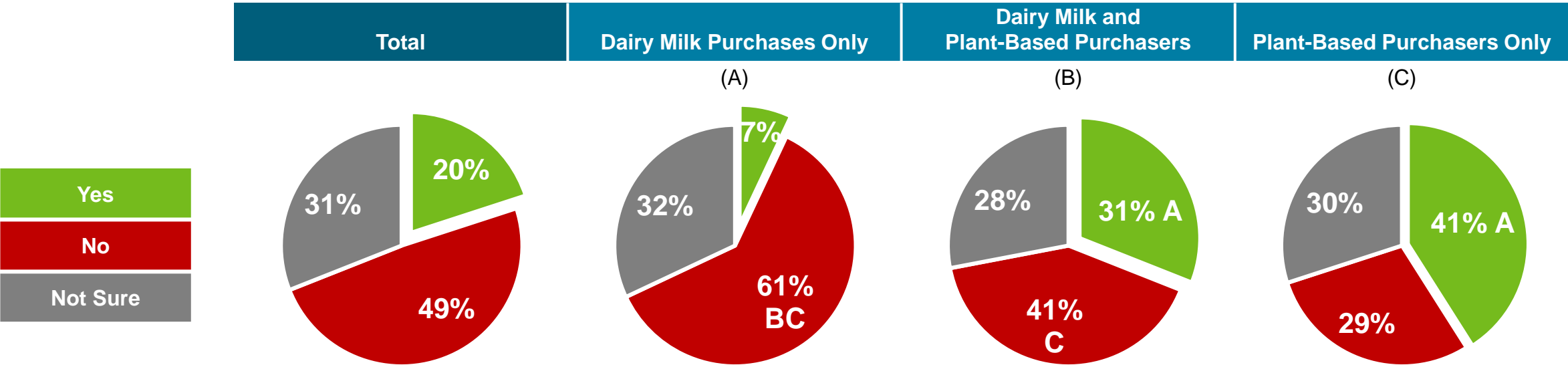
A/B/C = Sig. Difference at 95%

Base: Total (n=8,024), Dairy Milk Purchasers Only (n=3,230), Dairy Milk and Plant-Based Purchasers (n=3,334), Plant-Based Purchasers Only (n=381)

Q17a: For each of the following types of dairy milk, would you say it...? | Q17b: For each of the following types of plant-based milk, would you say it...?

Only Two in 10 Consumers Say that Plant-based Milk Should be Labeled “Milk”. While Attitudes Vary by Type of Product Purchased, there is No Majority Feeling Plant-based Milks Should be Labeled “Milk” Across Any Buyer Group.

Should All Plant-Based Milks be Labeled “Milk” if U.S. Dietary Guidelines Do Not Recommend Most as a Substitute for Dairy Milk?



A/B/C = Sig. Difference at 95%
 Base: Total (n=2,006), Dairy Milk Purchasers Only (n=858), Dairy Milk and Plant-Based Purchasers (n=786), Plant-Based Purchasers Only (n=101)
 Q18: If the U.S. Dietary Guidelines for Americans do not recommend most plant-based milks as a substitute for dairy milk, should all plant-based milks be labeled “milk”?

Appendix

Overall, Consumers Perceive Higher Fat Milks to Contain More Sugar than Skim Milk

Sugar Content of Dairy Milk

	Total				Dairy Milk Purchaser Only				Dairy Milk and Plant-Based Purchasers				Plant-Based Purchasers Only			
	Skim (fat free) (A)	1% (reduced fat) (B)	2% (reduced fat) (C)	Whole (D)	Skim (fat free) (A)	1% (reduced fat) (B)	2% (reduced fat) (C)	Whole (D)	Skim (fat free) (A)	1% (reduced fat) (B)	2% (reduced fat) (C)	Whole (D)	Skim (fat free) (A)	1% (reduced fat) (B)	2% (reduced fat) (C)	Whole (D)
Contains no sugar	25% BCD	16% D	15%	13%	27% BCD	19% D	16%	15%	25% BCD	15%	15%	12%	11%	9%	8%	6%
Contains no added sugar	35%	37%	37%	35%	33%	38% A	37%	34%	38%	41%	40%	39%	31%	29%	26%	28%
Contains added sugar	14%	19% A	22% AB	26% ABC	8%	10%	14% AB	20% ABC	20%	26% A	28% A	32% AB	30%	31%	31%	35%
Not sure	27%	27%	26%	26%	32%	33%	32%	31%	17%	19%	16%	16%	28%	31%	34%	30%

A/B/C/D = Sig. Difference at 95%

Base: Total (n=2,006), Dairy Milk Purchasers Only (n=858), Dairy Milk and Plant-Based Purchasers (n=786), Plant-Based Purchasers Only (n=101)

Q17a: For each of the following types of dairy milk, would you say it...? | Q17b: For each of the following types of plant-based milk, would you say it...?

Consumers are More Likely to Perceive Almond as Containing Added Sugar Compared to Other Plant-based Milks

Sugar Content of Plant-Based Milk

	Total				Dairy Milk Purchaser Only				Dairy Milk and Plant-Based Purchasers				Plant-Based Purchasers Only			
	Almond Milk (A)	Cashew Milk (B)	Coconut Milk (C)	Soy Milk (D)	Almond Milk (A)	Cashew Milk (B)	Coconut Milk (C)	Soy Milk (D)	Almond Milk (A)	Cashew Milk (B)	Coconut Milk (C)	Soy Milk (D)	Almond Milk (A)	Cashew Milk (B)	Coconut Milk (C)	Soy Milk (D)
Contains no sugar	8%	7%	7%	8%	5%	6%	4%	6%	11% B	8%	10%	10%	9%	7%	10%	6%
Contains no added sugar	23%	22%	25% BD	21%	14%	14%	17%	14%	31%	31%	34%	30%	27%	25%	26%	24%
Contains added sugar	37% BCD	33%	33%	34%	33% D	30%	30%	28%	42% C	38%	37%	39%	35%	34%	30%	35%
Not sure	33%	38% AC	35%	37% A	48%	51%	49%	52%	16%	23% AC	18%	21% A	28%	33%	34%	35%

A/B/C/D = Sig. Difference at 95%

Base: Total (n=2,006), Dairy Milk Purchasers Only (n=858), Dairy Milk and Plant-Based Purchasers (n=786), Plant-Based Purchasers Only (n=101)

Q17a: For each of the following types of dairy milk, would you say it...? | Q17b: For each of the following types of plant-based milk, would you say it...?