ICE CREAM TECHNOLOGY CONFERENCE

Denali® Ingredients

The "Ice Cream" Category

Driven by Innovation,

Sustained by Proven Sellers

- The Food Revolution
- The Rise of the Mindful Consumer – A Key Force in Product Development
- Package Ice Cream (& Novelty) Perspectives
- Trends/What's Next?

Today's Goal: Connect with What Consumers are Saying and Doing (Purchasing)

The Food Revolution

*Shifts toward simpler ingredients and shopping for food online, combined with a rise in small niche brands and grocery-store brands, coupled with changing consumer behavior around food and **the old playbook is irrelevant.***

Steve Presley CEO Nestlé USA

The world I knew when I began my Nestlé's career two decades ago...is unrecognizable today.

The consumers access to information and the amount of information access has **changed everything.**

It's about providing a range of offerings in a category.

Heighted Consumer “Food” Awareness

Increased Seeking, Access & Sharing of Food Information

BLOG’s

FDA (Government Guidelines, Etc.)

Food in Education

Front of Package Nutritionals/Call Outs

Ingredient Labeling

Nutritional Panels

Online Media

Peer Groups

Smart Labels

Social Media

Sourcing Documentation

Traditional Media

Websites

Consumer Awareness...
Impact on Claims & Attributes

FOOD REVOLUTION

Claims & Attributes

Animal Welfare
Cage Free
Clean Label
Dairy Free
Fair Trade
Farm Compliant
Free Range
Gluten Free
GMO Free
Grass Fed

Halal
High Protein
Keto
Kosher
Local
Low Calorie
Low Glycemic
Natural
No Artificial Color
No Artificial Flavor
No Corn Syrup

No Added Sugar
No Artificial Sweetener
No HFCS
No PHO’s
Non-Dairy
Non-GMO
Organic
rBSTFree/Hormone Free
Responsible Sourcing
Sustainability
Transparency
Vegan
Vegetarian

THE RISE OF THE MINDFUL CONSUMER

A Key Force in Product Development

Denali® Ingredients

INNOVA MARKET INSIGHTS

Source: Innova Market Insights at IFT18

nielsen *xAOC 52 Weeks Ending 12/29/18

MINTEL

Source: FOODINSIGHT.ORG

The Rise of the Mindful Consumer

Non-Dairy (Plant Based) Overarching Drivers/Narratives

Plant-based dairy alternatives positioned as more sustainable than conventional dairy based products.

Plant Based Foods Rise **20%** in 1 Year

Dietary Changes Impacting Dairy Consumption

Non-Dairy (Vegetarian Diets)

Dairy Free (Vegan Diets)

(No Dairy Whatsoever/No Milk Proteins [Whey, Casein, Etc.])

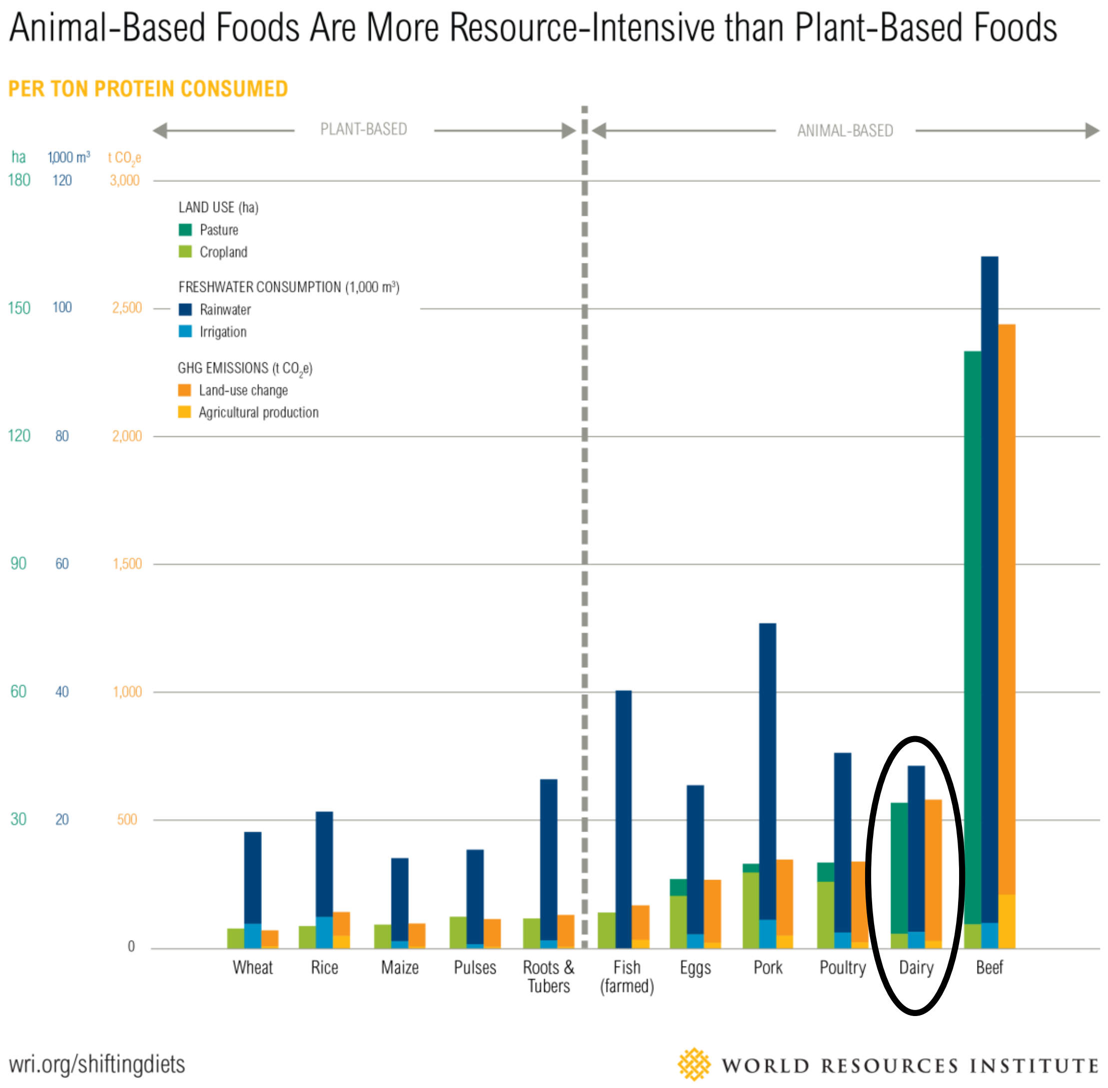
Whole Food Diets

Lactose Intolerance

Dairy Allergies

Animal Welfare

Resource Intensity

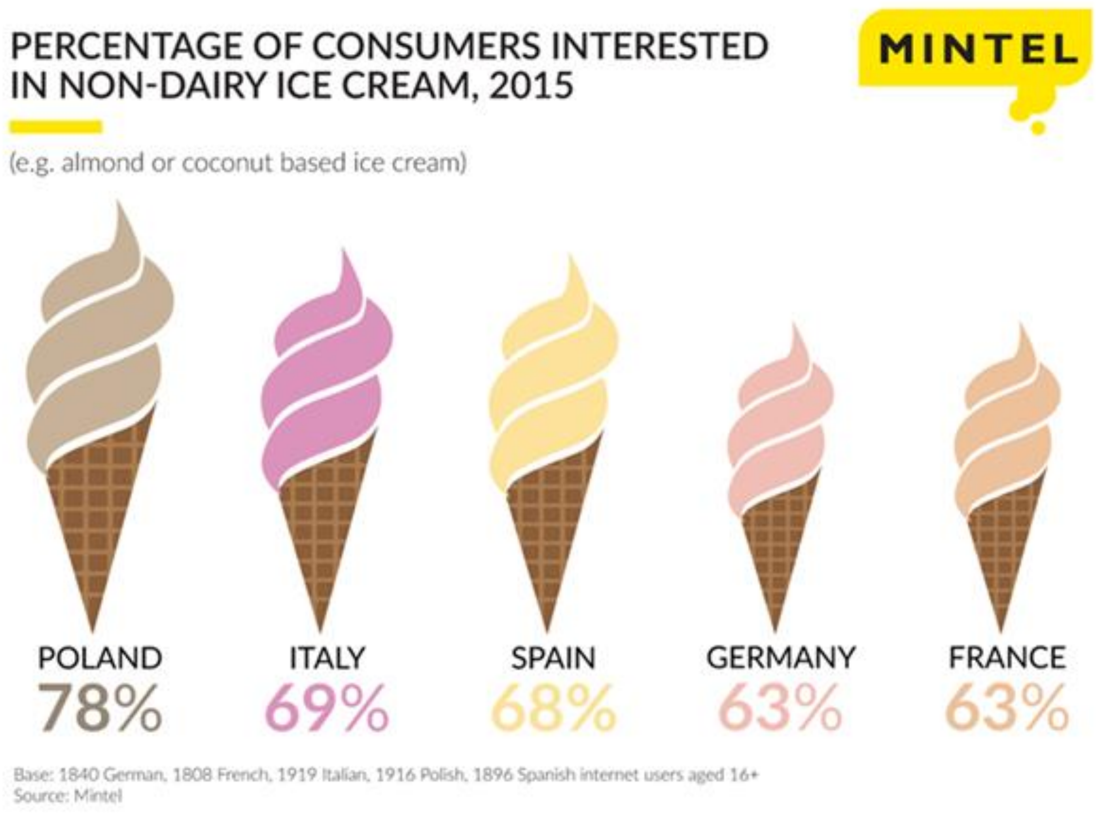


INNOVA MARKET INSIGHTS

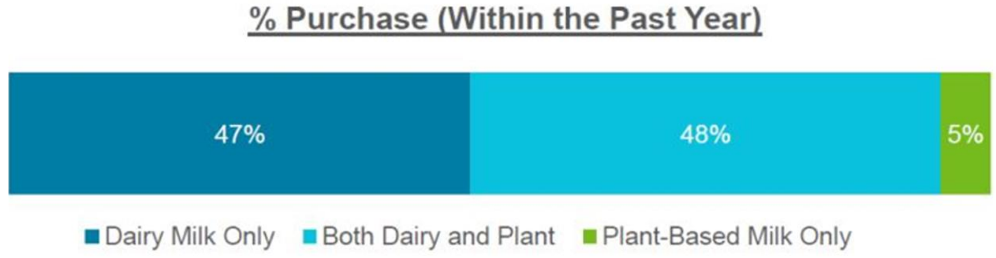
The Rise of the Mindful Consumer

Non-Dairy

European Sentiment Regarding Non-Dairy, Proceeds US



US has Embraced Plant Based Beverages



&

Will this Translate to

Non-Dairy
Frozen Dessert

&

Ice Cream

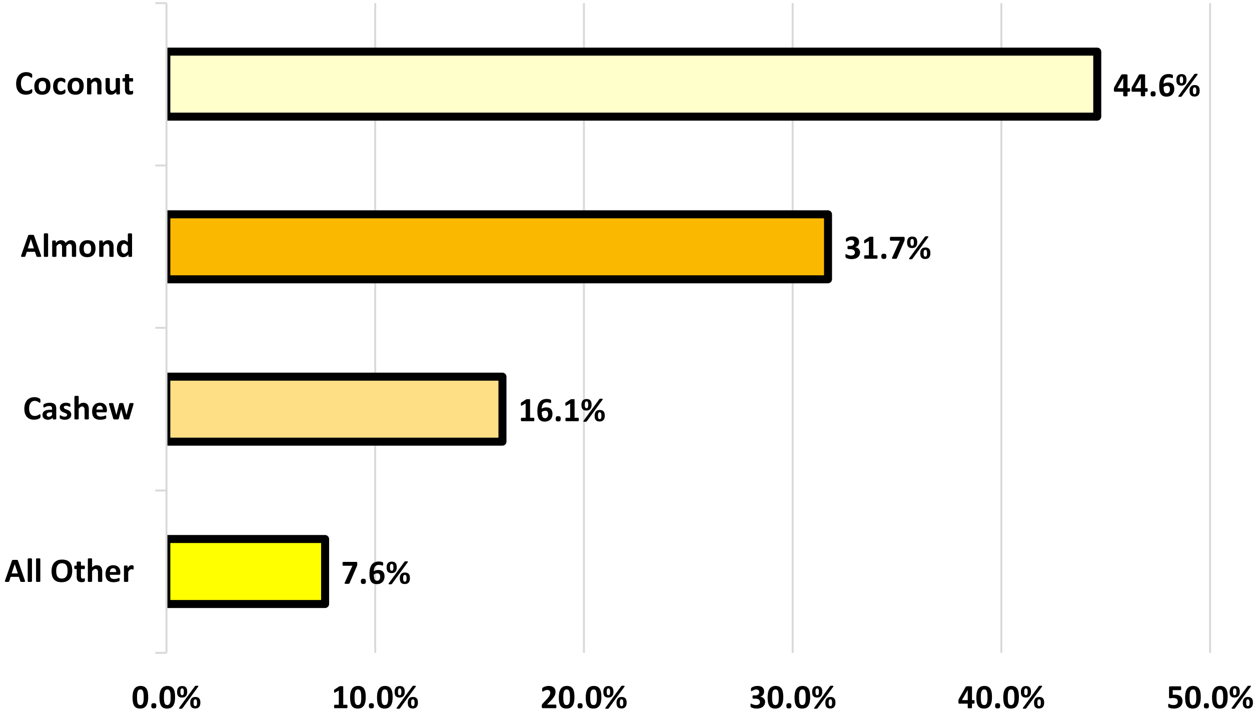
The Rise of the Mindful Consumer

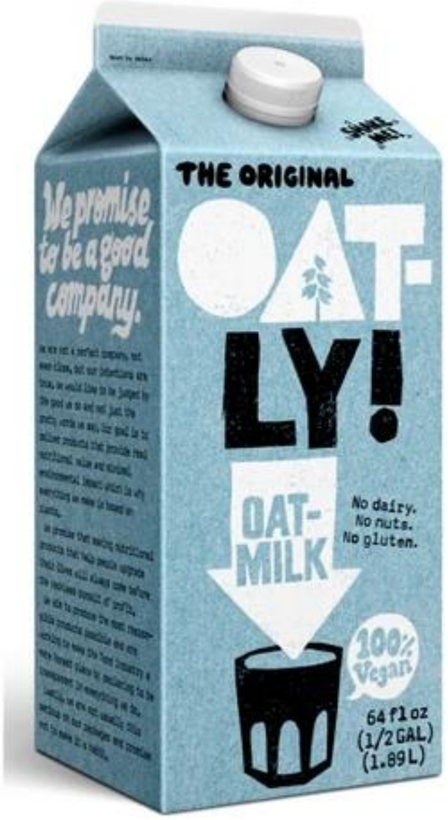
Non-Dairy

Base Options for Frozen Desserts - Coconut, Almond, Rice, Soy, Cashew...and now **Oat**

Non-Dairy Substitutes or Plant Fat Alternatives (Peanut Butter, Chocolate, Etc.)

Challenges - Sourcing, Cost and Plant Fats Behave Different than Dairy Fats when Freezing





The Rise of the Mindful Consumer

Good for the Body ***and the World***.

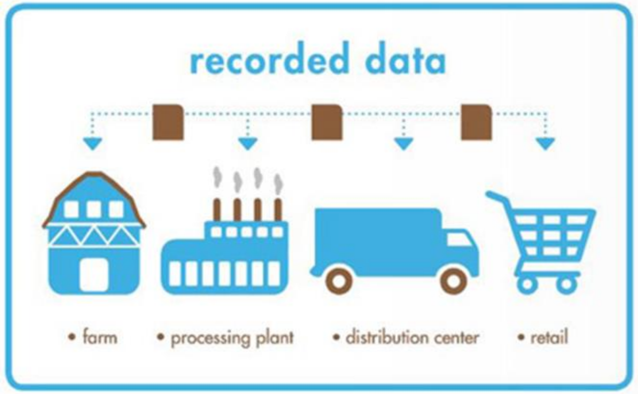
Heightened awareness of packaging (amount/recyclable/biodegradable) and food waste.

PLANT BASED
FOODS ASSOCIATION

Values-Led Sourcing

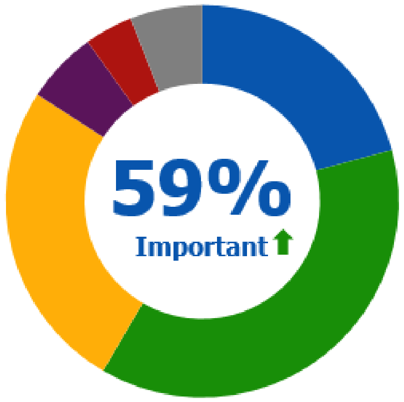
INNOVA MARKET INSIGHTS

IBM BLOCKCHAIN



smartlabel™

Importance of Sustainability in Food Products Purchased



Source: FOODINSIGHT.ORG

The Rise of the Mindful Consumer

From snacks to mini meals...convenient product launches featuring wholesome ingredients are designed to sustenance on the go.

PERFECT SNACKS

INNOVA MARKET INSIGHTS

The Rise of the Mindful Consumer

Consumers are seeking smaller doses of decadence,
so one can indulge & at the same time look after their bodies.

INNOVA MARKET INSIGHTS

The Rise of the Mindful Consumer

Bountiful choice...to appeal to diverse consumer tastes, manufactures are expanding product portfolios to offer a broader variety of flavor and *<u>functionality</u>*.

INNOVA MARKET INSIGHTS

The Rise of the Mindful Consumer

Consumers Want to Know What's Inside, How It's Made and More

mPackaging for SmartLabel™

INNOVA MARKET INSIGHTS

Breyers

Breyers, Ice Cream, Natural Vanilla

1.5 Quart (1.41 L)

077567254238

Nutrition | Ingredients | Allergens | Other Information | Company/ Brand

Claims

Claims listed within SmartLabel™ are either governed by entities such as the USDA, FDA, EPA, Health Canada etc., or defined by participating brands.

100% Grade A Milk and Cream
Partnering with American Farmers for 100% Grade A milk and cream.

Animal Welfare
Made with All American Dairy; with milk and cream from cows not treated with Artificial Growth Hormones*. For more info, visit http://promo.breyers.com/pledge/.

* The FDA states that no significant difference has been shown between dairy derived from rBST-treated and non-rBST-treated cows.

Suppliers of other ingredients such as cookies, candies & sauces may not be able to make this claim.

Fresh Ingredient
We start with Fresh Cream, Sugar & Milk

Gluten Free

Kosher
Kosher Dairy

Marketing Message
Our Original Vanilla. The way Vanilla should taste! Made with simple ingredients like fresh cream, sugar, milk and Rainforest Alliance Certified vanilla beans.

Naturally Sourced
Colors and flavors from natural sources. For more info, visit http://promo.breyers.com/pledge/

smartlabel™

The Rise of the Mindful Consumer

Information Expansion & Accessibility

Fitness starts with what you eat. **Search over 6 million foods in our database.**
Take control of your goals. Track calories, breakdown ingredients, and log activities with

myfitnesspal

Breyer's

Breyer's - Icecream

Serving Size : 0.5 cup

80 Cal

0%	34%	10%
0g Carbs	3g Fat	2g Protein

Daily Goals

How does this food fit into your daily goals?

Calorie Goal 1,920 cal
80 / 2,000 cal left

Fitness Goals : Heart Healthy

Fat 64g
3 / 67g left

Sodium 2,255g
45 / 2,300g left

Cholesterol 290g
10 / 300g left

Nutritional Info

Carbs	0 g	Sodium	45 mg
Dietary Fiber	0 g	Potassium	0 mg
Sugar	13 g	Cholesterol	10 mg
Fat	3 g	Vitamin A	6 %
Saturated	2 g	Vitamin C	0 %
Polyunsaturated	0 g	Calcium	6 %
Monounsaturated	0 g	Iron	0 %
Trans	0 g		
Protein	2 g		

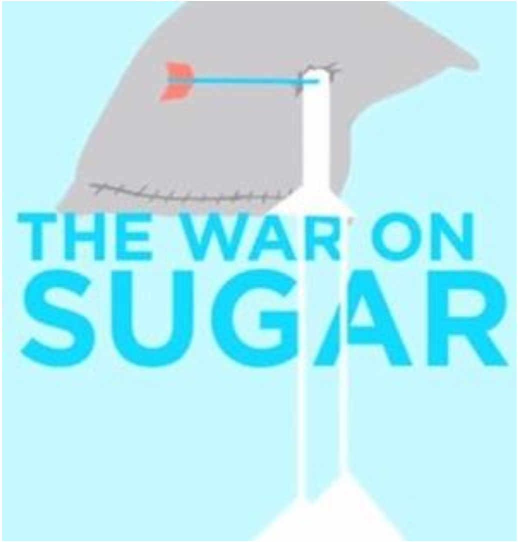
Percentages are based on a diet of 2000 calories a day.

Activity Needed to Burn:

80 calories

12	8	29
Minutes of Cycling	Minutes of Running	Minutes of Cleaning

The Rise of the Mindful Consumer

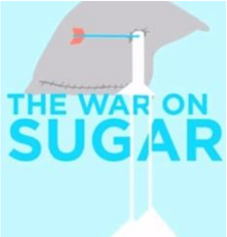


Sugar is Believed to be the Most Likely Cause of Weight Gain

- **77%** are Trying to Avoid/Limit Sugar
- **60%** Have a Negative View of Sugar
- **50%** are Eliminating Soft Drinks & Candy to Reduce Sugar Consumption
- **50%+** Look for Sugar Content/Reduced Sugar on Package (#1 ingredient looked for, varies by category)
- **25%** are Eliminating Frozen Desserts to Reduce Sugar Consumption

Source: FOODINSIGHT.ORG

The Rise of the Mindful Consumer



The US consumes more sugar per capita than any other country in the world. On average, Americans consume:

126.4 grams of sugar daily = ¼ of a pound

More than 10 times the lowest recommendation!

FDA has proposed an extension of the compliance dates for changes to labeling added sugars and dietary fiber to provide more time for manufacturers to review FDA guidance on the rules once finalized and implement them.[5] Implementation of the changes to the Nutrition Facts Label may be delayed until January 2020 (for large companies) and January 2021 (for smaller companies).

CURRENT LABEL

Nutrition Facts

Serving Size 2/3 cup (55g)
Servings Per Container About 8

Amount Per Serving	
Calories 230	Calories from Fat 72
	% Daily Value*
Total Fat 8g	**12%**
Saturated Fat 1g	**5%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 150mg	**7%**
Total Carbohydrate 37g	**12%**
Dietary Fiber 4g	**16%**
Sugars 1g	
Protein 3g	
Vitamin A	10%
Vitamin C	0%
Calcium	20%
Iron	5%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your caloric needs.

		2,000	2,500
	Calories	2,000	2,500
Total Fat	Less than	45g	80g
Sat Fat	Less than	20g	35g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Serving sizes will be more realistic to reflect how much people typically eat or drink at one time (sugar and calorie numbers may increase on the label)

Calories will be shown in a larger size

Daily value %s have been updated and will be listed more prominently

Added sugars will be called out separately

A daily value of 50 grams will be used to calculate the % for Added Sugars line

NEW LABEL

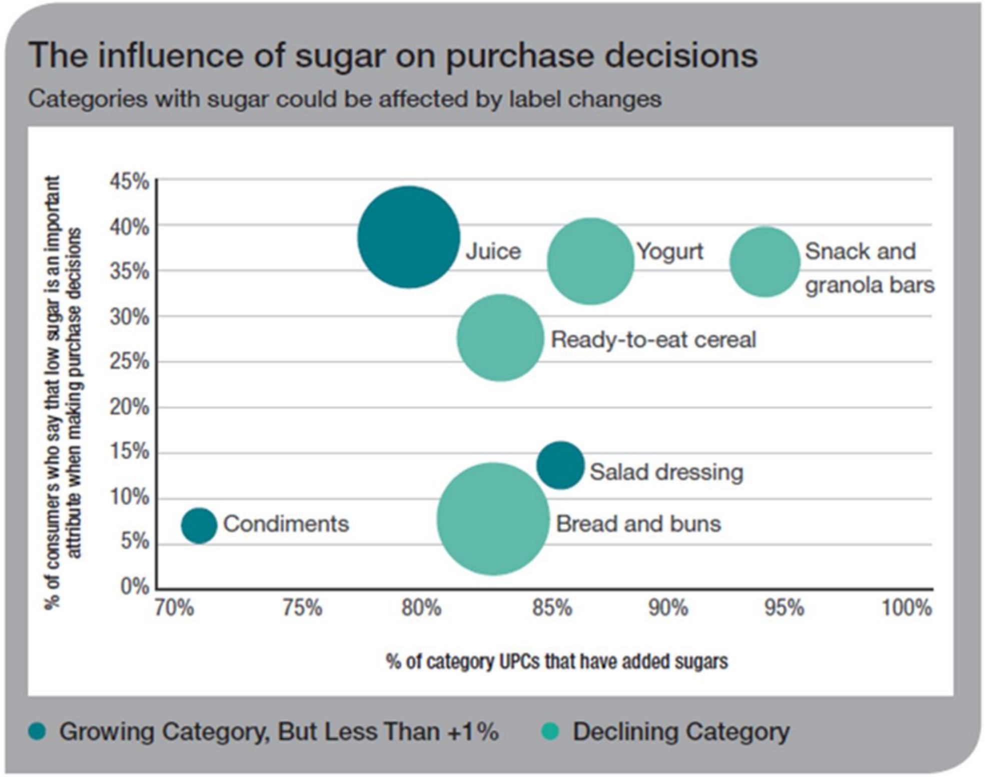
Nutrition Facts

8 servings per container
Serving size 2/3 cup (55g)

Amount per serving
Calories 230

	% Daily Value*
Total Fat 8g	**10%**
Saturated Fat 1g	**5%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 160mg	**7%**
Total Carbs 37g	**13%**
Dietary Fiber 4g	**14%**
Total Sugars 12g	
Includes 10g Added Sugars	**20%**
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



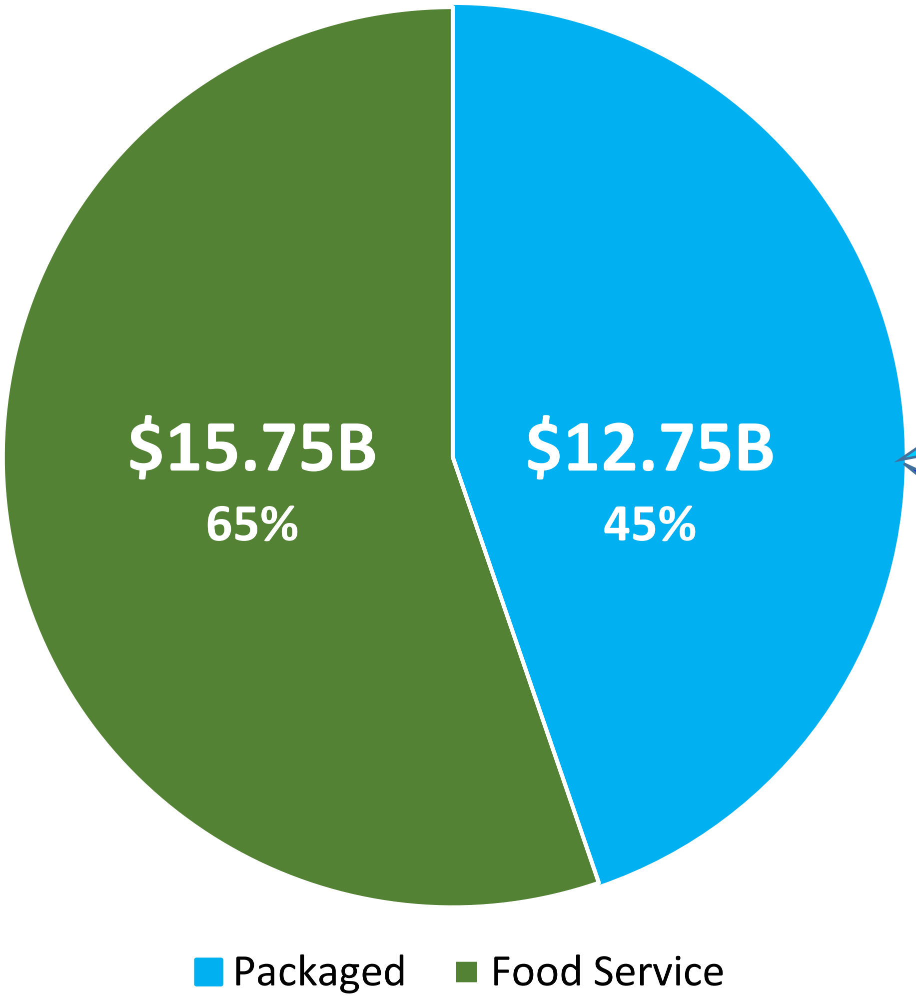
Source: Nielsen/Label Insights Transparency ROI Study, 2016

PACKAGED ICE CREAM (and novelty) **PERSPECTIVES**

xAOC 52 Weeks Ending 12/29/18 (2018)

$28.5B of Ice Cream & Novelties (Est.)*

Food Service (Out-of-Home) & Retail (Packaged)



72%

Units Sold in the "Food" Class of Trade
(aka Traditional "Grocery")

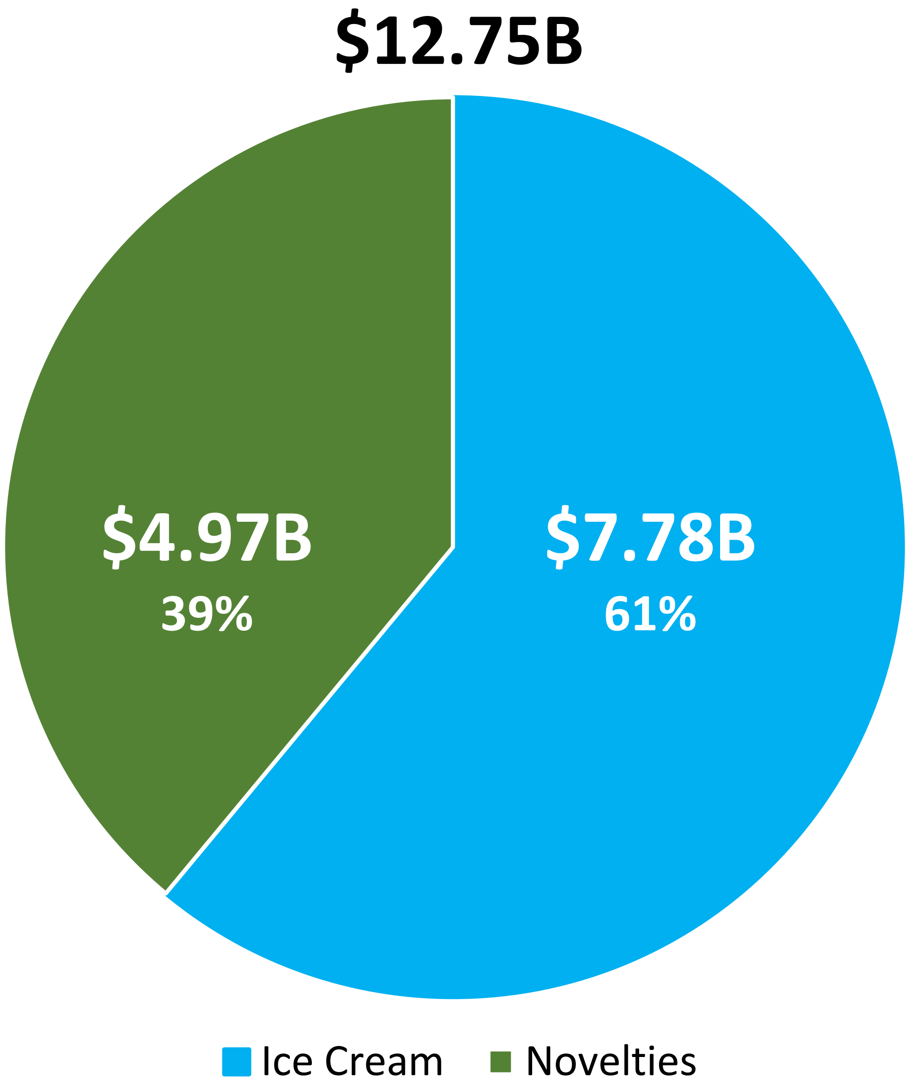
28%

Units Sold in the "Non-Food" Class of Trade
(Mass, Club, Drug, Dollar and Military)

It's a **BIG** Category

*xAOC 52 Weeks Ending 12/29/18, Packaged Facts

Packaged Ice Cream & Novelties - Category Size in $'s (Est.)*



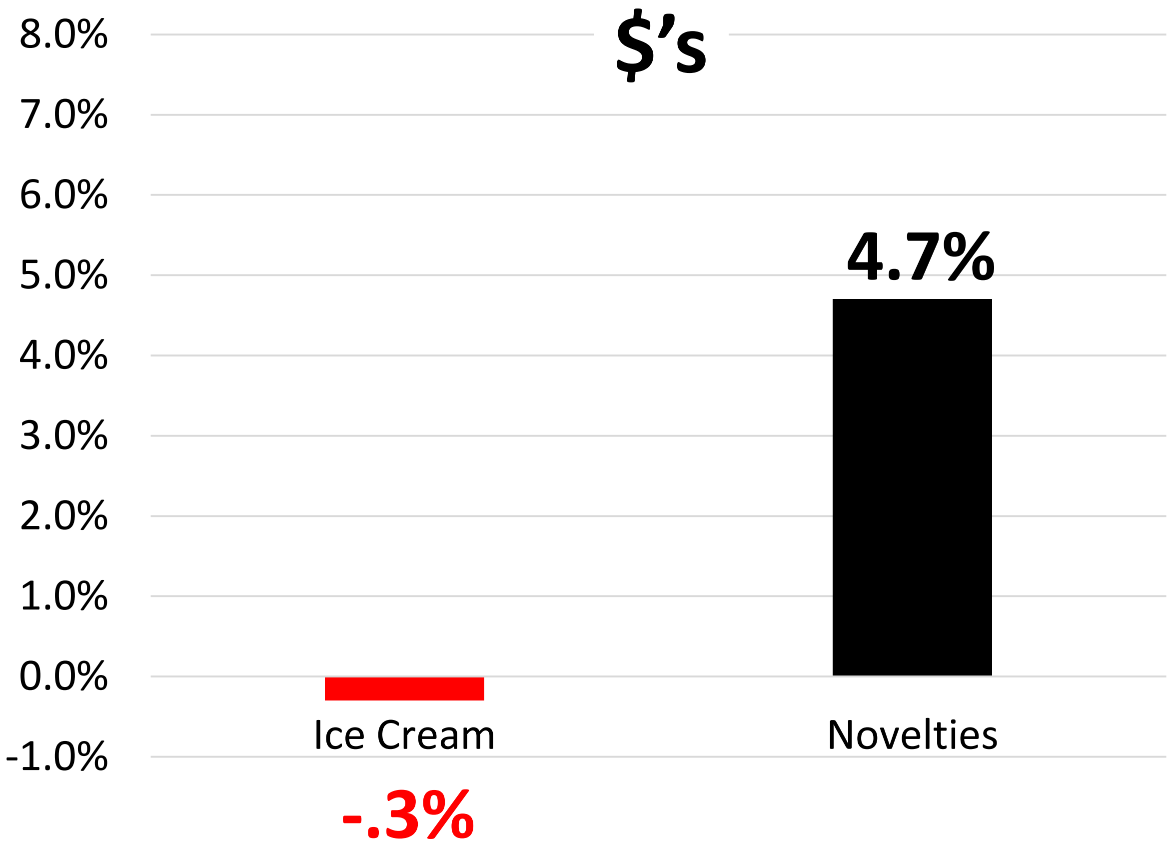
Promotion Behavior (Unit Sales)

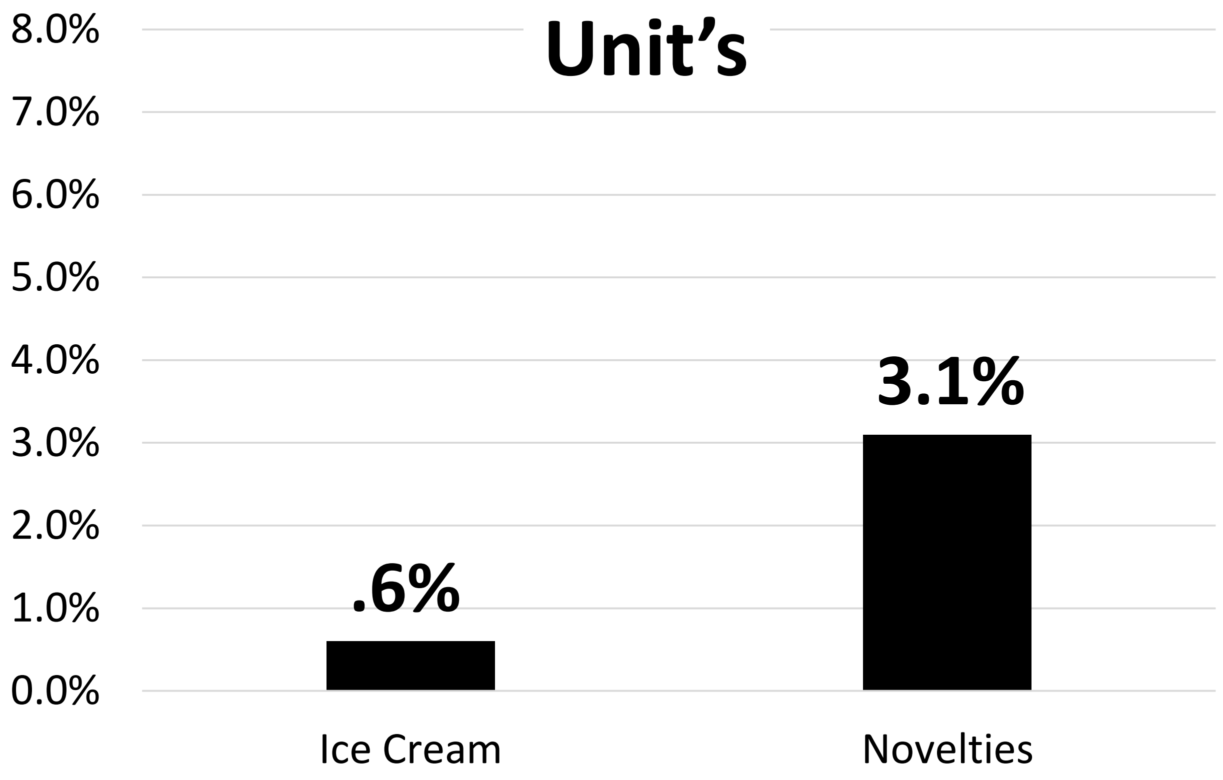
Ice Cream
51.3% on Promotion
48.7% No Promotion

Novelty
34.5% on Promotion
65.5% No Promotion

*xAOC 52 Weeks Ending 12/29/18, Packaged Facts

Packaged Ice Cream & Novelty - Trends





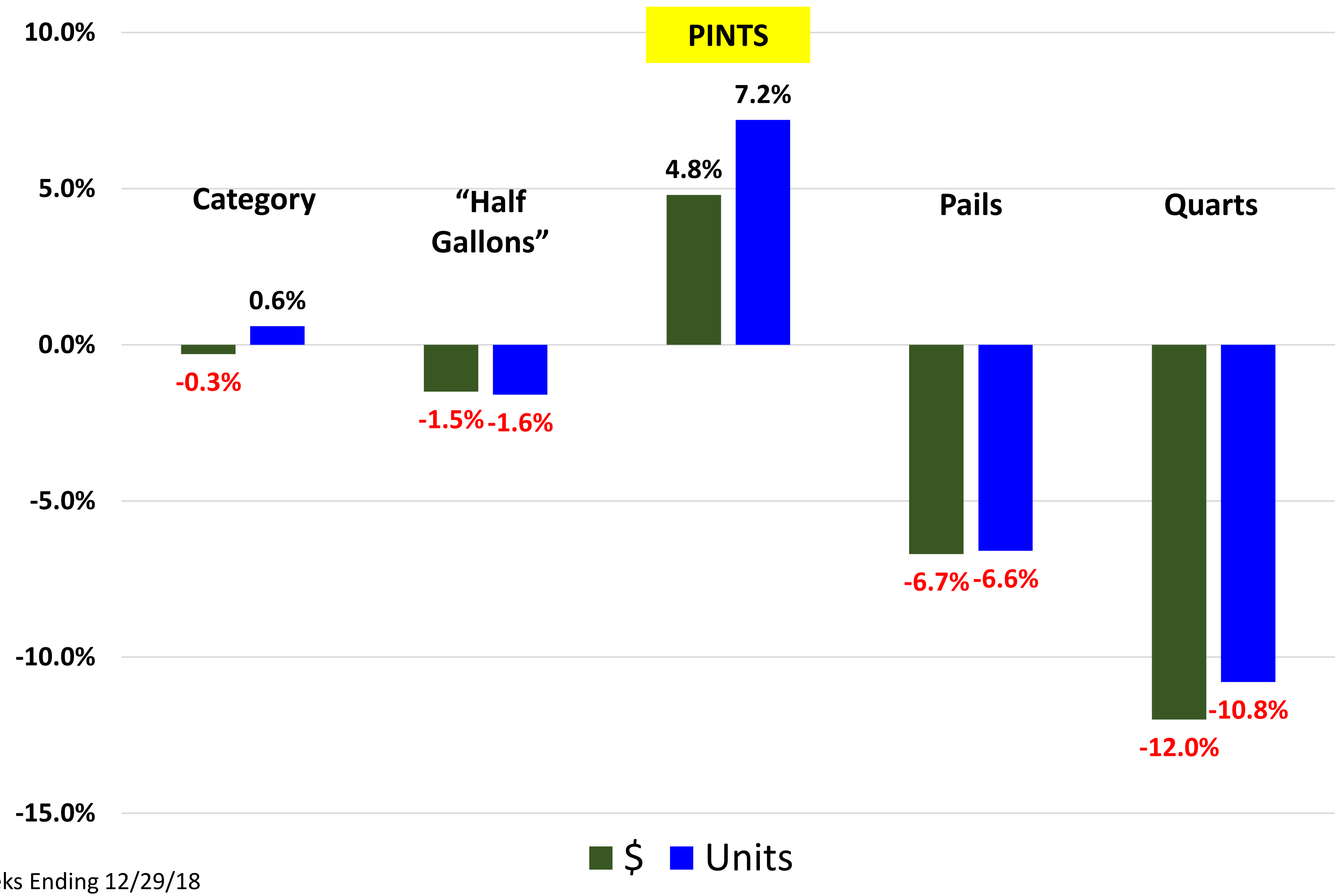
nielsen xAOC 52 Weeks Ending 12/29/18

Packaged Ice Cream – Pint Explosion / Category Fragmentation

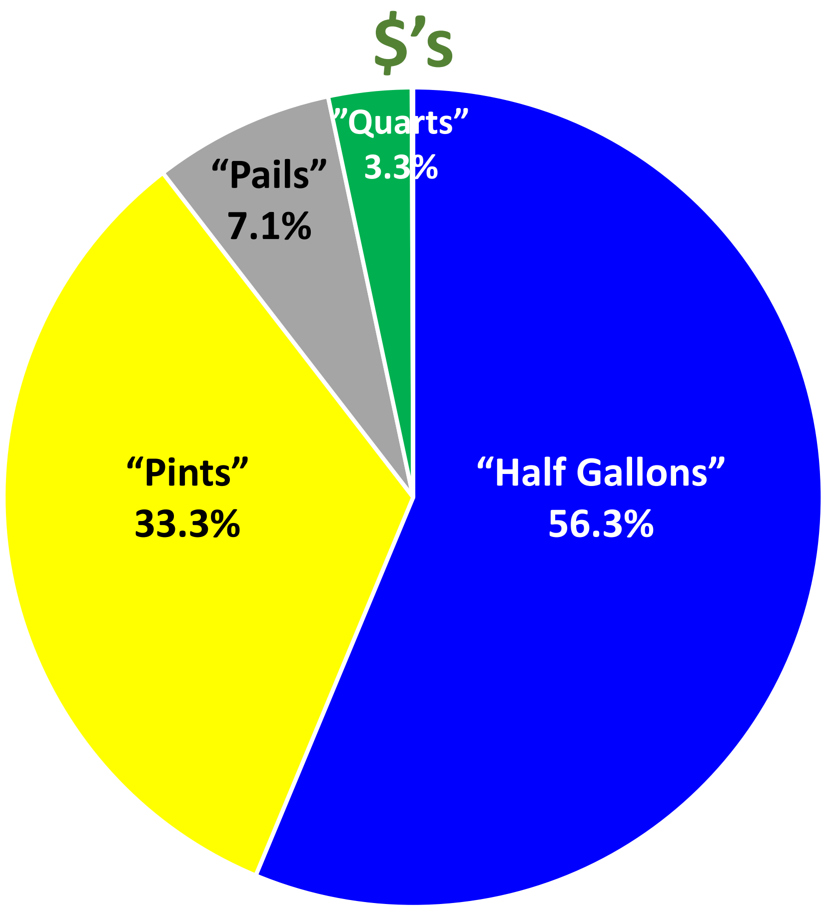
- Halo Top (Lo-Cal/High Protein)
- *Private Label Lo-Cal/High Protein (Halo Top style)*
- Breyers Delights (Lo-Cal/High Protein)
- Skinny Cow Pints (Lo-Cal/High Protein)
- Artic Zero (Light (New)/Low Calorie Ice Cream)
- Enlightened (Lo-Cal/High Protein/Low Fat) expansion
- Yasso Frozen Greek Yogurt Pints (Lo-Cal/High Protein)
- Kemps Frozen Yogurt JoyFULL Scoops 48oz (Lo-Cal/High Protein)
- Slim-Twin (Lo-Cal/Low Fat/High Protein/Organic)
- Swell (Lo-Fat/High Protein) - Formerly Pro-Yo
- Chilly Cow 8oz Single Serve Cups (Lo-Cal/High Protein)
- Outshine Pints (Non-Dairy, Yogurt & Granola)
- Ben & Jerry's Non-Dairy
- Haagen-Dazs Non-Dairy
- Halo-Top Non-Dairy/Dairy Free
- Ben & Jerry's Moo-Phoria Light Ice Cream
- Talenti Gelato Crafted w/ Less Sugar
- Magnum Pints (w/ Package/Fill Innovation)

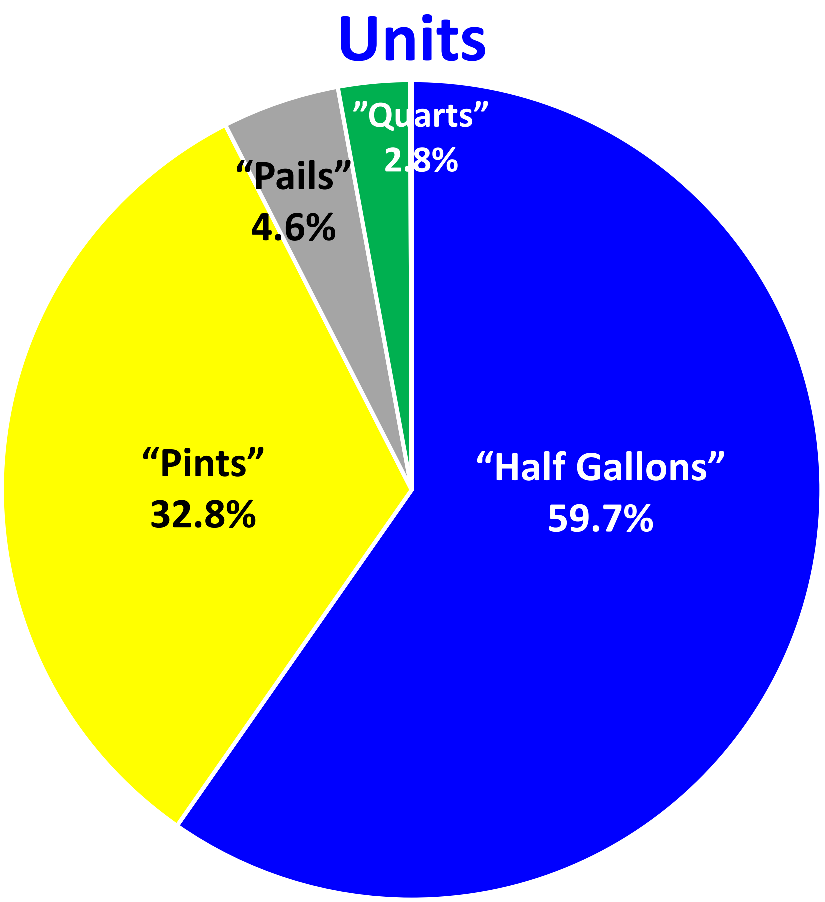
29?   230?

Packaged Ice Cream – Trends by Package Size



Packaged Ice Cream - Contribution by Package Size



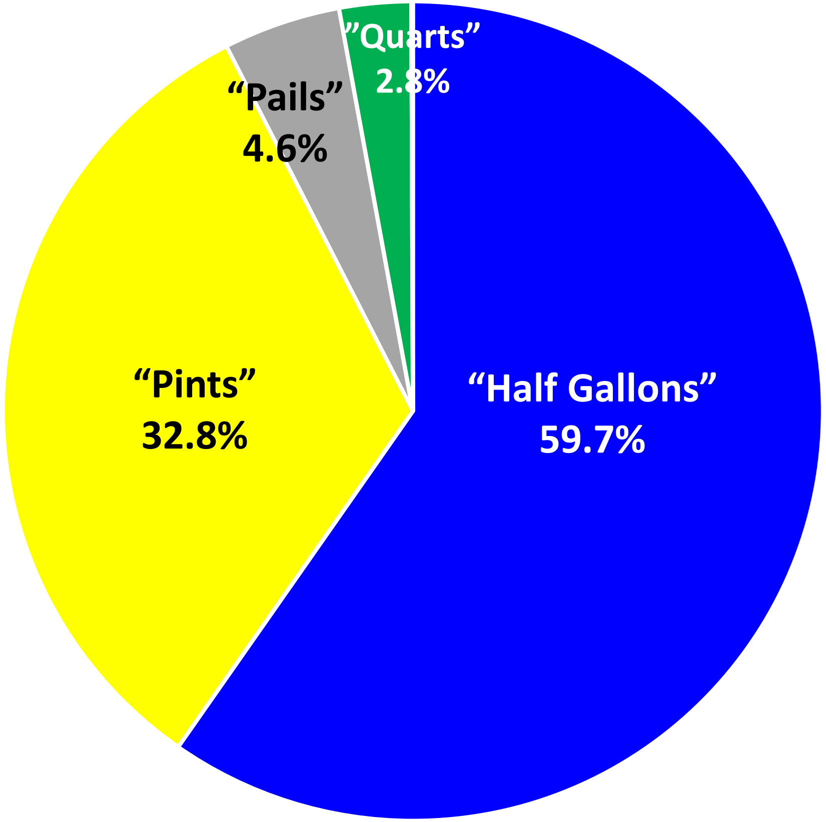


PACKAGE SIZE	$	$ Year Ago	$ Change	% Change	$'s % of Total	Units RANK COLUMN	Units Year Ago	Units Change	Units % Change	Units % of Total
"Half Gallons" 46oz-64oz	$3,457,270,114	$3,510,174,829	($52,904,716)	-1.5%	56.3%	985,121,156	1,000,790,098	(15,668,941)	-1.6%	59.7%
"Pints" 14oz-20oz	$2,042,653,892	$1,949,172,069	$93,481,823	4.8%	33.3%	540,872,617	504,465,446	36,407,171	7.2%	32.8%
"Pails" 128oz +	$438,107,318	$469,565,119	($31,457,801)	-6.7%	7.1%	76,345,487	81,744,519	(5,399,032)	-6.6%	4.6%
"Quarts" 21oz-32oz	$201,357,919	$228,690,238	($27,332,319)	-12.0%	3.3%	46,681,972	52,324,076	(5,642,105)	-10.8%	2.8%
"Single Serve" 4oz +	$3,475,593	$3,354,640	$120,952	3.6%	0.1%	976,141	920,284	55,857	6.1%	0.1%
Grand Total	**$6,142,864,836**	**$6,160,956,895**	**($18,092,059)**	**-0.3%**	**100.0%**	**1,649,997,373**	**1,640,244,423**	**9,752,951**	**0.6%**	**100%**

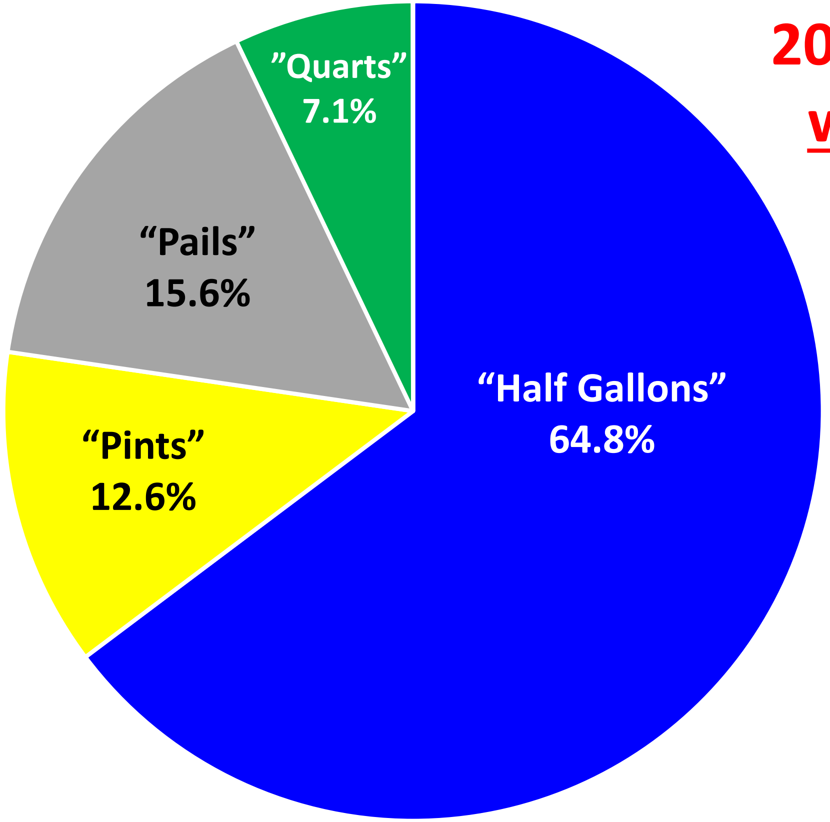
nielsen xAOC 52 Weeks Ending 12/29/18

Packaged Ice Cream - Contribution by Package Size

Units



Gallons



2018 Consumption
<u>was Down (est.)</u>
-1.9%
-9.85M Gals

<u>**Gallons**</u>
2016 = -16M
2017 = -14.8M
<u>2018 = -9.85M</u>
3 Years = **-$40.6M**
(~-7.2% Loss)

PACKAGE SIZE	Gallons	%
"Half Gallons" 46oz-64oz	337,508,031	64.8%
"Pints" 14oz-20oz	65,465,981	12.6%
"Pails" 100oz +	81,297,629	15.6%
"Quarts" 21oz-32oz	36,914,197	7.1%
"Single Serve" 4oz +	59,853	0.01%
Grand Total	**521,245,691**	**100.0%**

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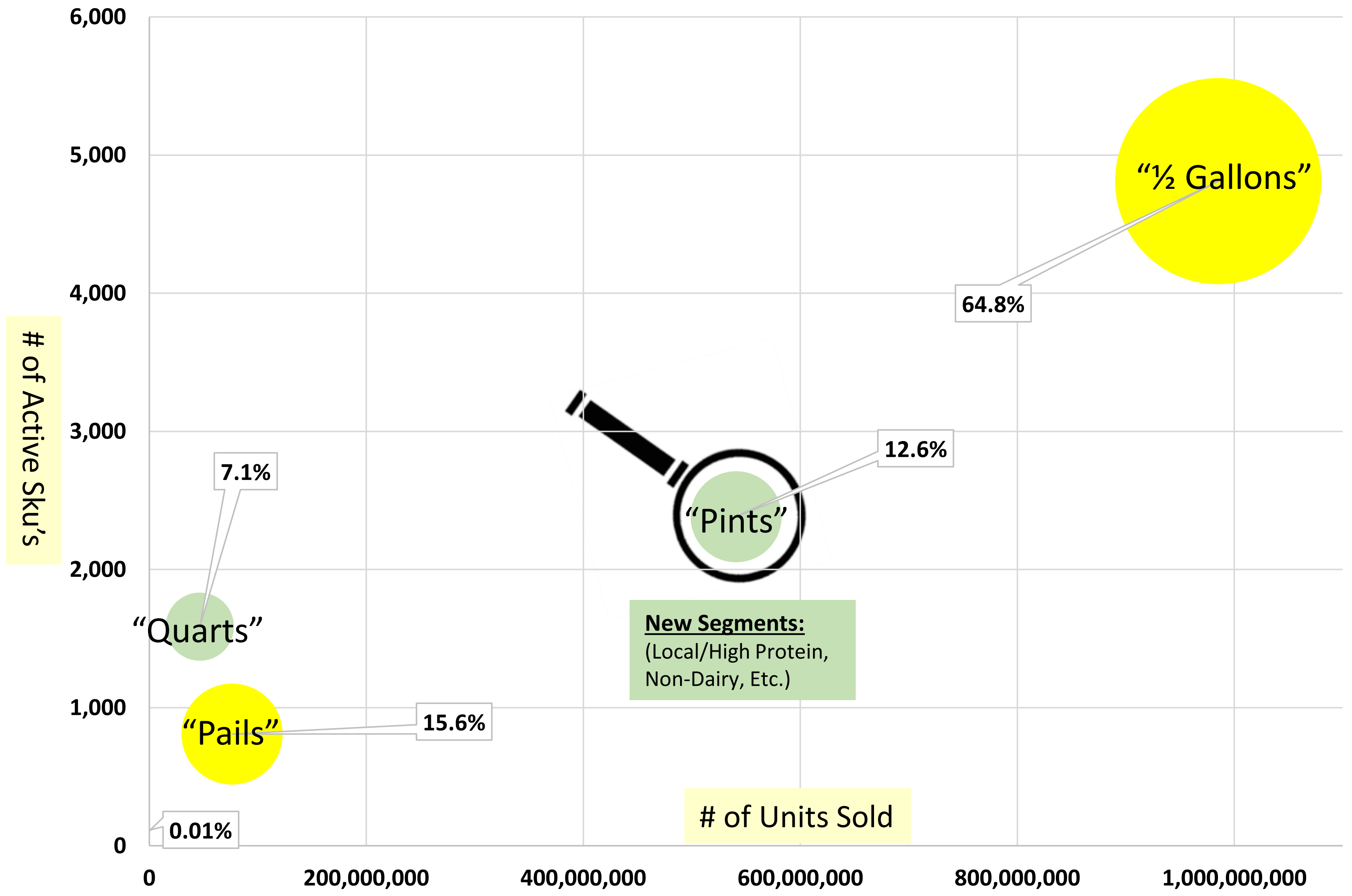
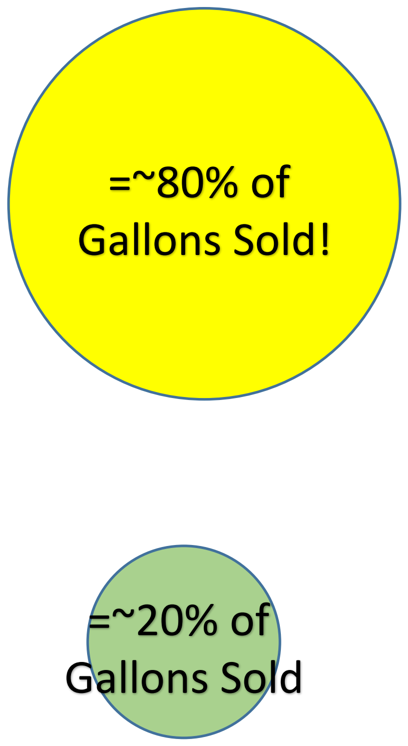
The Ice Cream Category - Gallon Contribution by Package Size





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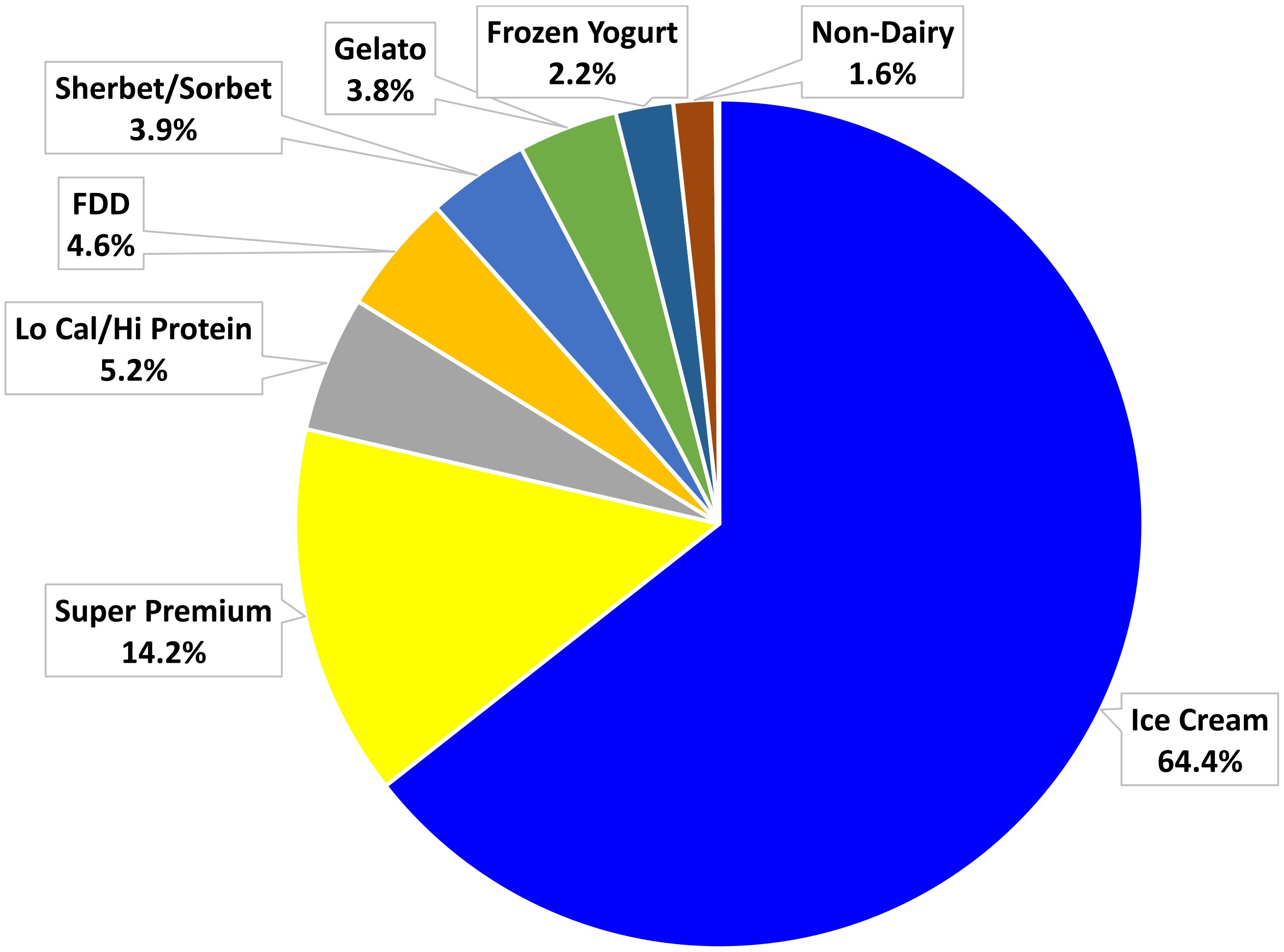
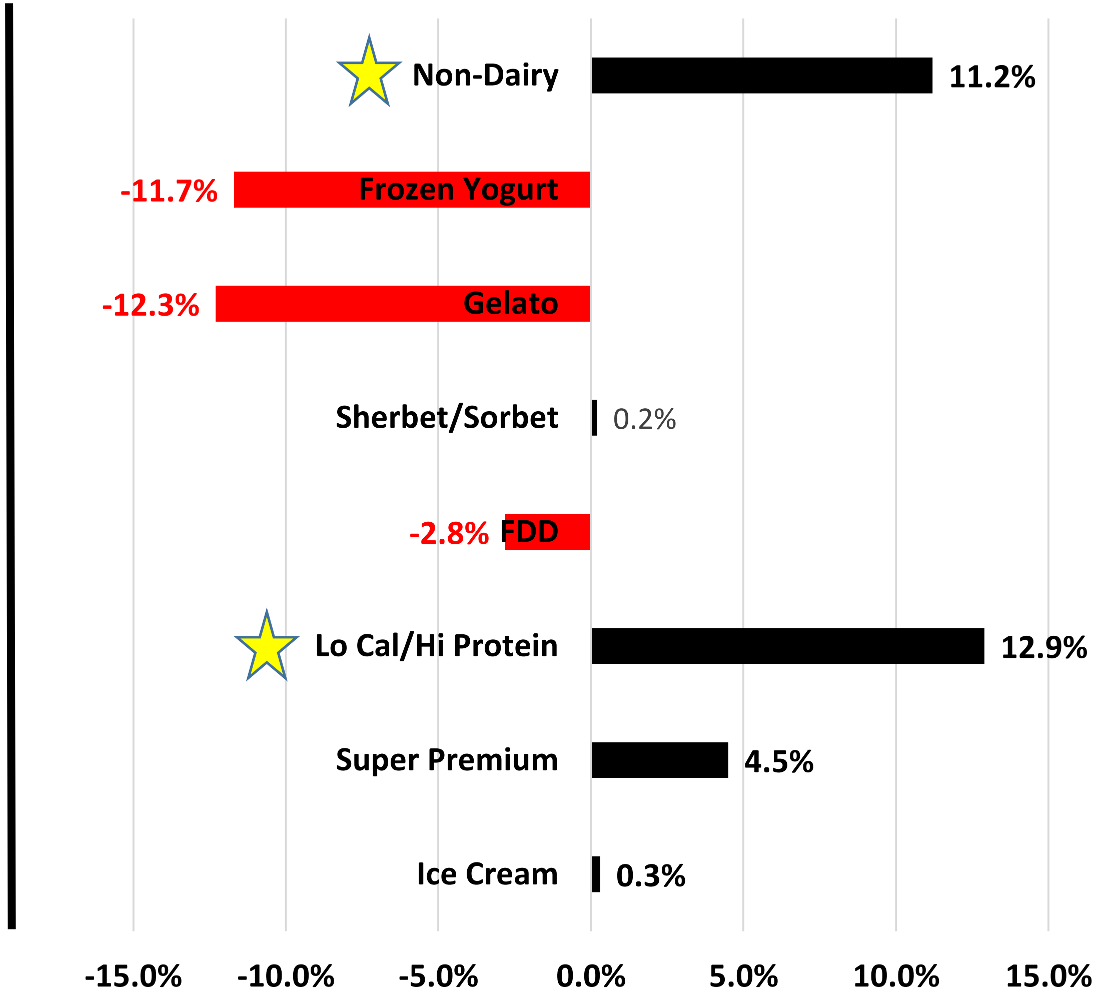
Packaged Ice Cream – Unit Contribution & Trends by Formulation Type





nielsen *xAOC 52 Weeks Ending 12/29/18

Packaged Ice Cream

Trend Summary

Category Unit and $'s Sales ~**"FLAT"** (2+ years running)

Consumption (total gallons consumed) are **DOWN** (-1.2%/-9.85M Gal)

Pints Units are **UP** (+7.2%)

All Other Package Types are **DOWN**

Super Premium Ice Cream is **UP** (+4.5%)

Low Calorie/High Protein (+12.9%...but slowing) & Non-Dairy are **UP** (+11.2%)

All Other Segments are **DOWN**

nielsen *xAOC 52 Weeks Ending 12/29/18

Packaged Ice Cream Category

Overall Summary

The "Mainstay"... Traditional Ice Cream

(= 65% of the Units/~*80% of Gallons Sold!)*

The "Disruptor"... Low Calorie/High Protein...but Cooling Off!

The "Emerger"... Non-Dairy

The "Decliners"... Frozen Yogurt, Gelato & FDD

The "Call Out"... The Category is More Fragmented than Ever!

Packaged Ice Cream

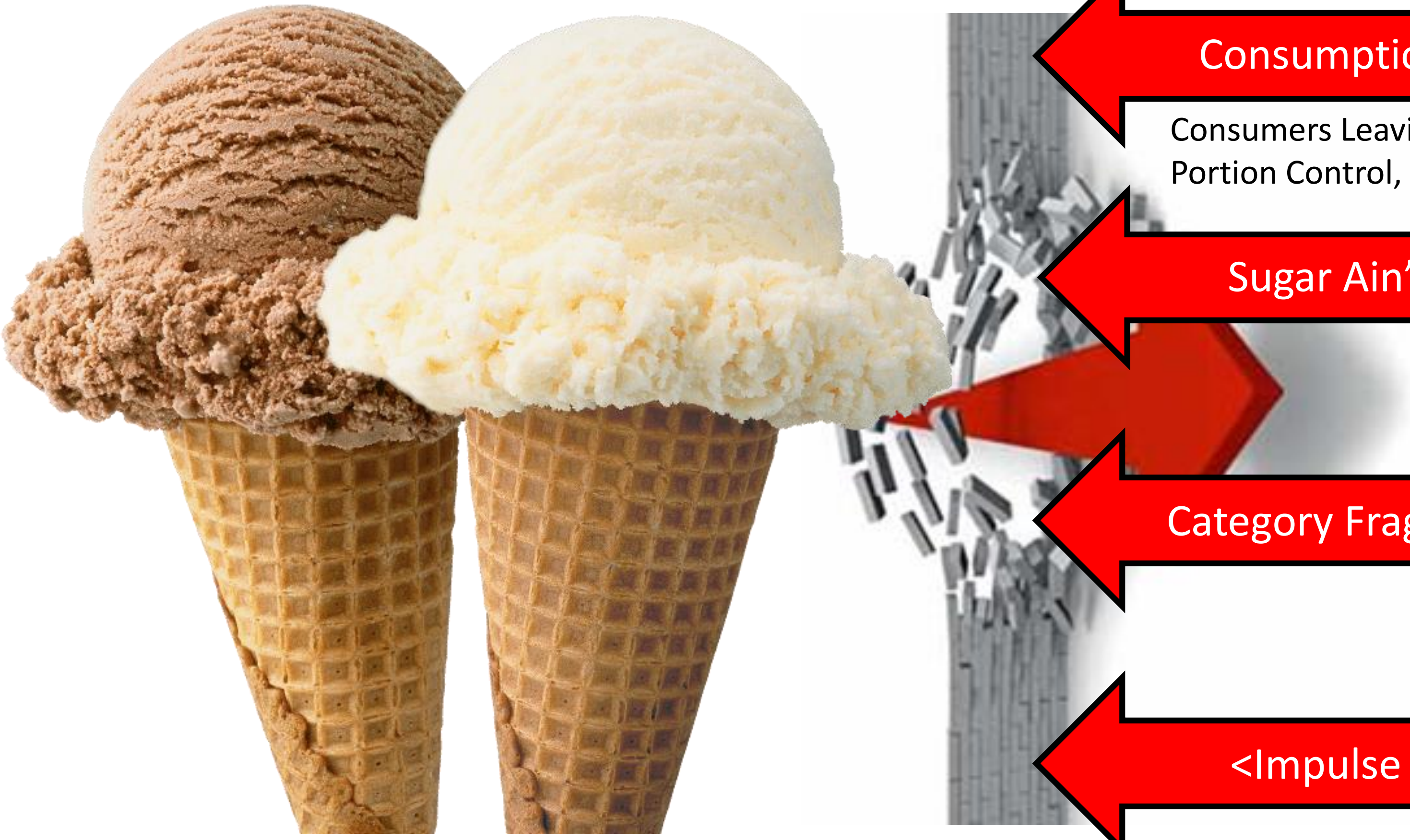
Tailwinds & Headwinds

90%+ Household Penetration

Primary Outlet is Grocery

Americas Favorite Sweet Treat

Dynamic, Innovative



Consumption is Down

Consumers Leaving the Category, Portion Control, Pints, Etc.

Sugar Ain’t So Sweet

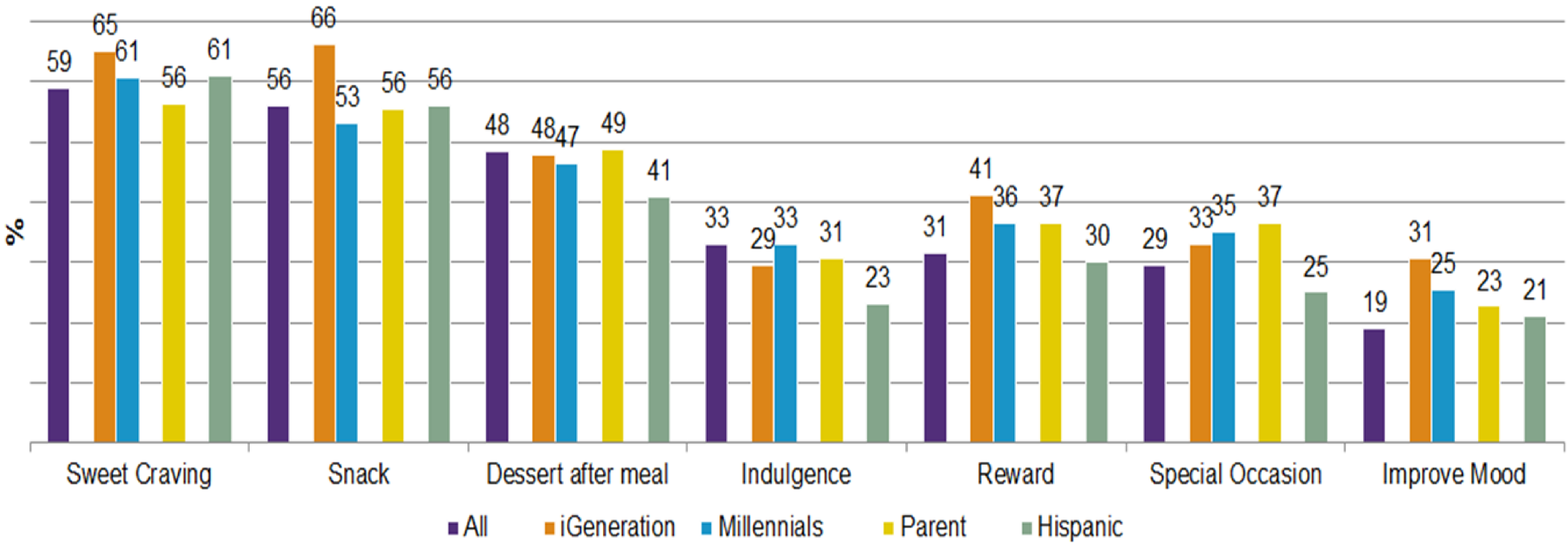
Category Fragmentation

<Impulse Purchase*

Center store declines, online ordering, delivery, etc.

Packaged Ice Cream – Participation Drivers

Despite all the Category Disruption, Participation Drivers Remain Consistent

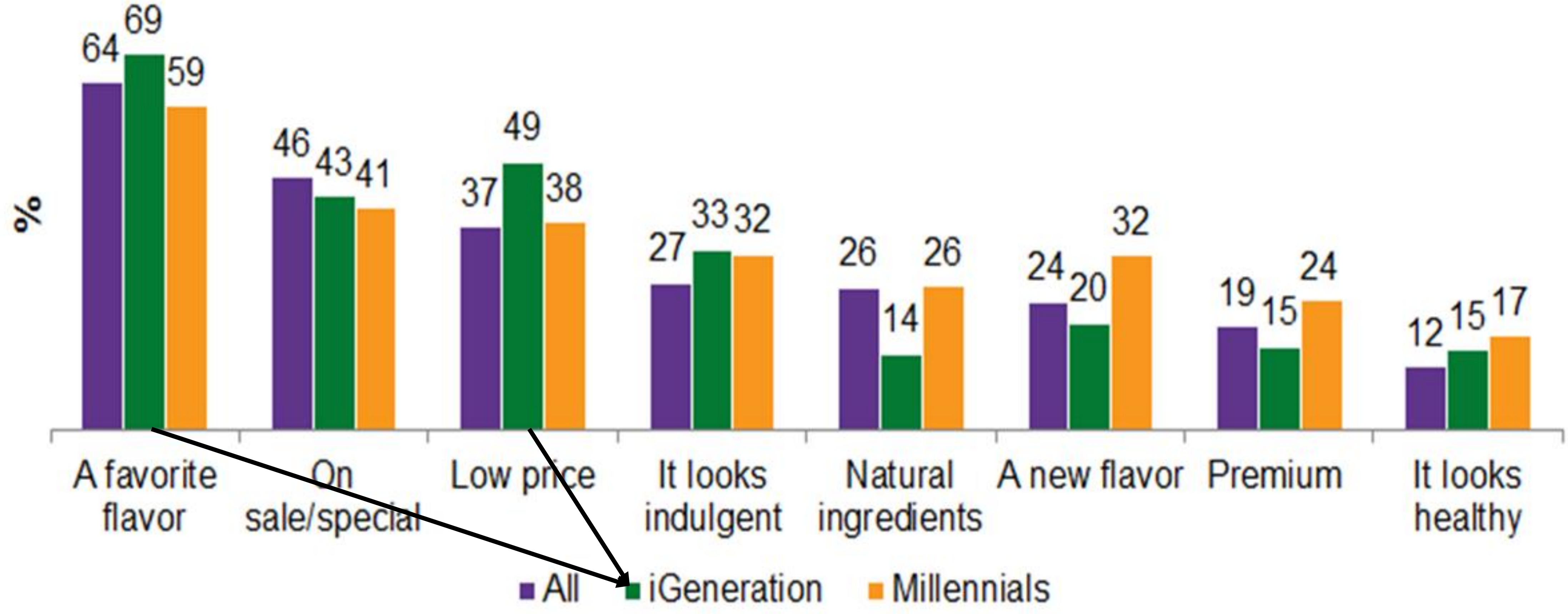


Consistent by Generation & Not Much Change Overall

MINTEL

Packaged Ice Cream – Purchase Drivers

Despite all the Category Disruption, Purchase Drivers Remain Consistent

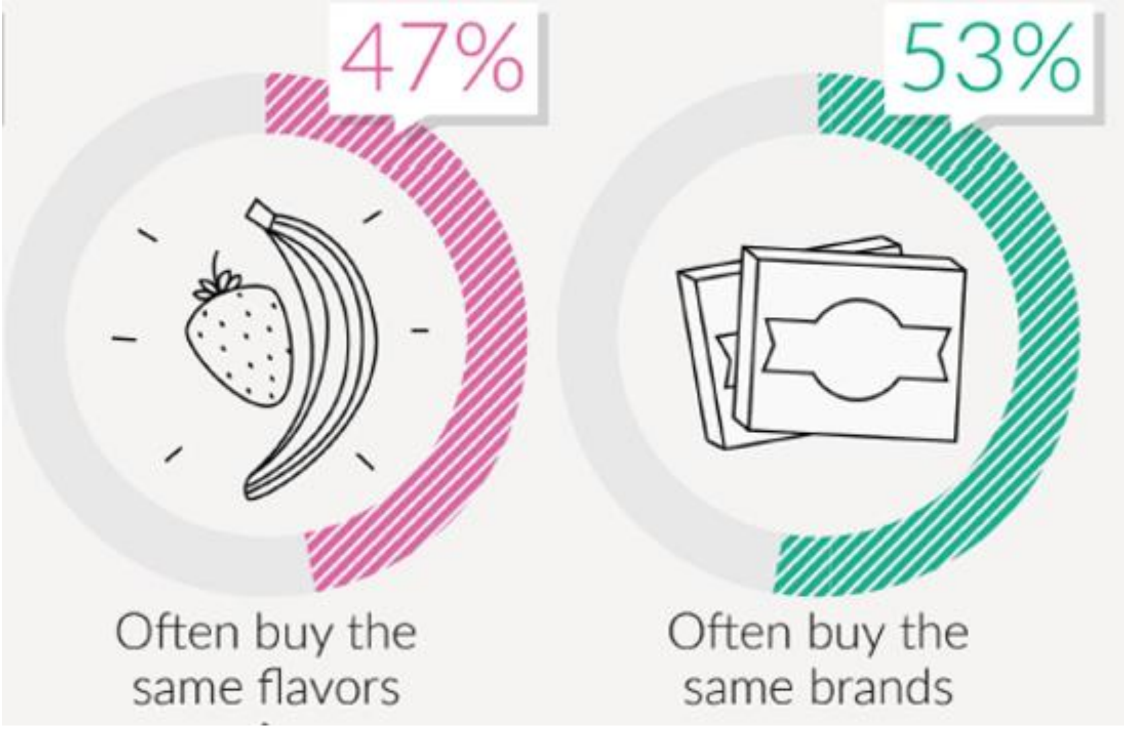


Gen Z, iGen, or Centennials: Born 1996 and later – Up to 21

MINTEL

Packaged Ice Cream

Despite all the Category Disruption, ~Half of all Consumers are Quite Consistent and have Established Favorites (flavors & brands) they Purchase/Consume.



MINTEL

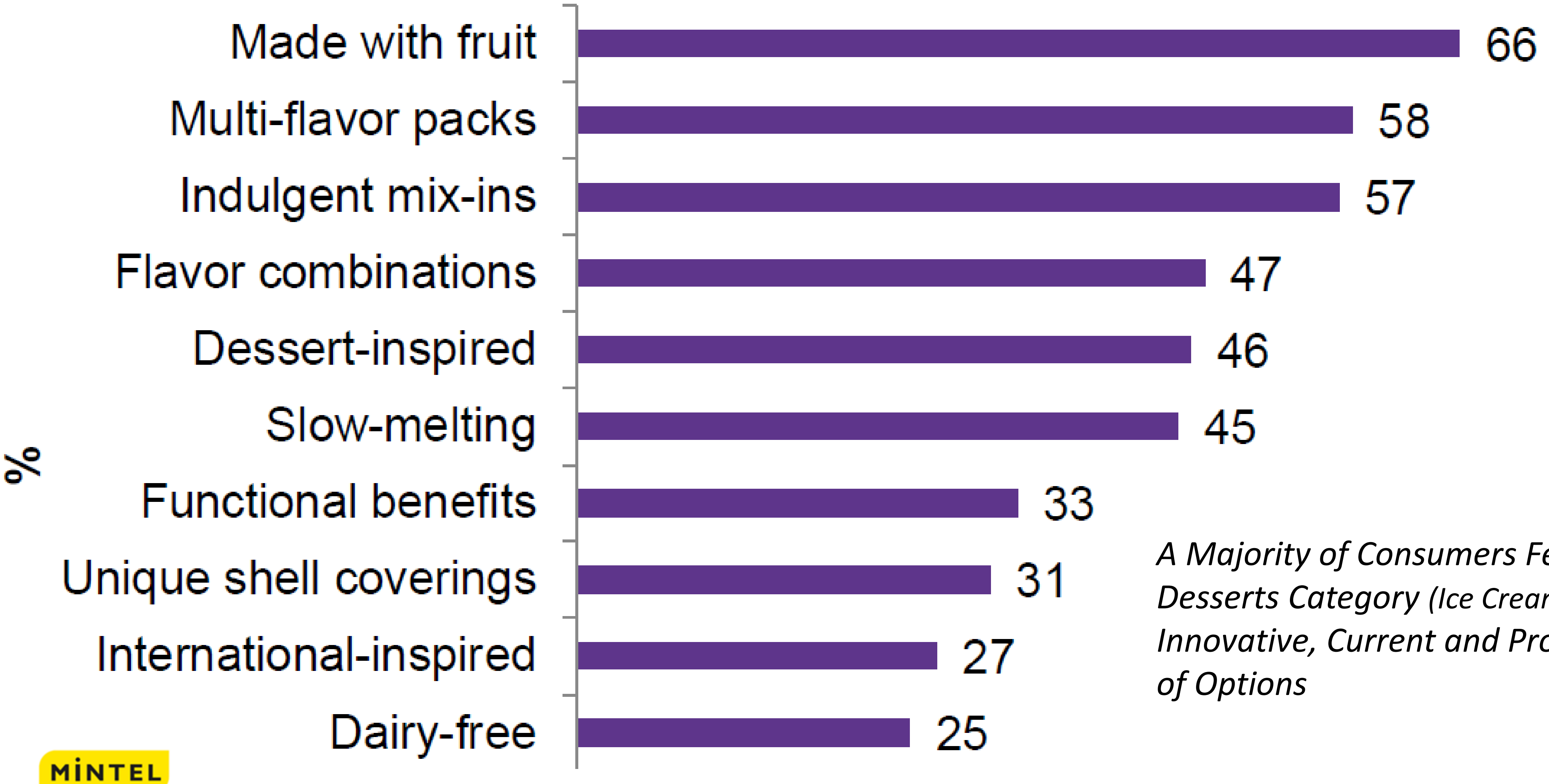
TRENDS/WHAT'S NEXT?

Flavor/ Experiences / Formulation (& Attributes)

Denali® Ingredients

Packaged Ice Cream

Innovation are Consumers Looking for Now



A Majority of Consumers Feel the Frozen Desserts Category (Ice Cream/Novelties) is Innovative, Current and Provides Plenty of Options

Trending - Flavors

Frozen Desserts & Beyond

- **Brown Butter**
- **Brown Sugar**
- **Buttermilk**
- **Caramel/Flavored Caramels**

  (Maple Carmel, Espresso Caramel, Etc.)
- **Cereal Flavors**
- **Cinnamon**
- **Coffee/Cold Brew**
- **Graham**
- **Honey/Honeycomb**
- **Frozen "Hot Chocolate"**

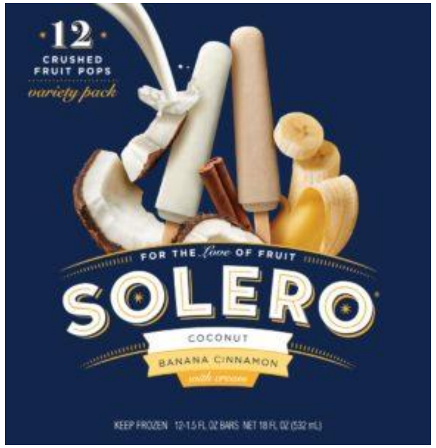
- ***OATS/OAT BEVERAGES***
- **Pumpkin** (still trending)
- **Peanuts/Peanut "Milk"**
- **Peanut Butter/Flavored PB**

  (Honey Roasted, Maple PB, Etc.)
- **Sunflower Oil/Seeds**
- **Sweet & Salty** (still trending)
- **Sweet & Savory**
- **Sweet & Sour**
- ***TURMERIC***

9 out of 10 TV chefs say "TOO-mer-ic," it should be "TER-muh-rihk."

Trending – Flavors

Fruit Combinations and *Fruit Show* (specifically in novelties)



- Avocado
- Banana
- Coconut
- Cranberries
- Jackfruit
- Lime
- Mango
- Passion Fruit
- Peach
- Summer Berries
- Tropical Fruits
- Watermelon

AvoPacific OILS

Packaged Novelties

Fruit is HOT

Skinny Cow weightwatchers

Better for You is Resonating (Diet Brands are Not)

Super Premium and Portion Control is IN!

Novelty & Pints Cross Pollination

Experiential + Artistic + Fashionable = Aspirational = Social Media Shareable

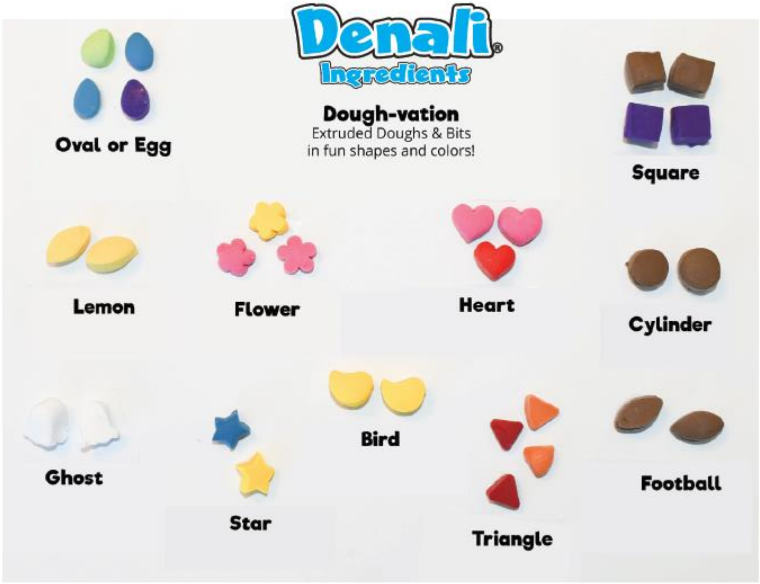
www.haagendazs.us

www.magnumicecream.com

Trending – Experiential Attributes

<u>Texture – Chewy, Crunchy, Gooey, Etc.</u>

<u>Visual – Shapes, Colors, Glitter Etc.</u>



<u>Enhancing Flavor</u>

- Burnt
- Cooked
- Caramelized
- Salted
- Toasted

Trending – Cookie Dough

A Dough-Nation Looking for Dough-vation

DOUGH DIP SHOPS TREDNING IN LARGE CITIES

www.cookiedonyc.com

FOOD SERVICE

Chocolate Chip Cookie Dough Polar Pizza®

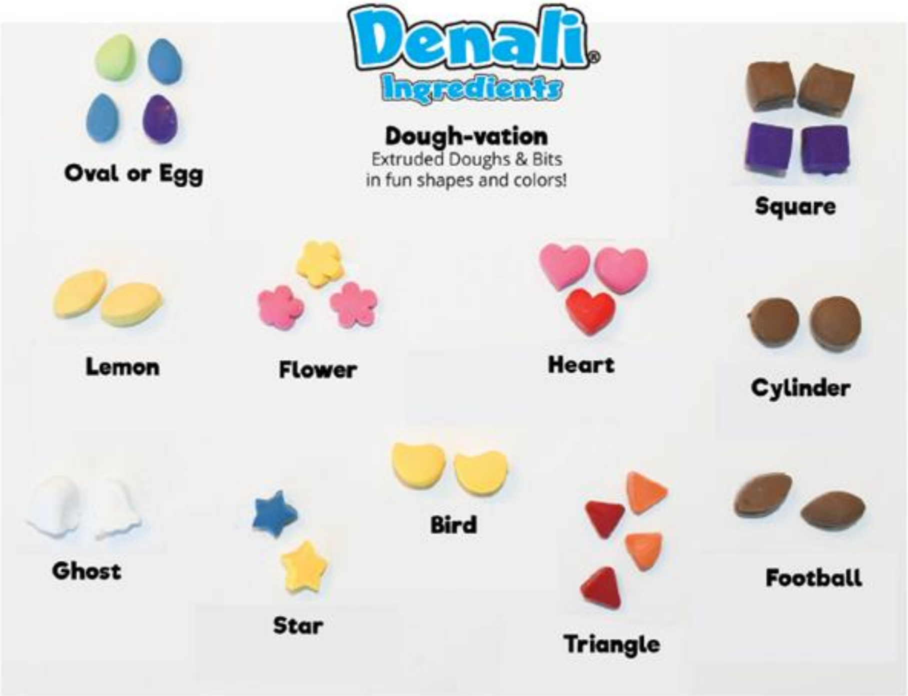
EDIBLE COOKIE DOUGH SOLD AT RETAIL

Refrigerated

Frozen

2018 "Dough" Flavors Grew **5.3%** and are **~5.0% or 78.5m Units** of the Categories Unit Volume

Categories Units **+.6%**
2017 "Dough" Growth **+16%**



New Cookie Dough Cores from Ben & Jerry’s

Dough lovers, this one's for you! Introducing 3 new flavors, each featuring a thick core of euphoric cookie dough. Which one will you dough for first?

<u>Chocolate Chip Cookie Dough Core</u>
Cookie Milk Ice Cream with Fudge Chips
& a Chocolate Chip Cookie Dough Core

<u>Wake & "No Bake" Cookie Dough Core</u>
Vanilla Ice Cream with Peanut Butter Cookies,
Peanut Butter Ice Cream with Fudge Chips
& a No Bake Cookie Dough Core

<u>Sweet Like Sugar Cookie Dough Core</u>
Sweet Cream Ice Cream with a hint of Almond flavor &
Shortbread Cookies & Cherry Ice Cream with Cherries
& a Sugar Cookie Dough Core

Trending – Side by Sides

Multi Flavors as Consumers Desire Variety

(Within a "Half Gallon" vs. several pint purchases. Also suggests portion control)

SLOW CHURNED®
Chocolate Fudge Cores

SLOW CHURNED®
Creamy Chocolatey Cores

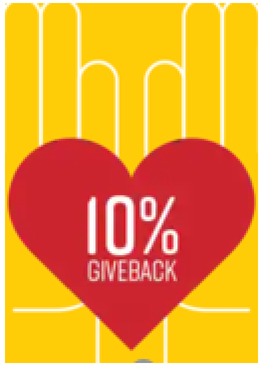
SLOW CHURNED®
Rich Caramel Cores

SLOW CHURNED®
Salted Caramel Cores

Trending/Continuing - Partnerships

Nestlé

Unilever



To Local Artist

MUSEUM OF ICE CREAM

TASTY

BuzzFeed

Tasty Videos on
[Facebook](), [Instagram](), [Pinterest](), [YouTube]()and [Twitter]()

500 million monthly social media viewers

Another
Social media
Driven Brand

Emerging Formulation – Less Sugar

Reducing Sugar

- **Options for Clean** Label/Body and Texture (Erythritol, Inulin, Citrus Fiber, Pea Protein, Sunflower Lecithin, Tapioca Syrup). Sweeteners (Monk fruit, Stevia, Etc.)
- **Options for Non-Clean Label** (Sugar Alcohols, Polydextrose, Maltodextrin)
- **Challenges** – Cost, Processing, Sourcing

Emerging Formulation – Ultra-Filtered Milk

Fairlife milk flows through soft filters to concentrate milk's goodness, like protein and calcium, and filter out the sugars.

Chilly Cow is the first protein-packed, light ice cream to use ultra-filtered milk. **Less sugar**, more protein, etc.

Emerging Formulation - Organic

OLD PACKAGING

NEW PACKAGING

Interests in Organic Ice Cream is Rising

Organic Ice Cream Participation Higher on the West Coast/West Coast Centric

Organic is <1% of the Ice Cream Category (~5% +/- of Total Food)

A Majority of Organic Food are Simple Whole Foods
(e.g. fruits & vegetables, milk & meats).
A Small % (Est. <15%) is a Complex/Processed Foods

Cost is a Barrier

Sourcing is a Challenge

Emerging Formulation - Soft/Easy Scoop/Ready to Eat

Emerging - Probiotics

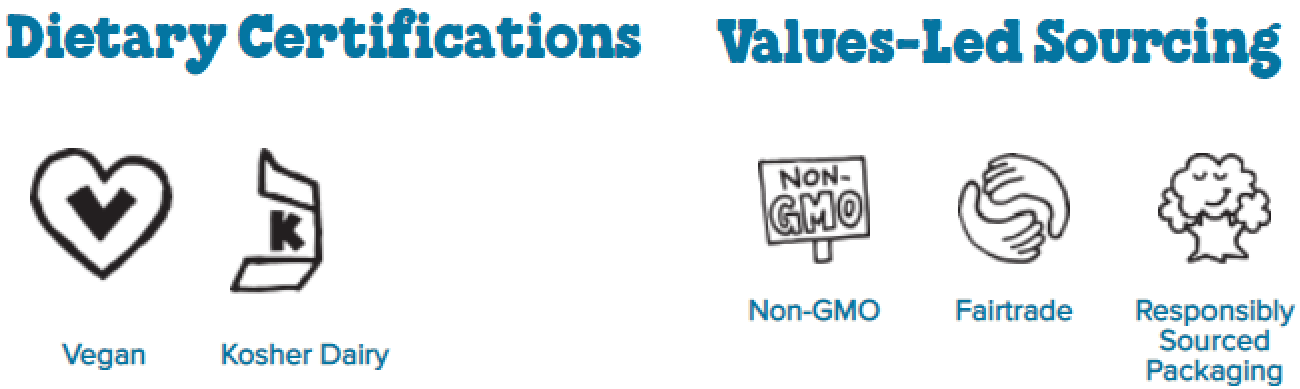
Maturing Formulation – Lo Calorie/High Protein

Lo-Cal/High Protein

- Options – Milk Protein, Whey Protein, Pea Protein and Faba Bean Protein
- Challenges – Hydration, Body & Texture, Shrinkage (Retail Packages)

Fast Emerging - Formulation Non-Dairy

Non-Dairy Requests (in General) Contain many Additional Claims



Fast Emerging Formulation - Keto

Keto was the #1 Searched Diet in 2018 on Google

Denali®
Ingredients

Creative People Redefining Ingredients

www.denaliingredients.com

R&D

Pilot
Plant

Thank YOU!

ICE CREAM TECHNOLOGY CONFERENCE

Denali® Ingredients

www.denaliingredients.com