

2021 U.S. RETAIL MARKET INSIGHTS

# Plant-based foods



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# Introduction

Food manufacturers ranging from startups to leading CPG companies to the world's largest meat companies are innovating rapidly in the plant-based market. Next-generation plant-based meat, egg, and dairy products are increasingly competitive with animal products on taste, price, and accessibility, though there is more work to do. Distribution is expanding, and a growing number of mainstream consumers are buying plant-based options. In the U.S., **98 percent** of people who buy plant-based meat also purchase conventional meat.

**\$7.4B**

The retail market for plant-based foods is worth \$7.4 billion, up from \$6.9 billion in 2020.

**+6%**

Plant-based food dollar sales grew 6 percent in the past year.

**54%**

Plant-based food dollar sales grew 54 percent in the past three years.

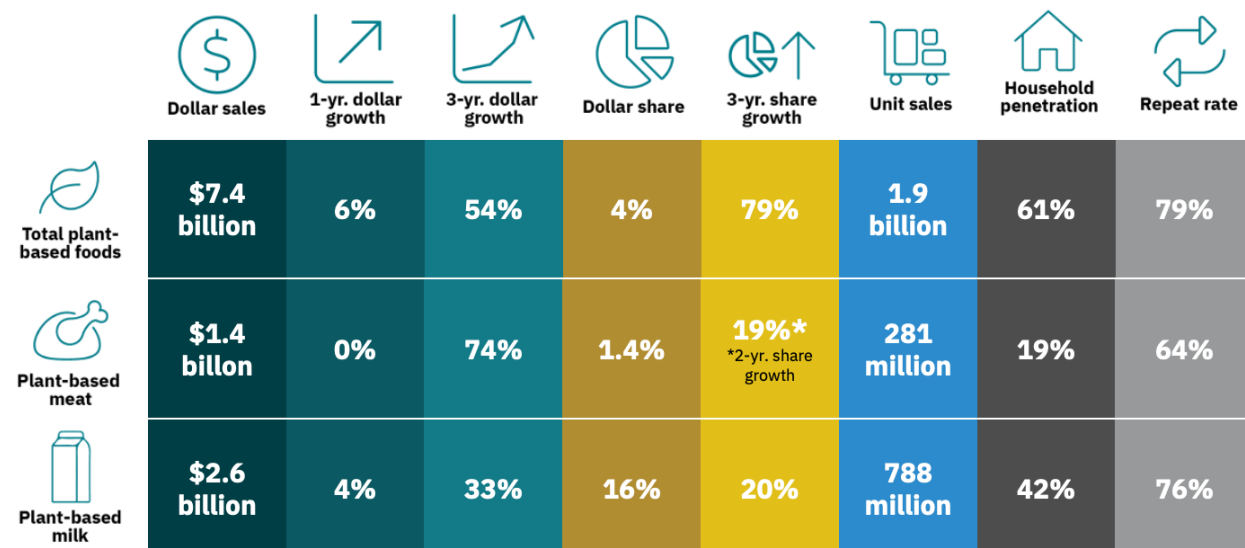
**3x**

Plant-based food sales grew three times faster than total food sales in 2021.

## Plant-based foods in the U.S. are a \$7.4 billion market.

Plant-based products are a key driver of sales growth at grocery retailers nationwide, growing three times as fast as overall food sales. SPINS retail sales data released March 22, 2022, shows that grocery sales of plant-based foods that directly replace animal products have grown 6 percent in the past year—and 54 percent in the last three years—to \$7.4 billion.

Note: The data used in this report is based on SPINS plant-based positioned attribution, with the additional inclusion of plant-based private label and a custom plant-based eggs category. Due to the nature of these categories, the presented data may not align with standard SPINS categories. [Read more about our methodology below.](#)



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories. Sources: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021. Panel data from NCP, All Outlets, 52 weeks ending 12-26-21. © 2022 The Good Food Institute, Inc.

We've summarized highlights from the data in this report to help you understand the size and growth of the U.S. retail plant-based food industry. We cover both the plant-based food market as a whole and key plant-based categories like meat and milk.

## Pandemic impacts

To contextualize the sales performance of plant-based categories in 2021, it is important to note that 2020 was an unusual year with particularly strong growth—not only across the food market, but especially for plant-based categories—given the above-average activity the retail sector saw due to pandemic impacts. Lapping such a high-growth year with significant noise in the data makes comparables challenging and may be particularly difficult for an emerging industry that is still scaling production capacity. This, compounded with ingredient shortages and continued supply chain disruptions, may have resulted in plant-based meat sales falling short of the industry’s expectations for further rapid growth in 2021.

## Ingredient shortages and supply chain disruptions

As one notable example, Canada, the largest producer of yellow peas (commonly used in plant-based meat products) in the world, recorded a **45% decrease in yellow pea production** as of September 2021. Because of the relatively small size of plant-based categories, even modest supply chain issues like this could contribute to declines in growth. According to FMI’s 2022 Power of Meat Report, 38% of consumers reported seeing increases in out of stocks in the meat department. Market conditions resulted in changed meat and poultry purchasing patterns for 58% of consumers.

## Comparing plant-based meat and conventional meat performance

Another factor that adds complexity to comparing plant-based meat’s sales performance with that of conventional meat is inflation. Inflation has been a large story in the protein category—and across the entire food market—in 2021. Examining dollar sales growth alone can lead to the conflation of increased consumer demand and increased prices. Unit sales and average price per unit can help tell a more complete story. Despite experiencing slightly lower dollar sales growth than total food and conventional meat, plant-based meat saw comparable—or less—unit sales declines, and markedly more modest price increases.

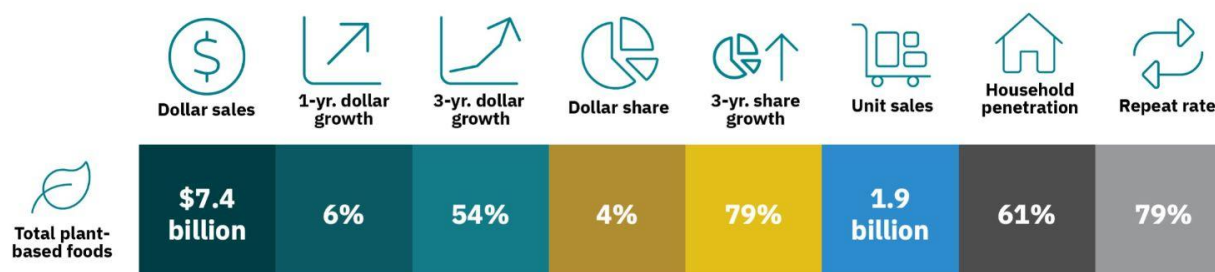
| Category                                             | Dollar sales,<br>1-year change | Unit sales,<br>1-year change | Average price per unit,<br>1-year change |
|------------------------------------------------------|--------------------------------|------------------------------|------------------------------------------|
| Total food                                           | 2%                             | -3%                          | +5%                                      |
| Frozen & refrigerated conventional meat <sup>1</sup> | 1%                             | -4%                          | +6%                                      |
| Plant-based meat                                     | 0%                             | -3%                          | +3%                                      |

Although short-term data is subject to noise, there is evidence in the last few months that plant-based meat continues to experience flat or declining dollar and unit sales. It’s clear that despite the growth seen in the last decade, the success of the plant-based meat category is not inevitable. To meet and further stimulate consumer demand and enable plant-based proteins to compete with conventional products on the table stakes of consumer choice—taste, price, and accessibility, greater investments from both the private and public sectors will be needed. Such investments can ensure we realize the potential of plant-based meat to help sustainably and efficiently feed billions of people, protect public health and lessen the risk of future pandemics, and mitigate the global climate impact of our meat production—all while giving consumers more options for taste, affordable proteins.

<sup>1</sup> Note: Throughout most of this report, plant-based meat products (including refrigerated, frozen, and shelf stable types) are compared to the total conventional category (which had 0% dollar sales growth). Based on limited data availability for shelf stable conventional meat units, this table compares plant-based meat to a conventional meat category that does not include shelf-stable products.

## Overall plant-based food market

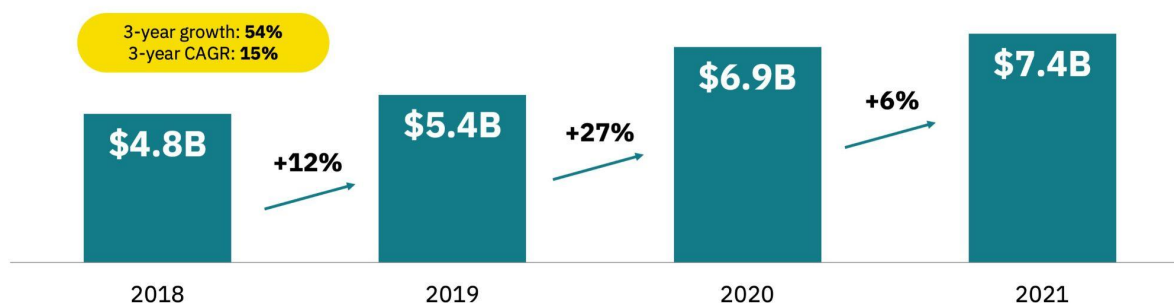
Plant-based food dollar sales grew 6% in 2021, three times faster than overall food sales to reach \$7.4 billion.



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories. Sources: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021. Panel data from NCP, All Outlets, 52 weeks ending 12-26-21. © 2022 The Good Food Institute, Inc.

Plant-based foods have outpaced total foods in both dollar and unit sales for the past three years. Dollar sales of total plant-based foods grew 54 percent over the past three years, while those of total foods grew just 2 percent. Unit sales of plant-based foods grew 6 percent in the past three years, while unit sales of total foods were flat, indicating that plant-based foods are a key driver of retail growth.

### Total plant-based food dollar sales, U.S. retail, 2018-2021



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories. Source: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021.

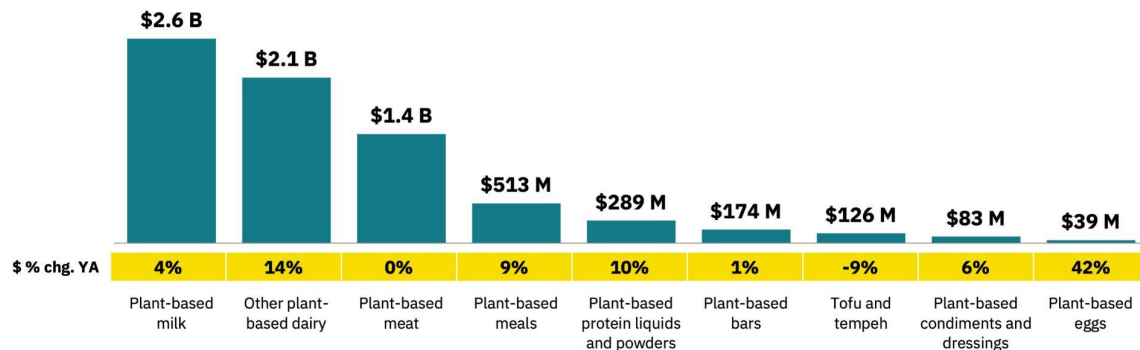
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## Categories

Plant-based foods categories are in various stages of development. Notably, most categories are growing faster than their animal-based counterparts.

### Plant-based food dollar sales and dollar sales growth by category, 2021



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories.  
Source: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021

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#### Key insights:

- **Plant-based milk is the most developed of all plant-based categories.** Plant-based milk dollar sales were \$2.6 billion in 2021, and the category continues to experience steady long-term growth.
- **After a strong 2020 to pass the billion-dollar mark for the first time, plant-based meat sales remained steady in 2021.** Plant-based meat dollar sales have grown 74% since 2018 to \$1.4 billion.
- **Almost every category grew, even on top of a strong 2020 that experienced above-average activity due to the pandemic impacts.** The fastest-growing categories were plant-based eggs; plant-based creamer; plant-based ready-to-drink beverages; and plant-based dairy spreads, dips, sour cream, and sauces—all putting up strong double-digit dollar sales growth in 2021..
- **The least developed category, although the fastest-growing, is plant-based eggs.** At \$39 million in dollar sales in 2021, plant-based eggs is a modest category but growing exceptionally rapidly, with more than 1000% growth since 2018.

## Plant-based category dollar sales summary, 2021

| Category                                                | 2021 dollar sales | 1-year dollar sales growth (2020-2021) | 3-year dollar sales growth (2018-2021) | 2021 unit sales |
|---------------------------------------------------------|-------------------|----------------------------------------|----------------------------------------|-----------------|
| Plant-based milk                                        | \$2.6 B           | 4%                                     | 33%                                    | 788 M           |
| Plant-based meat                                        | \$1.4 B           | 0%                                     | 74%                                    | 281 M           |
| Plant-based creamer                                     | \$516 M           | 33%                                    | 134%                                   | 121 M           |
| Plant-based meals                                       | \$513 M           | 9%                                     | 83%                                    | 113 M           |
| Plant-based ice cream and frozen novelty                | \$458 M           | 3%                                     | 41%                                    | 92 M            |
| Plant-based yogurt                                      | \$377 M           | 9%                                     | 76%                                    | 170 M           |
| Plant-based cheese                                      | \$291 M           | 7%                                     | 85%                                    | 59 M            |
| Plant-based protein liquids and powders                 | \$289 M           | 10%                                    | 29%                                    | 19 M            |
| Plant-based butter                                      | \$214 M           | 9%                                     | 92%                                    | 56 M            |
| Plant-based ready-to-drink beverages                    | \$202 M           | 22%                                    | 87%                                    | 51 M            |
| Plant-based bars                                        | \$174 M           | 1%                                     | -7%                                    | 50 M            |
| Tofu and tempeh                                         | \$126 M           | -9%                                    | 28%                                    | 44 M            |
| Plant-based condiments, dressings, and mayo             | \$83 M            | 6%                                     | 20%                                    | 16 M            |
| Plant-based dairy spreads, dips, sour cream, and sauces | \$65 M            | 20%                                    | 280%                                   | 13 M            |
| Plant-based eggs                                        | \$39 M            | 42%                                    | 1076%                                  | 8 M             |
| <b>Total</b>                                            | <b>\$7.4 B</b>    | <b>6%</b>                              | <b>54%</b>                             | <b>1.9 B</b>    |

Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories. Source: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021. © 2022 The Good Food Institute, Inc.

## Consumer demographics for overall plant-based foods

Increasing plant-based consumption is a trend among young and diverse consumer groups. These customers are also more likely to express an **interest in eating more plant-based foods** in the future. Compared to the average consumer, purchasers of plant-based products tend to be younger and from higher income brackets, and tend to have college or graduate degrees.

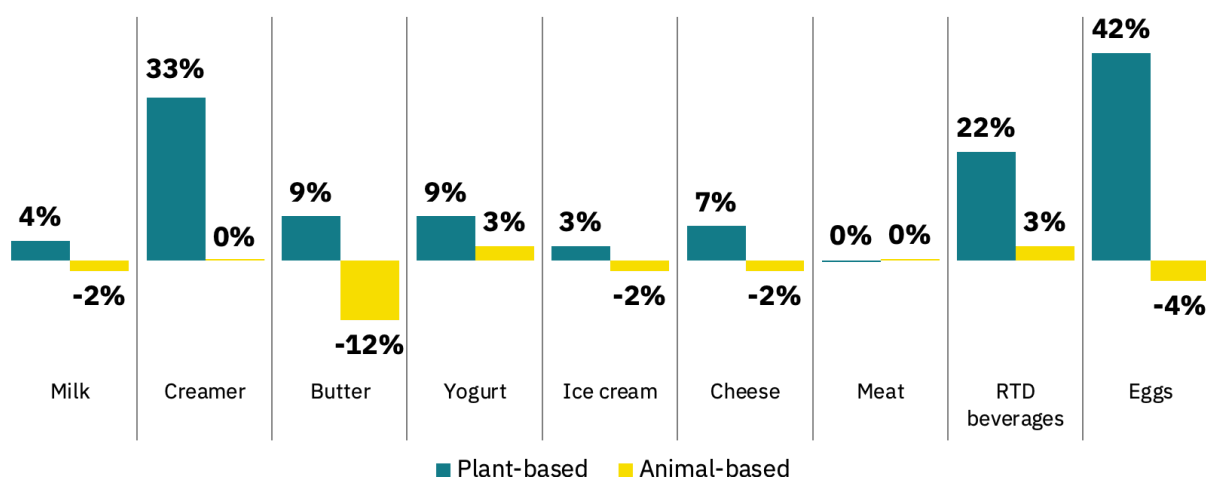
| Cohort       |                                       | Dollar index | Buyer index | Cohort |                      | Dollar index | Buyer index |
|--------------|---------------------------------------|--------------|-------------|--------|----------------------|--------------|-------------|
| HH age       | HH Age 18-34                          | 116          | 113         | Income | HH Earning Under 20K | 81           | 87          |
|              | HH Age 35-44                          | 124          | 111         |        | HH Inc \$20k-\$24.9k | 73           | 85          |
|              | HH Age 45-54                          | 116          | 107         |        | HH Inc \$25k-\$34.9k | 82           | 90          |
|              | HH Age 55-64                          | 92           | 96          |        | HH Inc \$35k-\$44.9k | 88           | 93          |
|              | HH Age 65+                            | 69           | 81          |        | HH Inc \$45k-\$49.9k | 87           | 96          |
| HH education | HH Educ-Graduated High School or Less | 68           | 85          |        | HH Inc \$50k-\$59.9k | 94           | 97          |
|              | HH Some College                       | 96           | 98          |        | HH Inc \$60k-\$69.9k | 90           | 101         |
|              | HH Graduated College                  | 113          | 107         |        | HH Inc \$70k-\$99.9k | 101          | 103         |
|              | HH Post Graduate School               | 123          | 109         |        | HH Inc \$100k+       | 127          | 112         |
| Ethnicity    | White                                 | 97           | 97          | Kids   | HH with Children     | 113          | 110         |
|              | Asian                                 | 100          | 124         |        | HH without Children  | 94           | 95          |
|              | African American                      | 116          | 105         |        |                      |              |             |
|              | Other Race                            | 102          | 106         |        |                      |              |             |

Source: NCP, All Outlets, 52 weeks ending 12-26-21. Note: Buyer index measures the importance of buyers within the demographic relative to the panel composition. Dollar index represents the proportion of product dollars accounted for by a given demographic segment divided by the proportion of total households within the demographic segment. The index indicates low interaction (<80, red) or high interaction (>120, green).

## Comparison to animal-based foods

Dollar sales growth of most plant-based categories outpaced that of animal-based categories in 2021. In many categories, such as plant-based eggs, cheese, and milk, plant-based dollar growth was rapid even while animal-based dollar sales declined.

### Plant-based vs. animal-based category dollar growth (one-year), 2021

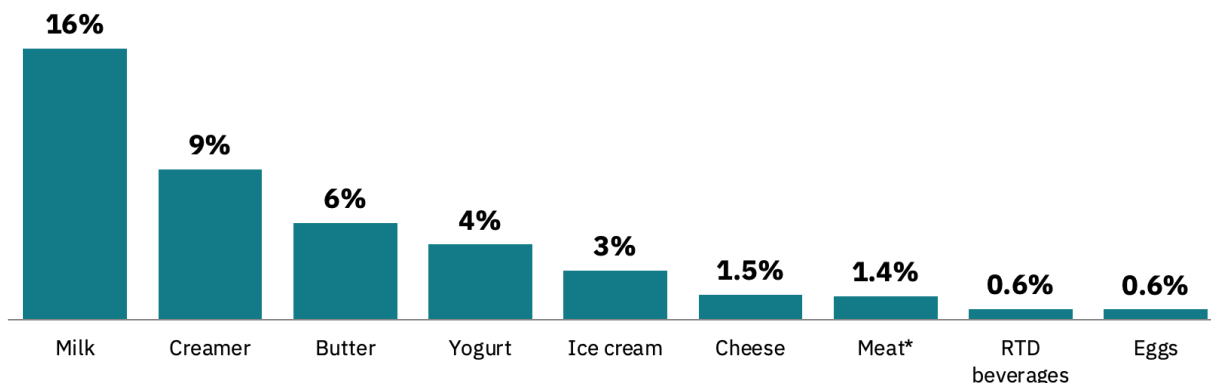


Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories. Source: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021. © 2022 The Good Food Institute, Inc.

### Most plant-based categories thus earned a higher share of their total category dollar sales.

- Plant-based milk, for example, has a 16% share of the total milk market, up from 12% in 2018.
- Plant-based creamer rapidly earned more share of the total creamer category—its share has grown several points, from 5% in 2018 to 9% in 2021.
- As more product development and category innovations appeal to consumers on the key drivers of taste, price, and convenience, we expect plant-based categories to follow plant-based milk's trajectory and earn greater shares of their respective categories.

### Plant-based dollar share of total respective category, 2021



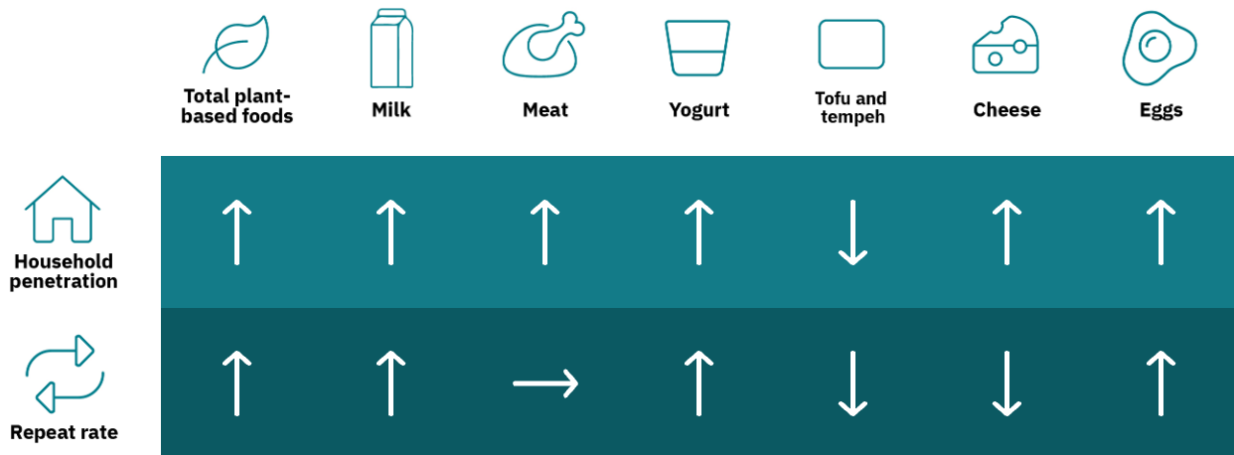
\*Note: SPINS does not report non-UPC animal-based meat counter sales. The plant-based meat share of the total meat category assumes that non-UPC animal-based meat counter sales are equivalent to animal-based packaged meat sales. Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories. Source: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021. © 2022 The Good Food Institute, Inc.



## Purchase dynamics

In addition to strong sales growth, plant-based categories are seeing growth on other key metrics such as household penetration and repeat purchase rate.

### Purchase dynamics of plant-based foods, Change from 2020 to 2021



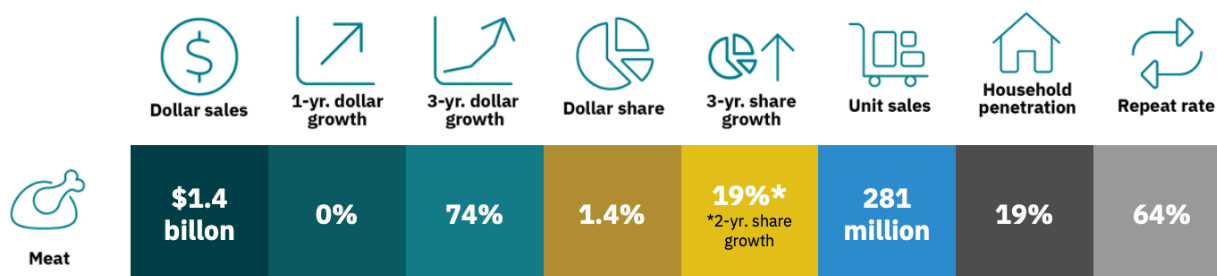
Source: NCP, All Outlets, 52 weeks ending 12-26-21.

#### Key insights:

- **Household penetration of plant-based foods continues to increase.** Six out of ten U.S. households purchase plant-based foods, up slightly since 2020.
- **Plant-based milk is a major entry point for households trying products across plant-based categories.** Plant-based milk leads in household penetration at 42%, followed by plant-based meat which has grown to 19%, indicating that the success of plant-based milk has laid the groundwork for consumer adoption of other plant-based categories.
- **Repeat rates also continue to grow across plant-based categories.** Seventy-nine percent of buyers purchased multiple times in the total plant-based foods category in 2021. Again, plant-based milk leads the way, with a category repeat rate of 76%, followed by plant-based meat at 64%.
- **Not only are there more buyers shopping in these categories, but dollar sales per buyer purchasing total plant-based foods are also increasing.** Plant-based yogurt is the leading category for growth in dollar sales per buyer, up 8% from 2020.

## Plant-based meat and seafood

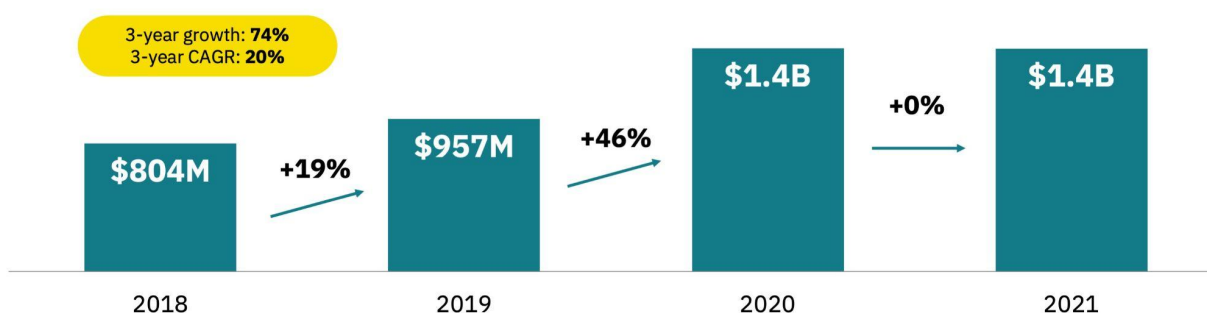
After record growth in years prior, 2021 plant-based meat and seafood dollar sales remained steady, delivering a repeat year of \$1.4 billion in sales.



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories. Note: SPINS does not report non-UPC animal-based meat counter sales. The plant-based meat share of the total meat category assumes that non-UPC animal-based meat counter sales are equivalent to animal-based packaged meat sales. Sources: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021. Panel data from NCP, All Outlets, 52 weeks ending 12-26-21. © 2022 The Good Food Institute, Inc.

As appetites grow for different plant-based meat types and formats, the category continues to expand and diversify. The number of plant-based meat products on retail shelves is increasing. 2021 saw more than 200 plant-based meat products<sup>2</sup> with their first sales in U.S. retail, growing the product base by 19 percent. Companies are providing consumers with more options, at varied price points, merchandised in departments convenient for omnivore shoppers—the largest target market for plant-based meat.

### Plant-based meat and seafood dollar sales, U.S. retail, 2018-2021



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories.  
Source: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021  
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<sup>2</sup> For the purposes of this report, this analysis includes products with more than \$1000 in annual sales.

Key insights:

- **Household penetration of plant-based meat is on the rise.** Nineteen percent of households purchased plant-based meat in 2021, up from 18% in 2020.
- **Repeat rates are steady.** The percentage of buyers purchasing in the plant-based meat category more than once within the year was 64 percent in both 2020 and 2021. This indicates the category may still have an opportunity to increasingly meet consumer needs.
- **Plant-based meat is a category experiencing long-term growth.** In the past three years, plant-based meat dollar sales grew 74%, outpacing conventional meat by almost three times.
- **The unit comparison is even more striking.** While conventional meat unit sales have grown 8% in the past three years, plant-based meat unit sales have outpaced that by more than six times, growing 51% during the same period to 281 million units.
- **Plant-based meat's market share is steady.** In 2021, plant-based meat's share of total meat was 2.7% of retail packaged meat dollar sales, or 1.4% of the total meat category<sup>3</sup> (including random weight meat).
- **Plant-based meat's market share of the natural channel has passed the double digit milestone.** In the natural channel—where retail trends start before disseminating into grocery and mass—plant-based meat's market share of total meat dollar sales is higher, at 14%, up from 12% three years ago.
- **Plant-based meat growth is dominated by products that are analogous with conventional meat products that closely match the taste, texture, and appearance of conventional meat.** While analog plant-based meat dollar sales grew 2% in 2021, dollar sales of non-analog products like black bean burgers and veggie burgers decreased by 17% in the same period. Analog plant-based meat makes up 90% of the dollar share of plant-based meat in 2021, up from 82% in 2018.
- **Private label sales are following plant-based meat trends.** Private label plant-based meat dollar sales have tripled in the last three years as more retailers add a variety of fresh and frozen plant-based meat products to their store brand lines.

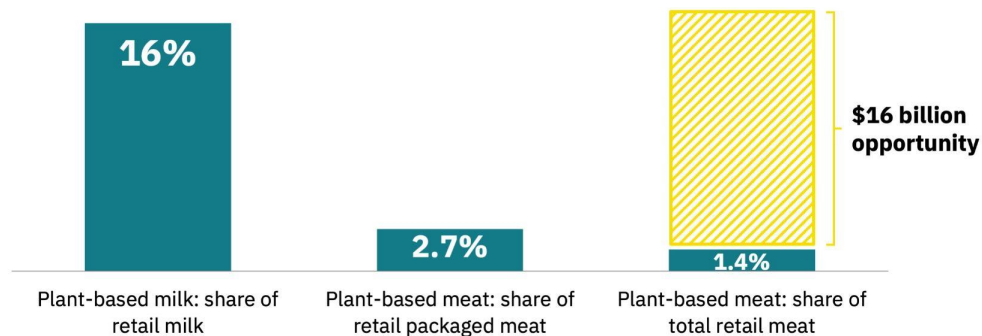
For more information and analysis on the plant-based meat category's flat sales growth in 2021, the [Introduction](#) has sections on pandemic impacts, ingredient shortages and supply chain disruptions, and comparing plant-based meat's sales performance to that of animal-based meat and total foods in 2021, as well as the need for continued innovation on taste and price.

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<sup>3</sup> SPINS does not report non-UPC animal-based meat counter sales. The plant-based meat share of the total meat category estimates a total meat market size by assuming that non-UPC animal-based meat sales are equivalent to animal-based packaged meat sales.

## Mapping potential growth for plant-based meat

The plant-based meat market today is, in ways, reminiscent of the plant-based milk market when it was in its early stages. Today, plant-based milk accounts for 16 percent of all dollar sales for retail milk. With continued product innovation and consumer adoption, the plant-based meat category could have the potential to earn a similar dollar share of the total meat market. That opportunity represents a 14-point growth in plant-based meat's dollar share of total meat and is worth \$16 billion.



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories. Note: SPINS does not report non-UPC animal-based meat counter sales. The plant-based meat share of the total meat category assumes that non-UPC animal-based meat counter sales are equivalent to animal-based packaged meat sales. Source: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021. © 2022 The Good Food Institute, Inc.

## Plant-based meat's position in the total meat category

In the past few years, the food industry has seen multiple supply chain disruptions and broad volatility. After an overstimulated 2020, 2021 unit sales of plant-based meat decreased modestly, although not to the same extent as those of animal-based meat. Both plant-based and animal-based meat dollar sales remained flat from 2020 to 2021.

On a longer timescale, the animal-based protein market is experiencing inflation. In the past three years, conventional meat dollar sales increased three times faster than its unit sales did, indicating that apparent growth is driven solely by higher unit prices. Similarly, **IRI's inflation index** shows that in March 2022, U.S. retail conventional meat price per unit was up 13% compared to March 2021, while plant-based meat price per unit was down 2% compared to the same period. With the rapid scale-up of the plant-based industry, plant-based products may sooner be able to compete with animal products on price, further stimulating consumer demand.



For more insights on the alternative protein price landscape, consumer insights on price, and pathways to price parity, download GFI's **Reducing the price of alternative proteins**.

## Segment insights

### Refrigerated vs. frozen vs. shelf stable

**59% Frozen      40% Refrigerated      1% Shelf stable**

- Frozen plant-based meat continues to compose the majority of the category by dollar sales, representing 59% of total plant-based meat sales, followed by refrigerated plant-based meat at 40% and shelf stable plant-based meat at 1%.
- Unlike in prior years, this ratio remained steady from 2020 to 2021.
- However, in the past three years, refrigerated plant-based meat sales have seen the majority of the growth in the category, reflecting shifts in both product innovation and merchandising strategies across the plant-based industry. Refrigerated plant-based meat is increasingly shelved in the meat case (rather than a specialty vegan case), allowing more meat-eaters to encounter products when shopping for center-of-plate protein.

### Plant-based meat formats

**#1: Burgers      #2: Sausage links & patties      #3: Nuggets, tenders & cutlets**

- Plant-based burgers continue to lead the plant-based meat category as the top-selling product type.
- At the same time, the industry is responding to consumer desire for more variety within the meat category. The fastest-growing plant-based meat product types in 2021 were plant-based meatballs; chicken nuggets, tenders, and cutlets; and deli slices.

### Animal type

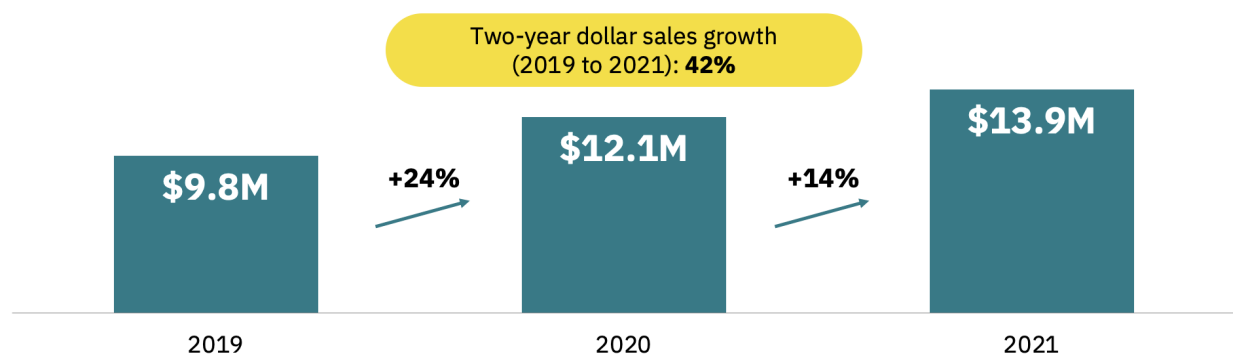
**32% Beef      22% Chicken      21% Pork      25% Other**

- Beef remains the plant-based category leader, followed by chicken and pork.
- These three subcategories are also the fastest-growing animal types in the plant-based category, all with dollar sales growing in the high double- or triple digits over the past three years.
- Plant-based chicken saw a high amount of innovation activity in 2021 as more products that seek to match the taste, texture, and appearance of animal-based chicken hit retail shelves.

## Spotlight: The plant-based seafood opportunity

Plant-based seafood dollar sales (which are included in this report in the overall plant-based meat category) increased by 14 percent in 2021, outpacing total plant-based meat sales, yet remaining a small fraction of the total plant-based meat and seafood category.

### Plant-based seafood dollar sales, U.S. retail, 2019-2021



Source: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 156 Weeks Ending 12-26-2021

Note: The data is based on custom-GFI plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories

#### Key insights:

- **From 2019 to 2021, plant-based seafood grew 42 percent**—albeit on a small base, as several brands and products came to market or expanded distribution.
- **2021 saw dollar sales growth in both plant-based shellfish and plant-based fish.** Plant-based shellfish, which includes plant-based analogs for shrimp, scallops, and crab, grew 30 percent, and plant-based fish grew 9 percent. By dollar sales, plant-based fish composes approximately 75% of the plant-based seafood market, while plant-based shellfish makes up the other quarter.
- **The number of plant-based seafood products on retail shelves is increasing.** A year ago, only 32 plant-based seafood products were sold in U.S. retail.<sup>4</sup> 2021 saw eight plant-based seafood products with their first sales in U.S. retail, growing the product base by 25 percent. In contrast, more developed categories like plant-based beef have hundreds of SKUs in the marketplace—more options, at varied price points, merchandised across departments including the fresh meat case.

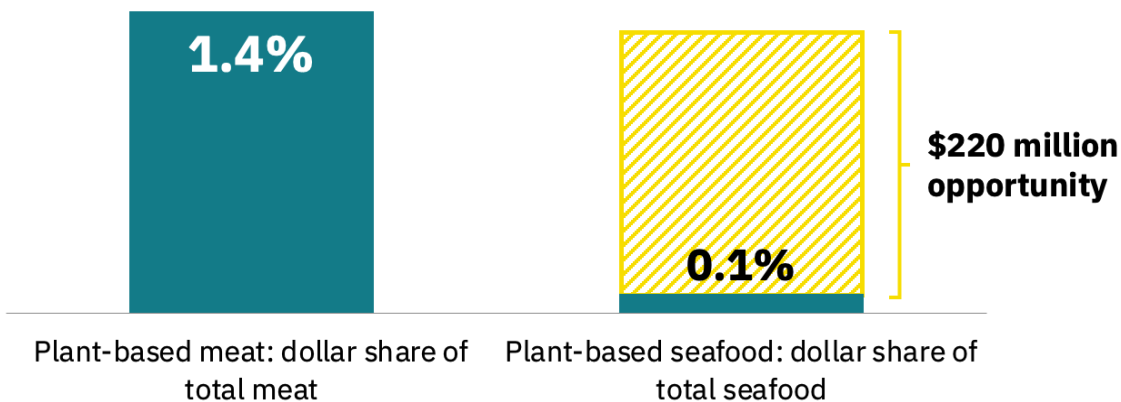
<sup>4</sup> For the purposes of this report, this analysis includes products with more than \$1000 in annual sales.

## The dollar opportunity

Plant-based seafood is well poised to capitalize on the momentum of the broader plant-based industry. While plant-based seafood composes 1% of the total plant-based meat and seafood market, conventional seafood composes one fifth of total conventional meat and seafood sales, demonstrating the significant white space that plant-based seafood represents. In U.S. retail in 2021, plant-based meat made up 1.4 percent of the dollar share of total meat market, while plant-based seafood composed an estimated 0.1 percent of the retail dollar share amount of all seafood products—IRI data suggests that **2021 U.S. retail sales of all seafood products were \$16.9 billion.**

Retail plant-based seafood sales could grow by an estimated \$220 million if the category were able to capture the same dollar share of the seafood market that plant-based meat currently has of the meat market. And because **65 percent of seafood sales in the U.S. occur in foodservice**, this opportunity is an underestimate of the total market opportunity, which is likely much greater.

## Estimated plant-based meat and seafood dollar shares of total categories



Source: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021

Note: The plant-based seafood, plant-based meat, and conventional meat data is based on custom-GFI plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories.

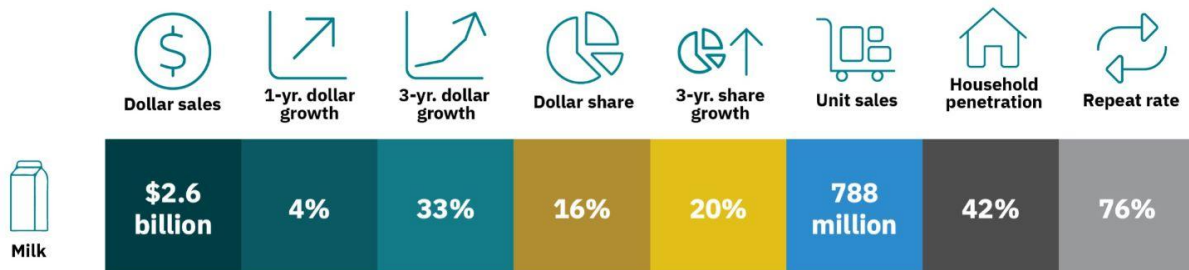
The conventional seafood category is estimated based on **IRI data** for the year ending November 28, 2021.



For more insights on the alternative seafood commercial landscape, download GFI's **State of the Industry Report: Alternative seafood.**

## Plant-based milk

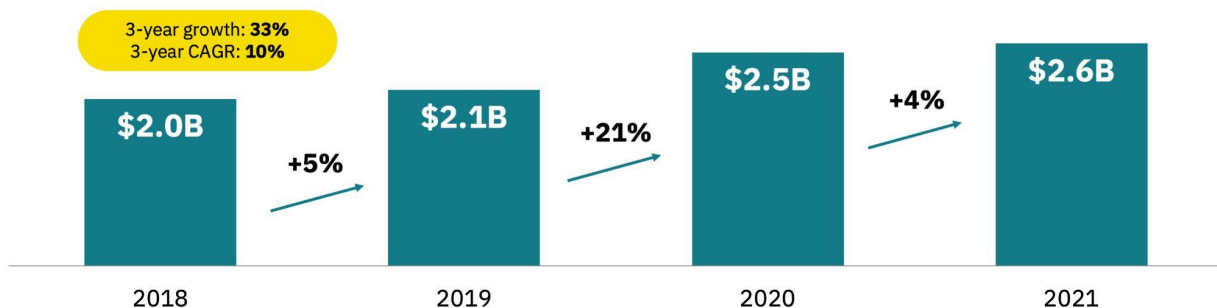
Plant-based milk—already a sizable category accounting for 16 percent of all dollar sales of retail milk—experienced sustained growth in 2021.



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories. Sources: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021. Panel data from NCP, All Outlets, 52 weeks ending 12-26-21. © 2022 The Good Food Institute, Inc.

Plant-based milk now serves as the innovation leader in the milk category, supported by key advancements in ingredient diversification and product development that seeks to replicate both the sensory experience and nutritional value of cow's milk.

### Plant-based milk dollar sales, U.S. retail, 2018-2021



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories. Source: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021. © 2022 The Good Food Institute, Inc.



### Key insights:

- Household penetration of plant-based milk is on the rise.** Plant-based milk is a major entry point for households trying products across plant-based categories. Plant-based milk leads in household penetration at 42%, laying the groundwork for consumer adoption of other plant-based categories.
- Plant-based milk also leads the way in category repeat rates.** Plant-based milk has a category repeat rate of 76%, indicating that the category is largely meeting consumer needs.



- **Plant-based milk is the growth engine of the milk category.** Plant-based milk dollar sales grew 4% in 2021, and 33% in the past three years, to reach \$2.6 billion—while animal-based milk sales declined 2% in 2021.
- **Plant-based milk's dollar share continues to grow.** Plant-based milk, which now accounts for 16% of all retail milk dollar sales, contributed \$105 million in growth, while animal-based milk's decline equated to a loss of \$264 million.
- **In the natural channel, plant-based milk is a sizable portion of the total milk category.** Innovation often starts in the natural channel, where plant-based milk represents 40% of all milk sold, up from 34% in 2018.

## Segment insights

### Ingredient base

**#1: Almond   #2: Oat   #3: Soy   #4: Coconut   #5: Blend**

- As the largest category in the plant-based market, plant-based milk continues to benefit from product innovation and expanded merchandising space and assortment.
- Almond milk is the category leader, accounting for 59% of the total category.
- Oat milk growth is the second-largest segment, growing more than 44 times in the past three years. Oat milk now makes up 17% of category sales, up from only 0.5% in 2018.

### Refrigerated vs. shelf stable

**89%: Refrigerated**

**11%: Shelf stable**

- Refrigerated plant-based milk continues to dominate the category.
- Today, refrigerated milk is consistently shelved adjacent to its animal-based counterpart. This has been critical to the rise of plant-based milk over the past decade to the 16% market share of total milk dollar sales it has today.
- Refrigerated plant-based milk composes 89% of total plant-based milk sales, while shelf-stable plant-based milk makes up 11% of the category.
- Growth in dollar sales of refrigerated plant-based milk continues to outpace that of shelf-stable plant-based milk.

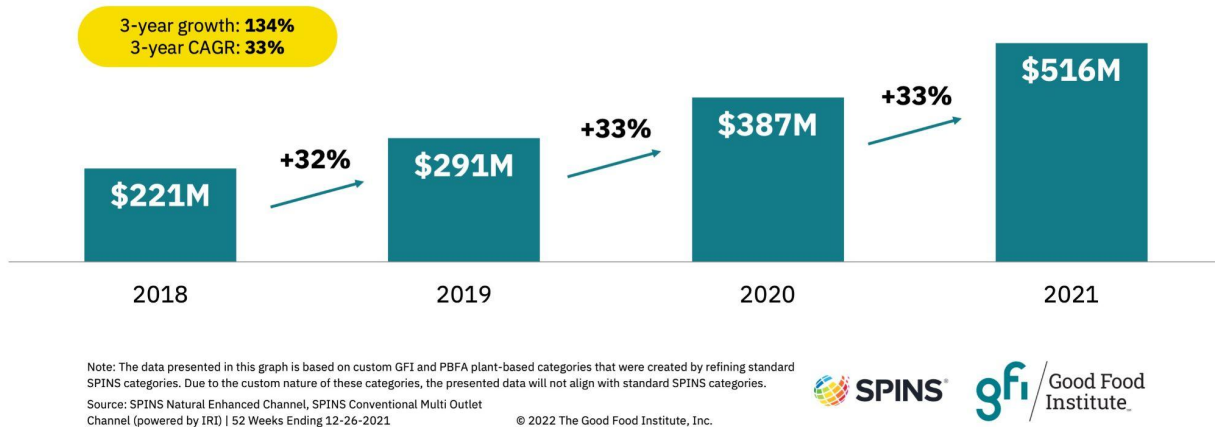


For more insights on how to leverage merchandising to best capitalize on the growing plant-based market, view GFI's [merchandising guide](#).

## Plant-based creamer

The plant-based creamer category has experienced three consecutive years of strong growth as it gains share rapidly in the creamer market.

### Plant-based creamer dollar sales, U.S. retail, 2018-2021



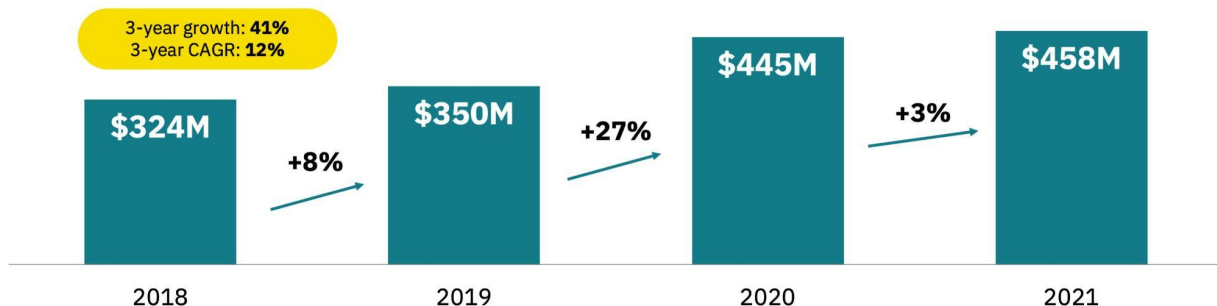
#### Key insights:

- **Unit sales of plant-based creamer have also increased rapidly, nearly doubling since 2018.** Plant-based creamer unit sales have increased over the past three years to 121 million units in 2021, up from 67 million in 2018.
- **Plant-based creamer's market share of total creamer has increased to 9% of dollar sales in 2021.** Just three years ago, plant-based creamer had a more modest dollar share of 5% of the total creamer market.
- **Plant-based creamer dollar sales growth is outpacing that of animal-based creamer.** In the last three years, plant-based creamer dollar sales have grown more than five times faster than animal-based creamer dollar sales.

## Plant-based ice cream and frozen novelties

The plant-based ice cream and frozen novelty category has experienced continued growth as it steadily gains share of the total ice cream market.

**Plant-based ice cream and frozen novelty dollar sales, U.S. retail, 2018-2021**



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories.  
Source: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021  
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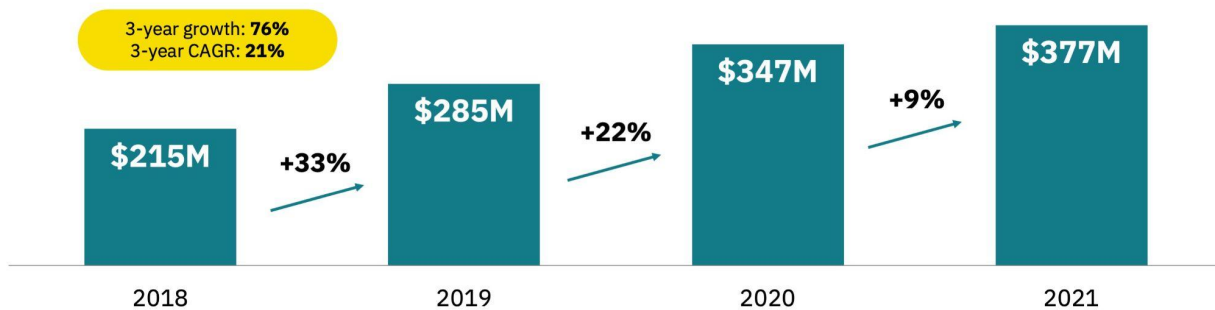
### Key insights:

- **Unit sales of plant-based ice cream and frozen novelty have increased more modestly than dollar sales have.** Most plant-based ice cream tends to be sold in smaller units—like pints—compared to conventional ice cream (although these unit sizes are comparable to premium-positioned conventional ice cream).
- **Plant-based ice cream taps into indulgence while offering consumers a product with better-for-you associations from the plant-based trend.** The average American eats **23 pounds of ice cream and frozen dessert each year**—and plant-based ice cream and frozen novelty’s share of the total ice cream category is increasing steadily as more and more dollar sales in the category move toward plant-based ice cream, perhaps influenced by better-for-you trends that don’t require consumers to sacrifice on indulgence.
- **Companies are testing out new bases.** Similar to the plant-based milk category, plant-based ice cream and frozen novelty has seen diversification of ingredient bases—like **oat**—in recent years.
- **Plant-based ice cream and frozen novelty is earning a higher dollar share of the total ice cream market.** With conventional ice cream and frozen novelty dollar sales declining 2% in 2021, plant-based ice cream and frozen novelty’s dollar share of the total ice cream market was 3% in 2021, up from 2% in 2018.

## Plant-based yogurt

Plant-based yogurt is a steadily-growing category, and there remains a significant dollar opportunity to gain market share of the overall yogurt category.

### Plant-based yogurt dollar sales, U.S. retail, 2018-2021



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories.  
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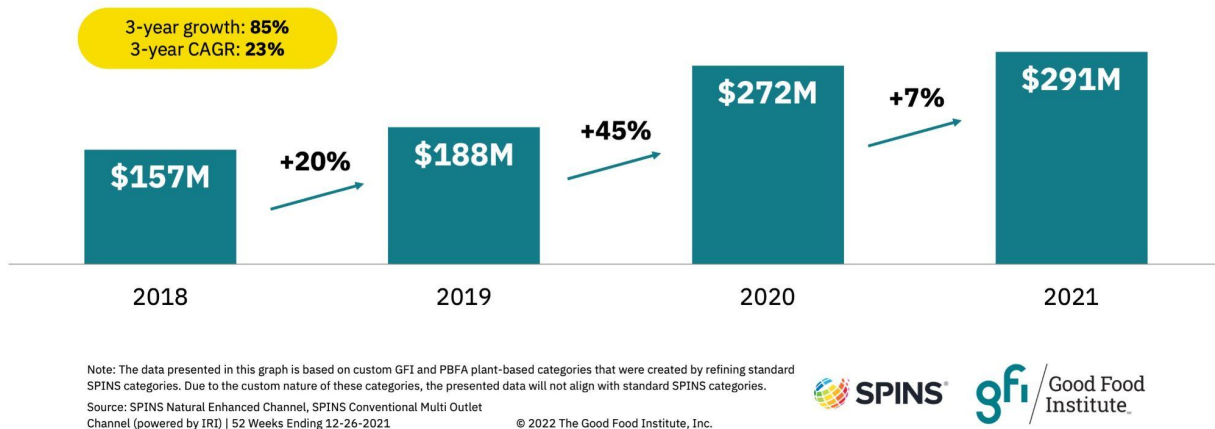
#### Key insights:

- **Household penetration of plant-based yogurt remains steady but modest.** The percentage of households purchasing plant-based yogurt was 11% in 2021, the same as in 2020, indicating that there remain more opportunities for consumer trial and adoption.
- **Repeat rates have increased.** The percentage of buyers purchasing in the plant-based yogurt category multiple times in a year increased from 50% to 52% over the last year.
- **Unit sales of plant-based yogurt have also increased.** Plant-based yogurt unit sales have grown rapidly over the last three years, growing 54% to 170 million units in 2021.
- **Plant-based yogurt's market share of total yogurt has increased substantially, but remains small.** Plant-based yogurt composes 4.5% of dollar sales for the total yogurt market, up from 2.7% three years ago.
- **Plant-based yogurt growth is outpacing that of animal-based yogurt.** Plant-based yogurt dollar sales grew three times faster than those of animal-based yogurt in 2021, and 16 times faster in the last three years. Notably, animal-based yogurt unit sales are down, indicating that apparent growth of the conventional yogurt category is due to increased prices.

## Plant-based cheese

Consumers are hungry for high-fidelity plant-based cheese products. The category is growing rapidly both in dollar sales and unit sales.

### Plant-based cheese dollar sales, U.S. retail, 2018-2021



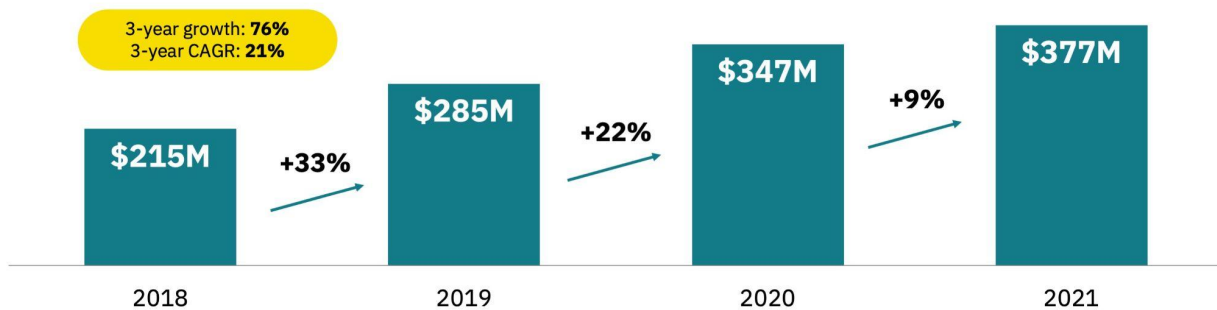
#### Key insights:

- **Household penetration of plant-based cheese is on the rise as more consumers try plant-based cheese.** The percentage of households purchasing plant-based cheese increased by 20% over the last year.
- **However, repeat rates are down by nine percentage points, indicating more opportunities for product development to meet consumer needs.** The percentage of buyers purchasing in the plant-based cheese category multiple times in a year decreased by 13% over the last year.
- **Unit sales of plant-based cheese have also increased.** Plant-based cheese unit sales have grown rapidly over the last three years to 59 million units in 2021.
- **Plant-based cheese's market share of total cheese dollar sales has increased rapidly, but remains small.** Plant-based cheese composes 1.5% of dollar sales for the total cheese market, up from 1% three years ago.

## Plant-based butter

Plant-based butter continues to grow as the category sees continued innovation towards high-fidelity products with the sensory characteristics of conventional butter.

### Plant-based yogurt dollar sales, U.S. retail, 2018-2021



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories.  
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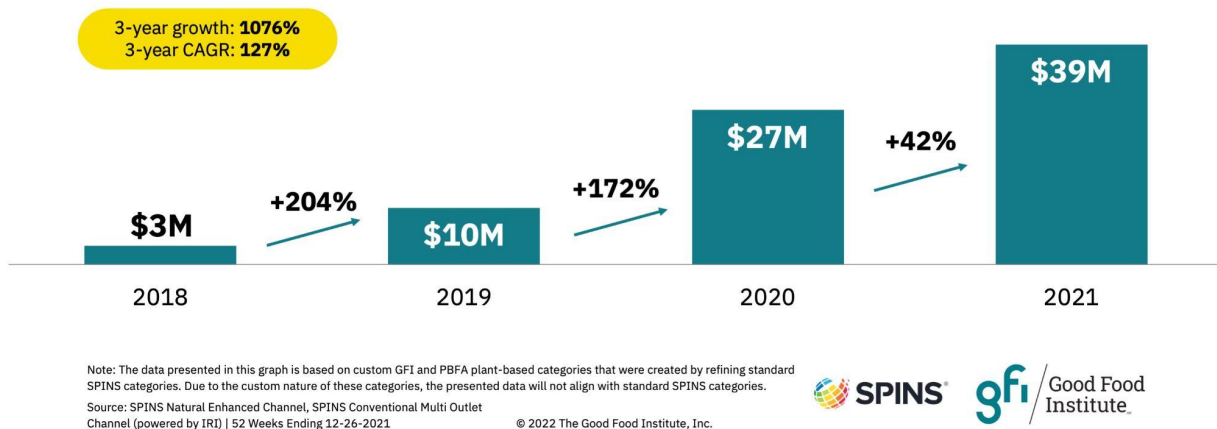
#### Key insights:

- **Unit sales of plant-based butter have grown even faster than dollar sales.** Plant-based butter unit sales more than doubled from 2018 to 2021, and are one of the fastest-growing plant-based dairy categories.
- **Plant-based butter's market share of total butter has increased substantially, but remains modest.** Plant-based butter composes 6% of dollar sales for the total butter market, up from 3% three years ago.
- **Plant-based butter dollar growth is outpacing that of animal-based butter.** While plant-based butter dollar sales grew significantly in 2021, animal-based butter dollar sales declined by 12 percent. In the last three years, plant-based butter grew 12 times faster than conventional butter.

## Plant-based eggs

The plant-based egg category is modest in size, yet growing at an exceptionally rapid rate—the fastest of any plant-based category.

### Plant-based egg dollar sales, U.S. retail, 2018-2021



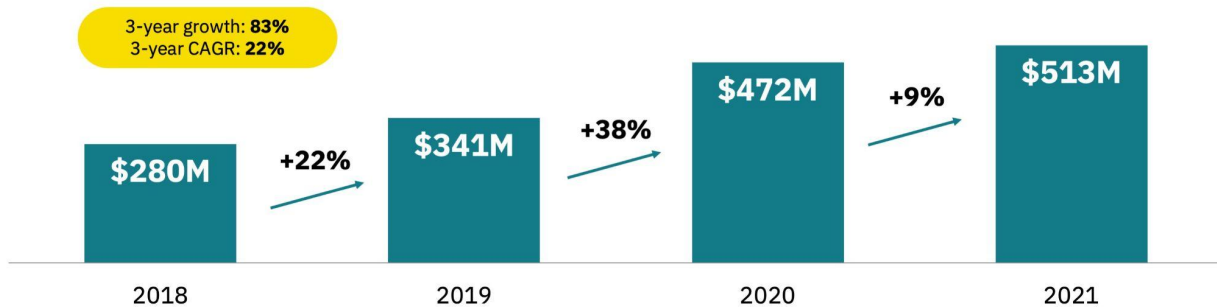
#### Key insights:

- **Household penetration of plant-based eggs is on the rise as more consumers are introduced to the category via popular categories like plant-based milk and meat.** The percentage of households purchasing plant-based eggs increased by 50% over the last year, but is still small at 1.4% of households.
- **Additionally, repeat rates have increased, indicating products are appealing to consumer needs.** The percentage of buyers purchasing in the plant-based eggs category multiple times in a year increased by seven points over the last year to reach 54%.
- **Unit sales of plant-based eggs have also increased.** Plant-based egg unit sales have grown rapidly over the last three years, multiplying 14 times from 600,000 in 2020 to more than 8 million units in 2021.
- **Plant-based eggs' market share of total eggs has increased substantially, but remains small.** Plant-based eggs compose 0.6% of dollar sales for the total egg market, up from 0.05% three years ago.
- **Plant-based egg growth is outpacing that of animal-based eggs.** In the last three years, while the plant-based egg market has emerged quickly, the conventional egg market saw 2% dollar sales growth but a notable 10% decrease in unit sales.

## Plant-based meals

The plant-based meal category has grown consistently in the past three years. Incorporating plant-based meat, egg, and dairy ingredients into ready-to-eat meals is an important prong of providing customers with convenient meal solutions that meet their needs.

### Plant-based meals dollar sales, U.S. retail, 2018-2021



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories.  
Source: SPINS Natural Enhanced Channel, SPINS Conventional Multi Outlet Channel (powered by IRI) | 52 Weeks Ending 12-26-2021

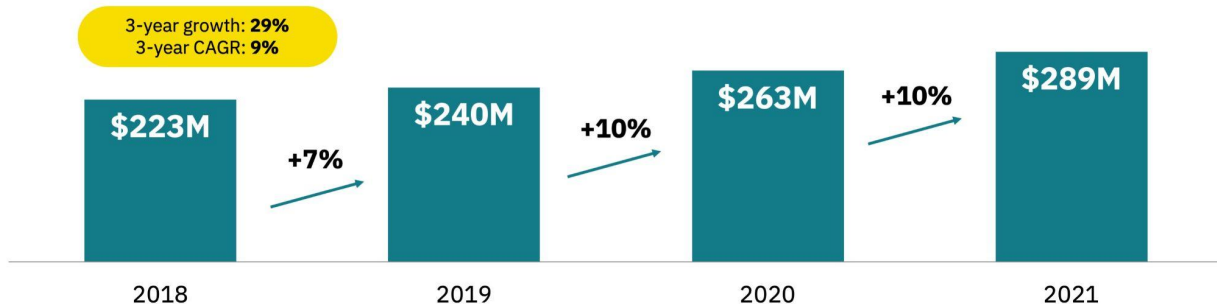
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## Plant-based protein liquids and powders

With the rise of the better-for-you trend, plant-based protein liquids and powders are experiencing steady growth as consumers seek diverse ways of adding high-protein, animal-free functional nutrition to their diets.

### Plant-based protein liquids and powders dollar sales, U.S. retail, 2018-2021



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories.  
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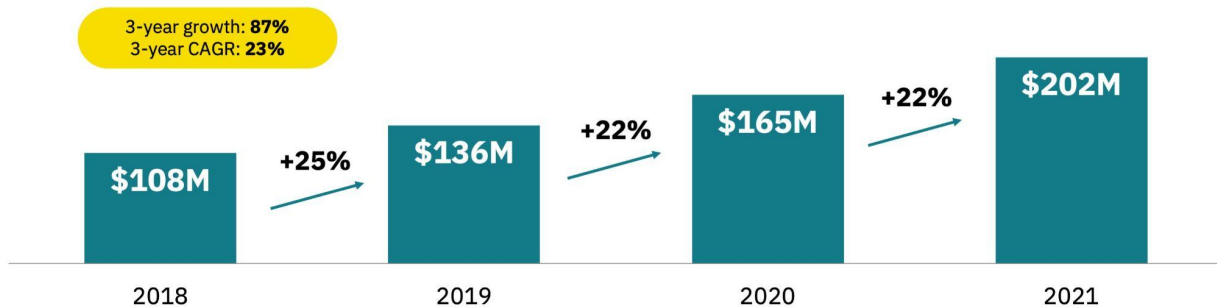




## Plant-based ready-to-drink beverages

As several **ready-to-drink beverage product types grow**, consumers are seeking out plant-based as a key attribute in the category. Plant-based replacements for ingredients like milk or creamer used in oat milk lattes, nitro coffee brews, and teas are examples of the plant-based trend intersecting with consumer interest in ready-to-drink beverages.

### Plant-based ready-to-drink dollar sales, U.S. retail, 2018-2021



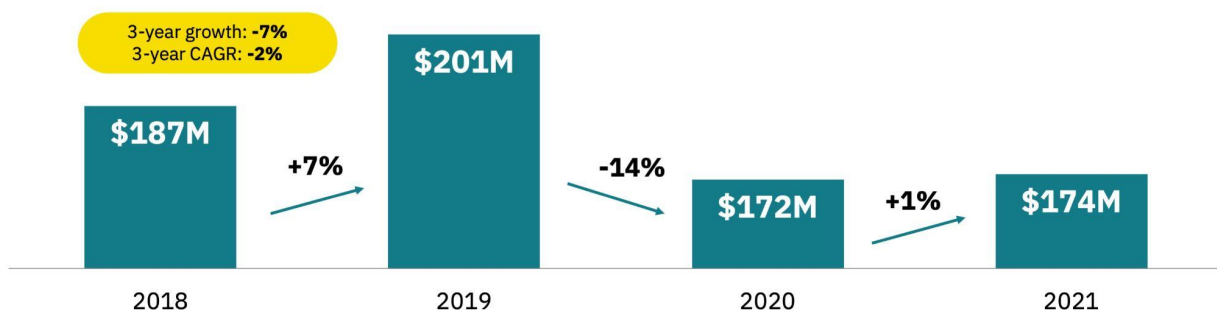
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## Plant-based protein bars

Plant-based protein bars experienced several ups and downs in the last three years, declining 2% over the period to \$174 million in sales in 2021. Unit sales have also decreased each of the last two years.

### Plant-based protein bar dollar sales, U.S. retail, 2018-2021



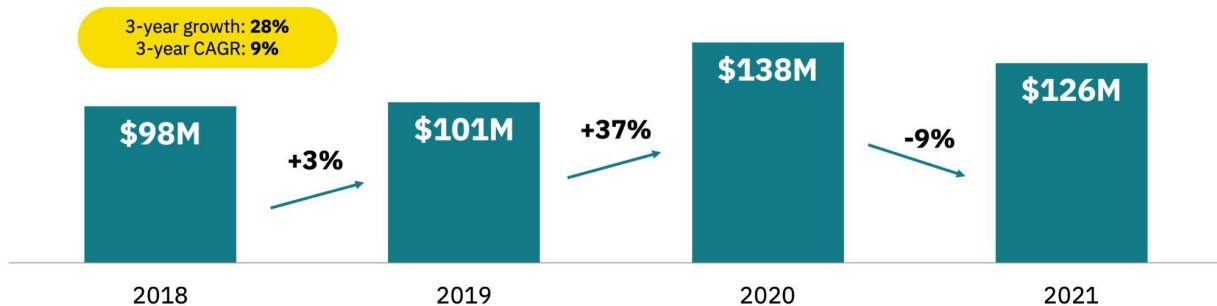
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## Tofu and tempeh

Tofu and tempeh dollar sales declined in 2021 after rapid growth in 2020. Three-year dollar sales remain positive. Compared to plant-based meat, tofu and tempeh offer a non-analog option for consumers looking to craft a meal around a center-of-plate protein.

### Tofu and tempeh dollar sales, U.S. retail, 2018-2021



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories.  
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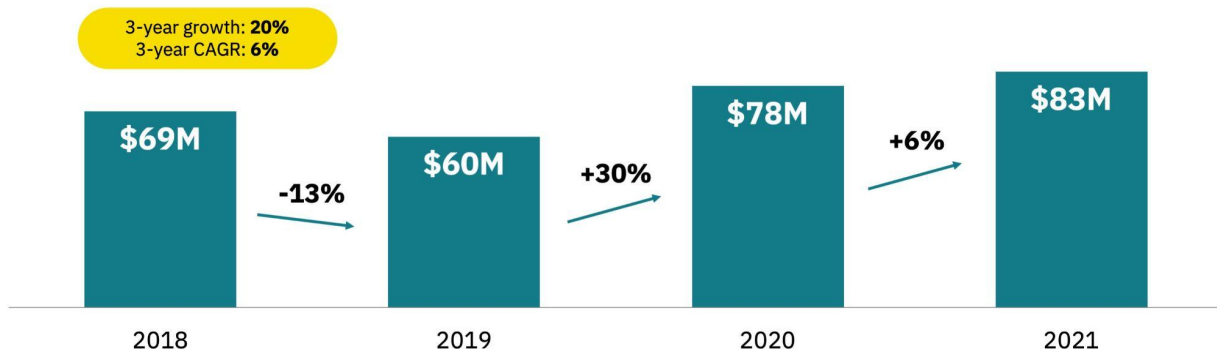


Note: GFI and PBFA's methodology includes only subcategories coded with SPINS' plant-based positioned attribute. This methodology may not have captured all tofu and tempeh sales. Estimates including additional products indicate that tofu and tempeh sales dollar sales may have declined more modestly, at 6%.

## Plant-based condiments, dressings, and mayo

Dollar sales of plant-based condiments, dressings, and mayo have increased after a brief decline in 2019. Unit sales over the past three years increased by 7%.

### Plant-based condiment, dressing, and mayo dollar sales, U.S. retail, 2018-2021



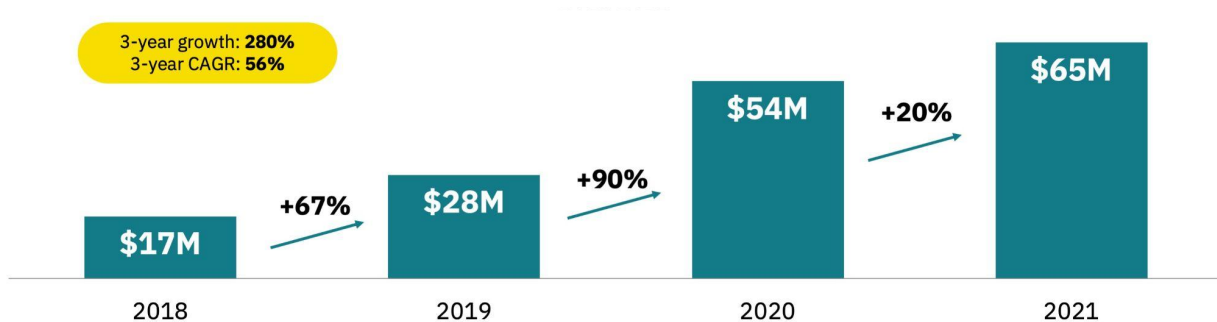
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## Plant-based dairy spreads, dips, sour cream, and sauces

Plant-based dairy spreads, dips, sour cream, and sauces has been one of the fastest-growing plant-based categories by dollar sales over the past three years, second only to plant-based eggs. Unit sales are also growing quickly—at nearly 250% over the same period.

### Plant-based dairy spreads, dips, sour cream, and sauces dollar sales, U.S. retail, 2018-2021



Note: The data presented in this graph is based on custom GFI and PBFA plant-based categories that were created by refining standard SPINS categories. Due to the custom nature of these categories, the presented data will not align with standard SPINS categories.  
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## The last word



“Product innovation is critical for plant-based categories to continue to earn a larger share of the market. Getting more consumers to eat plant-based foods more often requires improved taste and texture to compete with animal products, more product diversity, and greater affordability and accessibility. As businesses recognize the staying power of plant-based foods, the food industry must seize these opportunities to maximize the vast potential of plant-based alternatives to compete with animal products.”

—Karen Formanski, research and analysis manager at GFI

## About the data

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### Point-of-sale data

To size the U.S. retail market for plant-based foods, GFI and PBFA commissioned retail sales data from the market research firm SPINS. The firm built the dataset by first pulling in all products with the SPINS “plant-based positioned” product attribute. The dataset was further edited by adding plant-based private label categories and subcategories, and refining the plant-based eggs category. Inherently plant-based foods, such as chickpeas and kale, are not included. **Due to the nature of these categories, the retail data presented in this report may not align with standard SPINS categories.** SPINS obtained the data over the 52-week, 104-week, 156-week, and 208-week periods ending December 26, 2021, from the SPINS Natural Enhanced and Conventional Multi Outlet (powered by IRI) grocery channels. SPINS defines these channels as follows:

- **Conventional Multi Outlet (MULO):** More than 104,000 retail locations spanning grocery, drug, mass, dollar, military, and club.
- **Natural Enhanced:** More than 1,800 full-format stores with \$2 million+ in annual sales and 40 percent or more of UPC coded sales from natural/organic/specialty products.

This is generally considered the broadest available view of retail food sales, although not all retailers are represented. Some companies, such as Whole Foods Market, Trader Joe’s, and Costco, do not report their scan data to SPINS or IRI.

### Consumer panel data

To understand consumer purchasing dynamics and demographics, GFI and PBFA also commissioned consumer panel data from SPINS based on the same custom plant-based categories. SPINS acquires its panel data through the National Consumer Panel, a Nielsen and IRI joint venture composed of roughly 100,000 households. SPINS obtained the data over the 52-week period ending December 26, 2021, and the 52-week period ending December 27, 2020, from all U.S. outlets.



### About SPINS

SPINS LLC is a wellness-focused data company and advocate for the Natural Products Industry. Over the past two decades, SPINS’ investments have led to a common language used across the industry as well as laid the foundation for the next generation of innovation, while providing dynamic data, actionable insights, and digital activation solutions that drive growth for our clients and partners and contribute to a healthier and more vibrant America.

# Acknowledgments

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## Contributors

*GFI would like to thank the following contributors.*

Caroline Bushnell, Karen Formanski, Kyle Gaan, and Maille O'Donnell

## Partners

*GFI would like to thank the Plant Based Foods Association for their partnership on this project as well as SPINS for providing data and guidance.*

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*The Good Food Institute is not a licensed investment or financial advisor, and nothing in this report is intended or should be construed as investment advice.*

## About GFI

The Good Food Institute is a nonprofit think tank working to make the global food system better for the planet, people, and animals. Alongside scientists, businesses, and policymakers, GFI's teams focus on making plant-based and cultivated meat delicious, affordable, and accessible. Powered by philanthropy, GFI is an international network of organizations advancing alternative proteins as an essential solution needed to meet the world's climate, global health, food security, and biodiversity goals. To learn more, please visit [www.gfi.org](http://www.gfi.org).



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