Pulse on Plant-Based Foods:

How do shoppers define plant-based foods and why do they choose plant-based alternatives?

NielsenIQ

Overview

In 2016, Impossible Foods launched their Impossible Burger with an enthusiastic reception that had vegetarians and meat lovers alike lining up to taste the "plant-based burger that bleeds" for themselves. The result? A product that makes consumers double-check the label.

According to NielsenIQ data, the plant-based market is worth $9.3 billion (latest 52 weeks 07/30/22). How are consumers finding products online? In search, we see consumers searching plant-based not only in food and beverage but also across the store. Knowing that this is a growing area, brands should be aware of plant-based attributes claimed on packaging and online. Interest in what was once a niche category is high: NielsenIQ Label Insight logged 600,000 searches for the term with 6% growth year-over-year.

A plant-based renaissance

Innovation has come a long way from the pink deli meats in the corner of the refrigerated aisles of yesteryear.[1] The biggest challenge food scientists had to tackle was the difference between the taste and texture of "meat" made with plant-based fats. Acclaimed Chef J. Kenji López-Alt of *The New York Times* wrote that "animal fat, which provides mouth-coating richness and juiciness" is difficult to replicate.[2] This difference in flavor left veggie burgers to cater to vegetarians which make up only 5% of the US adult population.[3]

Plant-based became more widely used in 2016 after the release of "The China Study," a survey that revealed a plant-based diet could reduce the risk of disease.[4] Consumers routinely cite health and nutrition as the main motivator to try plant-based foods.[5]

% Total Plant-Based Protein Dollar Growth

126 Existing brands represent **~55%** of total dollar growth

3,281 New brands represent **~45%** of total dollar growth

Source: NielsenIQ Retail Measurement Services, NielsenIQ Product Insight, powered by Label Insight, Total Store 11/27/21 vs 2YA

According to the Plant-based Foods Association, research shows that in retailers, when plant-based foods are intermingled with conventional products, consumers are more likely to trade one for the other.

In following the virtues of health and whole foods, plant-based staples are now prominently displayed on supermarket shelves near the very products they may be substituting. While the sales growth has tapered modestly with 9% growth in the past 52 weeks, growth from the past three years is notable (54%).

Plant-based jerky, ice cream, and protein bars are increasingly common. Celebrities and influencers have contributed to the zeitgeist of this plant-based age. Beyonce helped popularize a cultural obsession with kale, and is known for her plant-based eating and meatless Mondays.[6] Jaden Smith, Questlove, will.i.am, and Snoop Dogg all are investors in plant-based products.[7]

With public endorsements of plant-based alternatives from influencers and celebrities, the movement was ushered into the feeds of millions of young, impressionable social media users. In a survey by Arla, a dairy company, almost half of Gen Z claimed to feel "ashamed" if they order dairy in public, opting to order oat or almond milk instead.[8] Even then, not all plant-based milks are created equally. In the court of public opinion, social media dominates; half of Gen Z respondents admit that they use social media to inform diet decisions.

Plant-based: an umbrella term?

Consumers did not anticipate a complete rebranding of food terminology that has revolutionized conventional grocery shelves.

For most consumers, the adoption of plant-based products isn't an all-or-nothing approach; that is, it is not exclusive to vegans or vegetarians. An increasing number of shoppers have adopted a "flexitarian" diet, borrowing from more restrictive diets as it suits their health goals and needs.

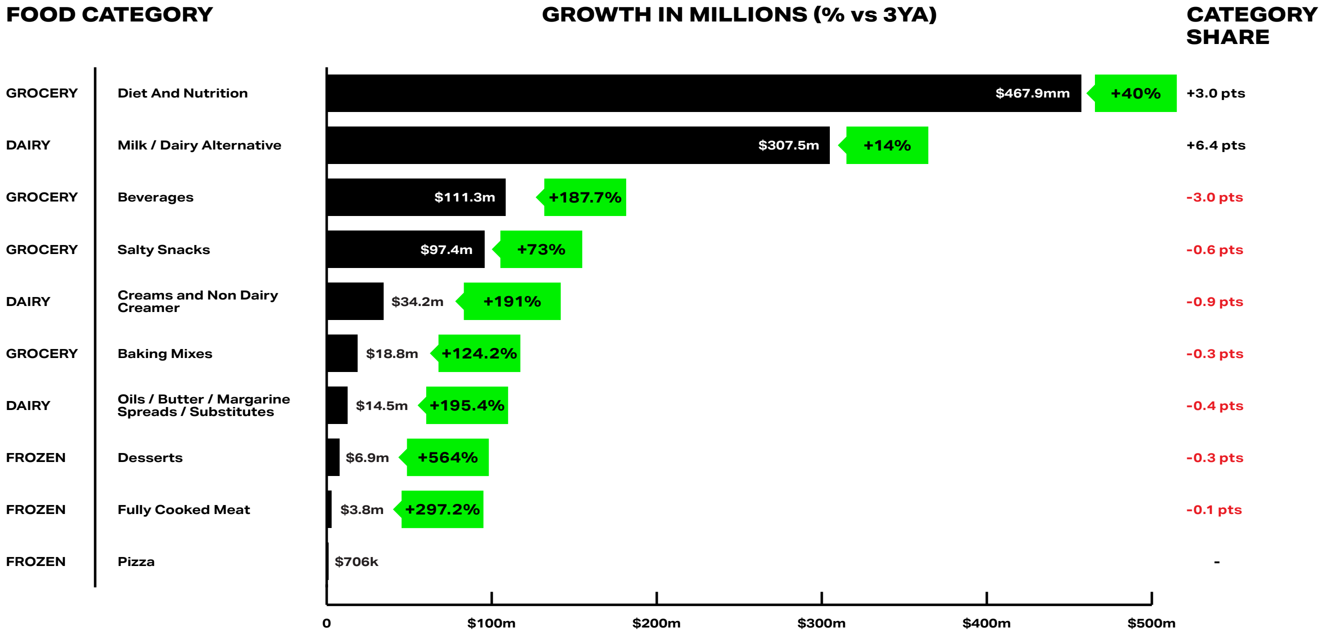
Despite the wide use of the term plant-based, there's no universal definition for the term.

According to FMI and NielsenIQ's report, "Power of Plant-Based," shoppers cite confusion on what constitutes plant-based product. In practice, it means consumption of plants versus animals; and at least 42% of shoppers try to eat plant-based alternatives.

CATEGORY	PRODUCT EXAMPLES
MILK / DAIRY ALTERNATIVE	almond milk, oat milk, etc.
BEVERAGES	energy beverages, coconut water, kombucha, RTD coffee, etc.
CREAMS & NON-DAIRY CREAMER	coffee creamer, whipping cream, etc.
FULLY COOKED MEAT	patties, chicken tenders / nuggets, meatballs
PREPARED FOODS	vegetarian meals, tofu, etc.
DESSERTS	non-dairy bars & pops, non-dairy ice cream, cakes, etc.
DIET & NUTRITION	health / nutrition bars, powders & shakes, weight management powder, etc.
YOGURT	non-dairy yogurt
PROCESSED MEAT	bacon, sausage, frankfurter, etc.
CHEESE	alternative / non-dairy cheese, soy cheese, almond cheese, etc.
FRESH MEAT	patties, ground, tenders / nuggets / fingers, etc.
OILS / BUTTER / MARGARINE / SPREADS / SUBSTITUTES	substitute spreads, coconut oil, etc.
PERFORMANCE NUTRITION	protein shakes, performance nutrition bars, etc.
PIZZA (VEGAN, CHICKPEA, ALTERNATIVE MEATS, DAIRY FREE)	multi & single serve
SALTY SNACKS	chips, trail mix, pretzels, popcorn, etc.

NielsenIQ took a methodical approach in defining “plant-based” to close the knowledge gap. Our tools consider all brands and products that state a claim on packaging that indicates the product is plant-based. Our dataset includes product-specific categories where plant ingredients are used as an alternative to a traditional animal protein.

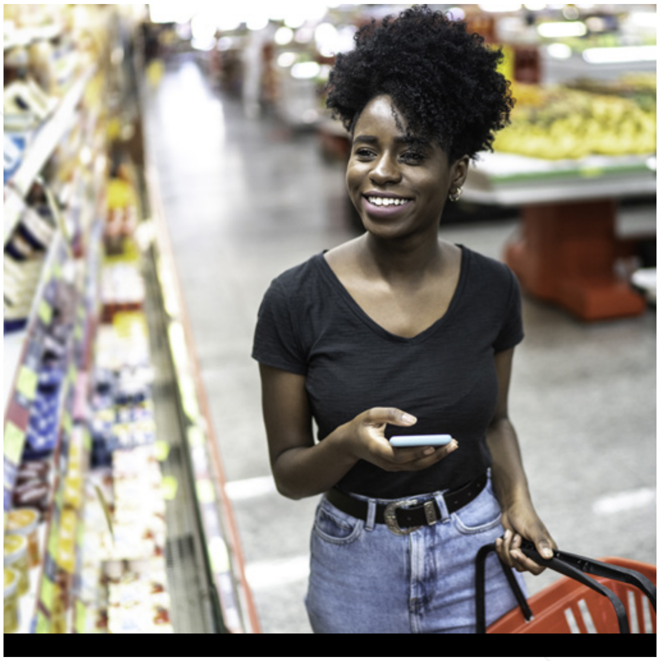
Any fresh products, such as fruits and vegetables in produce, and any products that are inherently plant-based and/or comprised of a single plant-based ingredient are not included, except for items that have a “plant-based” claim on the package.



Source: NielsenIQ Total US xAOC Plant Based categories per NIQ Standard Definition Latest 52 Wks 3YA - w/e 7/30/22.

We considered consumer frame of reference, trends, top categories, and where the biggest growth is happening in plant based. We are seeing strong growth across a variety of food categories, from **Candy, Gum, and Mints** (+544.6% vs 3YA); **Fully Cooked Meat** (+297.2% vs 3YA); **Beverages** (+187.7% vs 3YA); **Prepared Foods** (+87.6% vs 3YA) and **Salty Snack** (+73.3% vs 3YA).

Looking at **Dairy Alternatives** (+14% vs 3YA), we also examine marketing claims (products claiming plant-based on the label) when assessing the evolution. We are seeing in the marketplace and where opportunities lie in specific categories. Sales are rising in **Fresh Meat Alternatives** (+187.7% vs 3YA), but are only about 1/8 of the dairy alternative market. Dairy alternatives are the gateway into plant-based eating.



Food fight: The new culture wars

Brands must be careful not to muddy the waters when claiming attributes or making marketing claims. For example, a plant-based product with a meat ingredient—like a pizza with real pepperoni and cheese with a cauliflower crust claiming to be plant-based, may create confusion, especially when merchandised next to meat-free or dairy-free pizza alternatives. In this circumstance, it may be best to be more specific and claim gluten-free if circumstances permit. Similarly, claiming attributes that lack an obvious relevance, such as "gluten free" on water, may cause problems rather than boost trial.

With growing adaptation there have been mixed sentiments from consumers and plant-based eating has gone political. We've recently seen this with the Cracker Barrel plant-based sausage patty controversy. The companies' Facebook announcement drew 7.000 comments with ruthless backlash of customers vowing to never return stating "Go Woke, Go Broke!" Ultimately Cracker Barrel will test to see whether their newest menu item will be permanent.[9]

> **Some are following the latest wellness trends, incorporating plant-based alternatives into their diets as a step toward their personal health. … Some choose plant-based for dietary reasons, such as lactose intolerance. Consumers also opt for dairy alternatives to be mindful of our planet.**
>
> ***Domenic Borrelli***
> *Danone*[10]

Why consumers try plant-based

As cited earlier, the primary motivator for consumers to switch to plant-based products is to improve health and nutrition. According to MoviBase, a NielsenIQ Connected Partner, about 30 million consumers are engaged in plant-based trends; however, consumer trend adoption is still in its early stages.

TRENDING PLANT-BASED PROTEINS		$ % CYA	$ VOLUME	% OF ALL PLANT-BASED PROTEIN
	Total Food & Beverage	**+9%**		
	All Plant-Based Protein	**+8%**	**$101.3 Billion**	
PROVEN TRENDS	Bean protein	+8%	$63.5 Billion	**63%**
	Soy protein	+9%	$41.9 Billion	**41%**
	Oat protein	+8%	$13.8 Billion	**14%**
GROWING TRENDS	Peanut protein	+8%	$13.0 Billion	**13%**
	Almond protein	+2%	$10.1 Billion	**10%**
	Textured vegetable protein	+10%	$4.0 Billion	**4%**
DEVELOPING TRENDS	Flaxseed protein	+10%	$3.0 Billion	**3%**
	Cashew protein	-2%	$2.8 Billion	**3%**
	Pea protein	+17%	$2.6 Billion	**3%**

NielsenIQ Retail Measurement services, NielsenIQ Product Insight, powered by Label Insight, Food & Beverage, TOtal US xAOC, 52 weeks W/E 07/30/22 vs YA

This lines up with a wider trend in consuming whole foods rather than processed foods. It is important to understand this underlying need when considering adding plant-based products to offerings. Although consumers do want to reduce their consumption of meat and dairy products—often to avoid intolerances or saturated fats—consumers also want to increase their intake of plants known for health benefits. It is not enough for products simply to be plant-based; they must possess the right nutrition profile.

TOP 5 GROCERY PURCHASE INTERESTS ACROSS GLOBAL CONSUMERS

1	2	3	4	5
Grown or raised in a sustainable way	**Certified humane raised and handled**	**Free range**	Sourced from partners offering fair wage	**Hormone free**

NielsenIQ BASES Optimizer Study on sustainability claims and consumer motivations (2021), data based on relative appeal of claims gathered during optimization in the United Stats, United Kingdom, Germany, Brazil and China.

"A product that was not tested on animals would reduce suffering in this world."

–German Consumer

According to NielsenIQ BASES, animal welfare is a top 5 driver of purchase interest among global consumers in all categories, not just grocery. Many shoppers are hoping for a more humane approach to animal treatment.

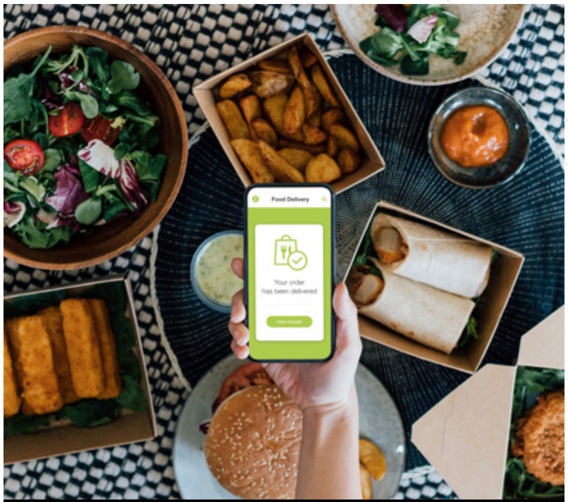
Eat your way to green

It is also worth noting that consumers have taken an interest in plant-based eating for its environment benefits. The past few decades featured a steady influx of documentaries criticizing the dehumanization of the global food supply chain. Industrial agriculture practices are destroying ecosystems and are responsible for one third of all greenhouse gas emissions.[11]

Animal agriculture plays a large role in deforestation, land erosion, loss of biodiversity, and pollution from sewage and fertilizers.[12] Plant-based products generally require less agricultural land and water, and cause less pollution than animal products.

"If we want to have an American type of food consumption, we need three to five planets. We don't have that." Dr. Ferdinand von Meyenn, a Swiss food scientist, said in a phone interview with *The New York Times*.

We've all heard the saying "you are what you eat", and consumers have taken that a step farther to mean that we eat in accordance with our personal values. Consumers understand that their food choices have a direct impact on their health and that of the environment, so they strive to align their spending with their ethics. As Vox media notes meat, milk, and egg production accounts for 14.5% of greenhouse gas emissions.[13] Studies focusing on the



If we want to have an American type of food consumption, we need three to five planets. We don't have that.

Dr. Ferdinand von Meyenn

healthiness of plant-based products also found that they tend to have better nutritional profiles compared to animal products.[14]

A byproduct of climate change–and most recently war–is food supply chain disruption. One startup is using AI to find substitutes for plant-based products affected by supply chain woes like the war in Ukraine which is affecting supply of sunflower oil. To mimic the neutral flavor, "The AI platform, which has previously made recipe adaptations to enable NotCo to cope with a shortage of pea protein, gives the company an edge as the growing industry grapples with constraints." says Chief Technology Officer and co-founder Karim Pichara. "All those problems need help from AI because without it, it could take years to come up with that formula."[15]

At NielsenIQ, we believe plant-based is a movement towards a better future; however, we cannot underscore enough that companies need to slash their emissions and do all they can to help address the climate crisis.

Stakes are high

Looking at milk and dairy alternatives, there are nuances when we examine purchasing behavior at the brand level. Taste and health are the top factors guiding consumer purchase decisions.

When developing or [selling] meat alternatives, it is critical to meet consumers where they are and understand the true reasons they are not repurchasing. The key is driving trial. Although plant-based products are often priced higher than their conventional counterparts, the gap is closing, and consumers are increasingly willing to try plant-based. The taste and health benefits must deliver on the promise of plant based. Impossible Foods recognized the need in the development of their burgers and beyond. In 2020, the company hired more than 100 scientists to develop a dairy-free milk product that will "look, act and taste" just like cow's milk.

"Increasingly we're seeing how plant-based products are able to shift demand away from animal products by appealing to three essential elements consumers want: taste, price, and convenience," said Dr. Chris Bryant, psychologist from University of Bath in the UK.

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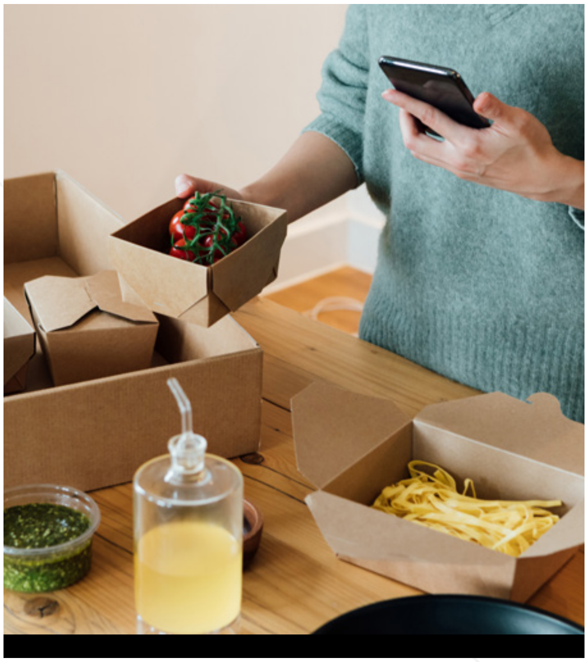
> ***Dr. Chris Bryant***
> *University of Bath*

The form a meat alternative takes can play a large factor in building customer loyalty. Patties tend to see a high rate of trial and repeat purchases while ground plant-based meats have a lower repeat rate. Looking at brand-specific data yields even more interesting insights than a category-level view.

TOP 15 PLANT-BASED CATEGORIES (BY SALES)	$ VOLUME	$ % C3YA	$ % C2YA	$ % C3YA
MILK / DAIRY ALTERNATIVE	$2.6B	34.6%	17.1%	6.8%
CREAMS AND NON-DAIRY CREAMER	$1.1B	74.2%	43.9%	21.7%
BEVERAGES	$1.0B	49.6%	34.2%	18.0%
FULLY COOKED MEAT	$720.2M	39.1%	9.1%	4.0%
PREPARED FOODS	$588.8M	55.2%	22.3%	2.1%
DESSERTS	$466.5M	34.3%	13.5%	-0.6%
DIET AND NUTRITION	$471.2M	40.3%	25.5%	15.1%
YOGURT	$355.3M	58.6%	28.3%	8.5%
PROCESSED MEAT	$321.3M	56.3%	8.9%	-4.1%
CHEESE	$278.1M	74.2%	25.5%	4.1%
FRESH MEAT	$258.1M	206.5%	24.0%	-6.0%
OILS / BUTTER / MARGARINE SPREADS / SUBSTITUTES	$147.3M	104.3%	27.5%	9.3%
SALTY SNACKS	$97.4M	73.3%	34.0%	8.6%
BREAD	$75.7M	50.0%	17.4%	4.8%
PERFORMANCE NUTRITION	$58.6M	-12.8%	-16.7%	-10.0%
TOTAL OF TOP 15 CATEGORIES	**$8.5B**	**48.9%**	**22.2%**	**8.1%**

Source: NielsenIQ Total US xAOC Latest 52 Wks - w/e 07/30/22

Plant-based products must meet consumers where they are—supplying what they need and want—for overall product success. Is it nutritious enough? What is the fat and sugar content? Are there too many ingredients? There is no one-size-fits-all solution; each product must adapt to its customer base. If the taste and health benefits fail to align with consumer expectations, even the strongest marketing efforts will only lead to trial without repeat purchases. This proves to be a bit of a sticking point for consumers. NielsenIQ Homescan Panel and FMI research found that trial is declining because meat alternatives do not always meet expectations.



A growing number of consumers are also considering the health attributes and processing of alt-meat food items. With 94% of alt-meats containing artificial ingredients, and 86% of alt-meat/ground exceeding saturated fat limit on nutrient claims, shoppers instead turn to alternatives with less additives and ingredients. Most ground beef alternatives have 21+ ingredients. These consumers value natural, organic products with minimal artificial stabilizers, coloring, and sweeteners.

While we've highlighted the growth across the store, we have noticed some dollar declines in the latest 52 weeks for plant-based. Alternative meats tend to be priced with a 38% premium over conventional. If the price gap widens due to inflation, consumers may discourage alternative meat adoption. In the last 52 weeks, there was a 9% sales growth of conventional meat purchases. A similar trend has been observed with alternative milk which are priced 60% above conventional. Alternative milk consumption has substantially grown, but in comparison to conventional milk sales (+8% vs YA), it holds only 15% of market share of total milk sales (alternative milk and conventional milk).

According to FMI research, about two-thirds of shoppers surveyed feel comfortable cooking food and know its nutritional value. However, just one-fifth reported being very comfortable in their knowledge; nearly 60% wanted to learn more about each aspect to improve their diets. As consumers use more plant-based food and beverages, it is valuable to communicate ideas on how to personalize and use them to encourage trial and adoption.

Usability is a key factor to success. Patties are a quick swap and require less culinary inventiveness than ground plant-based meats.

Plant based principles to live by

It is important for brands and retailers to have the latest market data to see trends—see where sales are growing, whether growth is because of greater distribution, whether new customers are being attracted to the category, and whether customers are coming back. There are so many nuances between industries, categories, and even individual brands, achieving success in plant-based requires keeping a pulse on consumer purchasing behavior and motivations.

Plant-based products are expanding to more parts of the store every year. The long-term survival and success of plant-based alternatives will hinge on meeting consumer expectations on taste, texture, and health benefits. As consumers are curious about ways to improve their nutritional intake and lower their environment footprint, there are opportunities for meal inspiration and guidance—for example, showing consumers ideas for whole meals, beyond the one product purchased. These are gaps most brands and retailers are not filling in the marketplace today.

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Sources

1 How 'plant-based' rebranded vegan eating for the mainstream - The Washington Post
2 https://www.nytimes.com/2022/07/29/podcasts/precision-fermentation.html
3 https://www.businessofbusiness.com/articles/impossible-foods-plant-based-burgers-milk-food-industry-trend-data/
4 Why Do We Love Meat? It's in Our Genes: On the Origin of Homo Grillicus - WSJ
5 https://www.businessofbusiness.com/articles/impossible-foods-plant-based-burgers-milk-food-industry-trend-data/
6 https://www.nytimes.com/2019/12/28/style/plant-based-diet.html
7 Insider No. 64: How Hip-Hop Made Plant-based Cool | Fitt Insider
8 Half of Gen Z 'ashamed' to order milk in public: Arla probes how social media and 'cancel culture' shape attitudes to dairy (foodnavigator.com)
9 https://www.cbsnews.com/news/cracker-barrel-impossible-sausage-patty-backlash/
10 https://www.vox.com/future-perfect/22196077/impossible-foods-tesco-ikea-panera
11 https://www.nytimes.com/2022/07/29/podcasts/precision-fermentation.html
12 https://www.businessofbusiness.com/articles/impossible-foods-plant-based-burgers-milk-food-industry-trend-data/
13 https://www.vox.com/future-perfect/22196077/impossible-foods-tesco-ikea-panera
14 https://www.naturalawakenings.com/2022/02/28/389282/plant-based-foods-go-mainstream-healthy-eating-gets-easier-with-innovations
15 https://www.bloomberg.com/news/articles/2022-07-22/plant-based-food-startup-uses-ai-to-solve-supply-chain-woes

NielsenIQ definition/disclaimer for plant based:

The size for the Total U.S. xAOC + Convenience market, as defined by NielsenIQ, for plant-based foods is based on the NielsenIQ Product Insight attribute "plant based stated". This includes all brands and products that state a claim on package that indicates the product is plant based. The dataset further includes product-specific categories where plant ingredients are used as an alternative to a traditional animal protein (e.g. milk/dairy alternatives, meat alternatives, alternative cheese and sour cream, and non-dairy ice cream). Any fresh products, such as fruits and vegetables in produce, and any products that are inherently plant-based and/or comprise of a single plant-based ingredient are not included, with the exception of items that have a Plant-Based claim on package. Data is pulled over a 52-week period and comparing sales trends to the previous year, two years, and three years.

NielsenIQ Total U.S. xAOC (expanded all outlets combined) includes all food/grocery channel (value, conventional, and fresh premiere grocery), along with the following channels/outlets: All Drug stores, Dollar (ex. Dollar Tree), Warehouse Club (ex. Costco), Mass, Military.

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