



BACKGROUND

Three dairy industry organizations, Wisconsin Cheese Makers Association, Edge Dairy Farmer Cooperative (representing dairy farmers and processors from across the Midwest) and Dairy Farmers of Wisconsin (the Dairy Groups) would like to understand how consumers perceive plant-based foods that mimic dairy products. These organizations represent dairy farmers and processors from across the Midwest.

The prevalence of plant-based foods that mimic dairy products continues to increase. Some of these plant-based foods use terms such as milk, cheese alternative, cheddar/gouda-style, etc. that may be misleading to the consumer. Further, natural cheeses have traditional names with federal standards of identity which describe ingredients and preparation processes that plant-based foods cannot adhere to (i.e. a plant-based food cannot meet the milkfat required in cheddar cheese). To ensure consumers understand the products they are purchasing and consuming, it is important to understand how they currently perceive plant-based foods that mimic dairy products, and what labeling modifications can or should be made to ensure consumers understand the products they are purchasing and consuming.

OBJECTIVES

The Dairy Groups want to understand:

- Why consumers purchase plant-based foods that mimic cheese.
- What consumers believe the ingredients of plant-based foods that mimic cheese are, and if that is influenced by the terminology/labeling (i.e. 'milk', 'cheese', 'cheddar-style').
- Consumer perception of the nutritional value of plant-based foods that mimic cheese compared to dairy, and if perceptions are influenced by the terminology/labeling (i.e. 'milk', 'cheese', 'cheddar-style').
- How consumers perceive plant-based foods that mimic cheese perform in various eating and cooking tasks (vs. dairy).

METHODOLOGY

A 15-minute online survey was completed among a national U.S. sample of consumers ages 18 and older.

- Respondents who reported that they purchased a dairy product (cheese, milk, or yogurt) and/or a plant-based food that mimics dairy (plant-based cheese made without dairy, plant-based milk, or plant-based yogurt made without dairy milk) within the last 4 weeks qualified for the study. This purchase history is available in Appendix Table A.
- Consumers determined to be employed in a competitive industry were excluded from the study. These industries included: consumer packaged goods; food manufacturer, retailer, wholesaler, retailer, or advocacy organization; marketing, market research, advertising, or public relations; regulatory agency related to food (e.g. FDA, USDA, FTC); and agriculture.
- Ravel, LLC programmed the survey and hosted the data collection using Confront software tools.



- Ravel, LLC partners with select, proven national online panels to provide quality targeted samples.
- Data collection period was December 21, 2018 through December 30, 2018 and paused for the holiday on December 24 and December 25.
- Ravel, LLC promoted data quality by ensuring that questions were reasonable and engaging for respondents.
- At the completion of the survey, data cleaning steps were employed to reduce sampling error:
 - Eliminated respondents who stated they could not see the images
 - Eliminated respondents who fell outside of time completion parameters (i.e. completed the survey too quickly).

PRODUCTS EVALUATED

DAIRY CHEESES



Dairy Cheddar



Dairy Mozzarella Shreds



Dairy Mozzarella Slices

PLANT-BASED FOODS THAT MIMIC CHEESE



Plant-based food that mimics cheddar



Plant-based food that mimics mozzarella shreds



Plant-based food that mimics mozzarella slices



EXECUTIVE SUMMARY

Ingredients

Over one-quarter of consumers indicated that they don't know what ingredients are in the plant-based foods that mimic cheese (Table A). Furthermore, about one-quarter mistakenly indicated that pasteurized milk was present. The high prevalence of 'don't know' and mistaken responses perhaps indicates that the use of traditional dairy names such as cheddar and mozzarella confuse consumers, leading to the selection of dairy ingredients in these plant-based foods.

Nutrients

About one-third of consumers indicate that the plant-based food that mimics mozzarella slices has protein (34%) and calcium (37%), when in actuality it does not contain either of these nutrients (Table B).

A significantly greater percentage of consumers indicate that they don't know which nutrients are in the plant-based foods, perhaps indicating that the front labeling does not clearly reveal the product nutrients (Table B).

Cheese Type

About half of consumers say plant-based foods that mimic cheese are actually cheddar or mozzarella cheese (Table C). And compared to the dairy cheeses, a significantly higher percentage don't know if the plant-based foods are cheddar or mozzarella cheese.

Together, these answers indicate more than half of consumers surveyed mistook a plant-based food mimicking cheddar or mozzarella to be traditional cheddar or mozzarella or were unclear about applying these traditional cheese names to plant-based foods.

Nutrition

A statistically greater percentage of all consumers surveyed believe that dairy cheese is more nutritious than plant-based food that mimics cheese, versus consumers who believe the opposite (Table D). However, this varies by food type purchased. Consumers who purchase plant-based foods that mimic cheese are significantly more likely to believe that these foods are more nutritious than dairy cheese (Table E).

Protein

About one-third of consumers don't know or think that the plant-based cheese has higher quality protein, even though plant-based foods that mimic cheese have little to no protein content (Table F). The prevalence of consumers who don't know or mistakenly identify the higher quality protein food may be an indication that the use of traditional dairy names such as cheddar and mozzarella confuses consumers, leading to the expectation of significant amounts of high quality protein in these plant-based foods.

The percentage of consumers who indicate that the plant-based foods have higher quality protein is significantly greater among plant-based food purchasers (Table G), perhaps indicating



that they believe their food choice is providing an adequate protein source, when in actuality plant-based foods that mimic cheese contain little to no protein.

Natural

A statistically greater percentage of consumers believe that dairy cheese is more natural than plant-based foods that mimic cheese (Table H). However, this varies by food type purchased. Consumers who purchase plant-based foods that mimic cheese are significantly more likely to believe that these foods are more natural than dairy cheese (Table I).

Substitute

About one in five consumers do not believe that dairy cheese and plant-based food that mimics cheese are good substitutes for each other (Table J). Dairy cheese consumers are significantly more likely than plant-based dairy consumers to believe that plant-based foods that mimic cheese cannot be substituted for dairy cheese (Table K).

Buy

Almost one in five dairy purchasers said they would buy a plant-based food based on the front label, even though these consumers do not purchase plant-based dairy products (Table L). This may indicate that plant-based food labels do not clearly indicate the non-dairy nature of these foods, or the use of traditional dairy names such as cheddar and mozzarella confuses consumers, leading to the selection of these plant-based foods.

Some of the reasons consumers purchase plant-based foods that mimic cheese do not correlate with the product. Specifically, significantly more consumers indicate that they would buy one of the plant-based foods that mimic cheese because they are low in calories, low in fat, and contain no additives (Table M). In actuality, plant-based foods that mimic cheese contain an equal or comparable amount of fat and calories and contain substantially more additives than dairy cheeses.

We asked 450 consumers to evaluate three plant-based foods that mimic dairy cheese to understand if the packaging and descriptions are confusing...



This is what they told us:

CHEESE TYPE



Nearly ½ (48%) of consumers think that plant-based foods that mimic cheese are a cheddar or mozzarella cheese



BUY



About ¼ of consumers purchase plant-based foods that mimic cheese because they believe them to be low in calories (25%) and fat (26%), and contain no additives (24%). In reality, plant-based foods that mimic cheese contain an equal or comparable amount of fat and calories and contain substantially more additives than dairy cheeses.

low in calories



low in fat



contain no additives



INGREDIENTS



¼ (23%) of consumers think that plant-based foods that mimic cheese contain pasteurized milk.



CALCIUM



2 in 5 (41%) consumers think that plant-based foods that mimic cheese contain calcium even though the amount present is substantially less than dairy, or not present at all.



PROTEIN



About 1/3 (36%) of consumers think that plant-based foods that mimic cheese contain protein and about 1/5 (21%) think that it is of a higher quality than dairy even though plant-based foods that mimic cheese have little to no protein.



KEY: ■ plant-based food that mimics cheddar ■ plant-based food that mimics mozzarella shreds ■ plant-based food that mimics mozzarella slices