

Plant-based Nutrition

A Key to Sustainable
Future?

The **INSIGHT**
Partners



Introduction

The plant-based industry consists of various new alternatives devoid of animal meat or protein such as plant-based food, dairy alternatives, plant-based eggs and others.

Over the last decade, the plant-based industry has witnessed a lot of interest from key food industry players as well as the consumers in terms of product launches, consumption growth and others.

This document throws light on the global plant-based meat and dairy alternatives segments and its dynamics.

What's Driving Plant-Based Market?

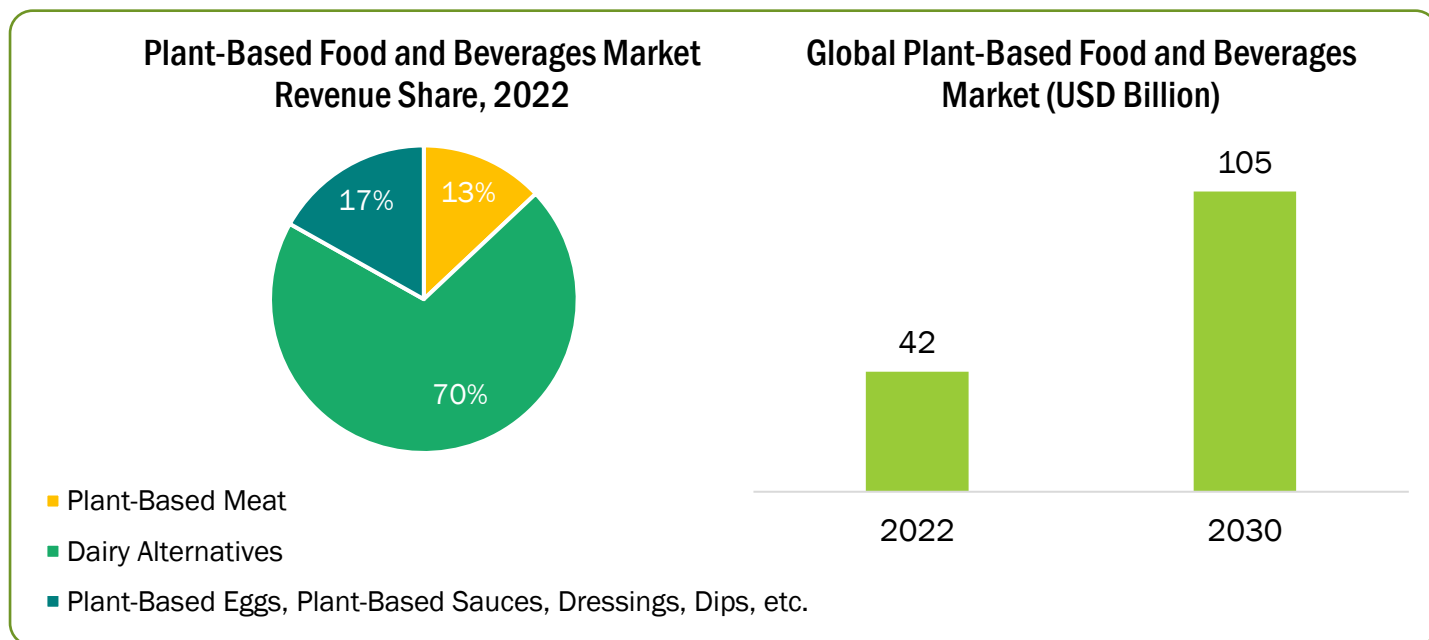


The surging popularity of veganism coupled with increased environmental awareness has propelled the growth of plant-based food and beverages market. The pandemic has also played a major role in changing consumer perceptions towards their dietary choices, with many people actively seeking our plant-based food and beverages. As per The Insight Partners, the plant-based food market was valued at around US\$ 42 billion in 2022 and is projected to grow at a CAGR of 12% from 2022 to 2030.

The US, the UK, and Germany are the top three markets for plant-based food. Increased health awareness and product availability have aided the market growth in these countries.

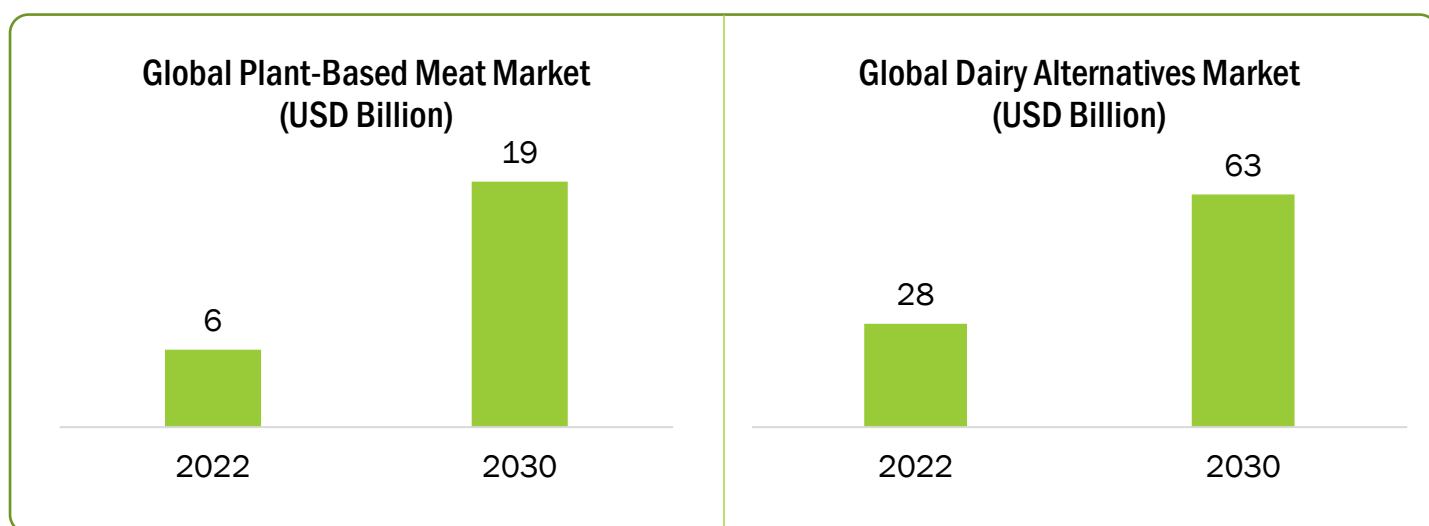
Plant-Based Food and Beverages Market Overview

The dairy alternatives segment of the plant-based food market accounts for over half of the global market value. High prevalence of lactose intolerance among the people, especially in the western countries, is the major driving factor for dairy alternatives.



Source: The Insight Partners , secondary sources

As per The Insight Partners, plant-based meat is expected to be the fastest growing segment during the forecast period. Increased investments and innovative strategies adopted by manufacturers to create awareness have in turn garnered interest from across the globe.



Source: The Insight Partners , secondary sources

Demand for Plant-based Food is Driven by Climate Change Concerns and Environmental Sustainability

Over the past few years, people’s awareness of environmental sustainability has increased significantly. Climate change has affected the earth’s natural ecosystems and poses a significant threat to the present and future generations’ well-being. Population growth has increased the demand for food across the globe. People are heavily reliant on animal sources to meet their nutritional requirements. These factors exert high pressure on the livestock industry. The livestock industry is one of the key contributors to anthropogenic greenhouse gas emissions. According to the Food and Agriculture Organization (FAO) of the United Nations (UN), the worldwide livestock industry emits 7.1 gigatons of carbon dioxide per year, accounting for 14.5% of all human-caused greenhouse gas emissions. According to industry experts, livestock production emits more carbon dioxide and methane than the entire transportation industry combined.

Due to the rising awareness regarding the negative impacts of the meat and livestock industry on the environment, the consumer interest in plant-based meat and dairy products has increased over the last decade. As per the Good Food Institute, plant-based meat has 30–90% less greenhouse gas emissions (kg-CO₂-eq/kg-meat) than conventional meat.

Further, animal agriculture consumes enormous amounts of water. The Water Footprint Network states that 1 kilogram of vegetables require only 322 liters of water, whereas 1 kilogram of beef requires 15,415 liters. All these factors have significantly raised sustainability concerns among consumers, owing to which they are shifting toward plant-based alternatives.

The consumption of plant-based meat products helps minimize carbon footprints, save water and other natural resources. Thus, the rising importance of environmental sustainability is significantly driving the development of the plant-based meat products market.

Raising livestock for meat, eggs and milk generates 14.5% of global greenhouse gas emissions

Livestock farming is the 2nd highest source of emissions & greater than all transportation combined

Animal farming is responsible for 14.5% of all greenhouse gas emissions and red meat and dairy production accounts for 65%

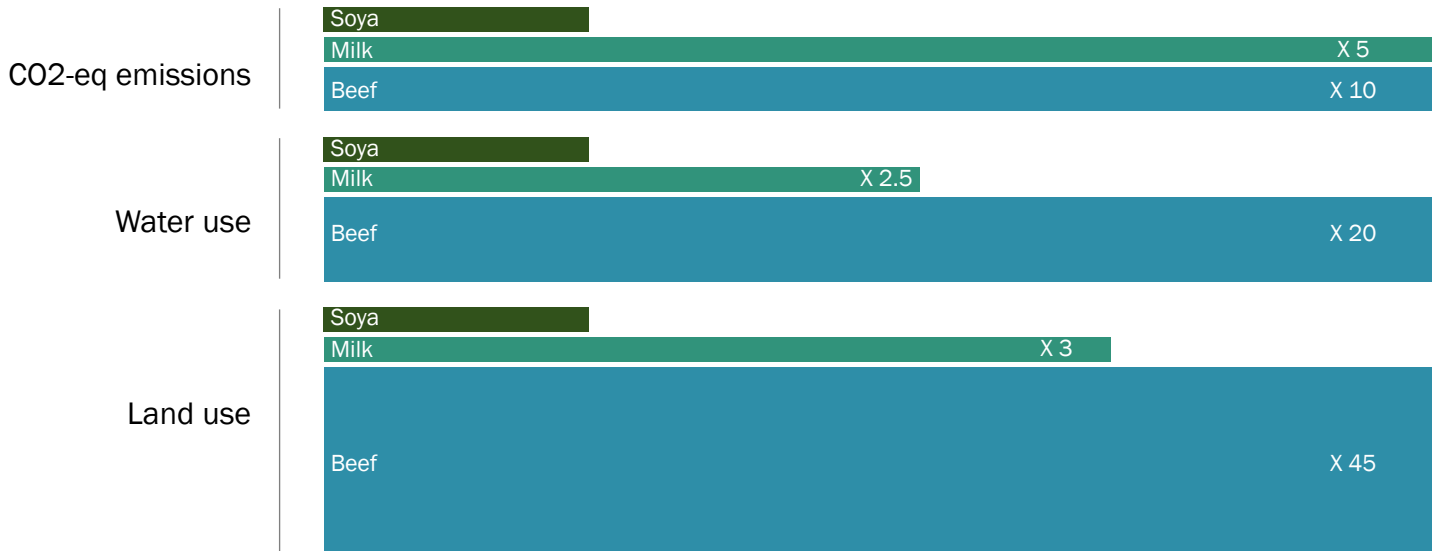
Animal used for food in the US produce 10x more excrement than the entire US population

Livestock and their byproducts account for at least 32,000 million tonnes of carbon dioxide per year or 51% of all worldwide greenhouse gas emissions

Red meat has a huge carbon footprint.

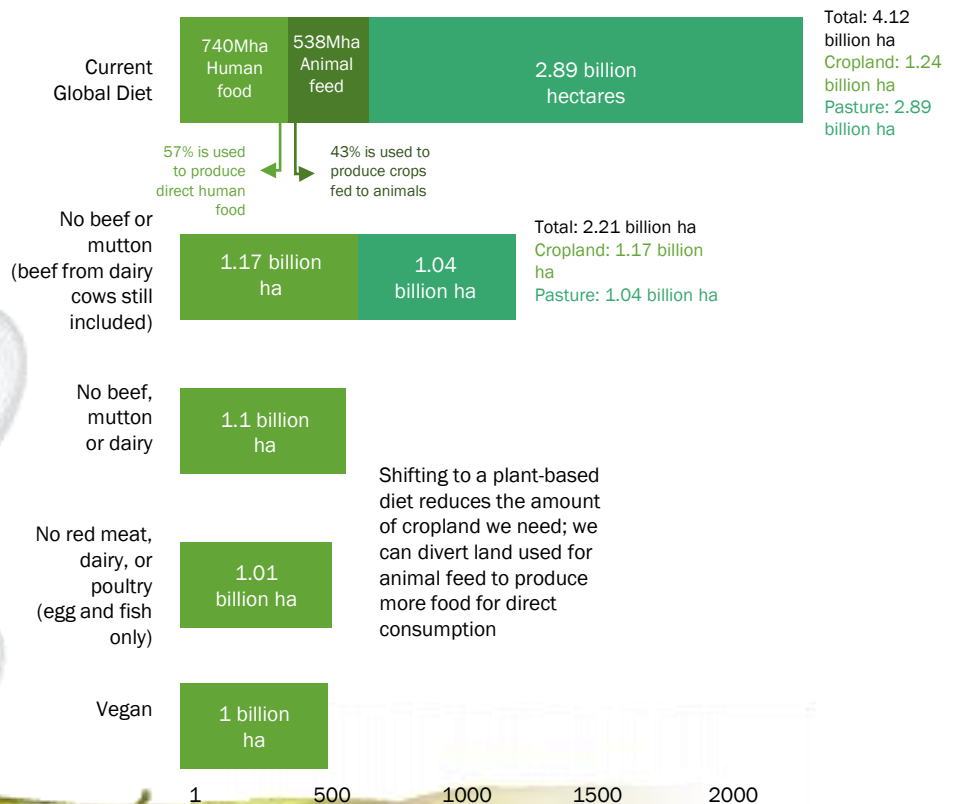
Source: Source: The Insight Partners , secondary sources

Environmental Sustainability and Climate Change



Cropland

Pasture



Increasing Adaption of Veganism to Propel the Market Growth

Veganism is gaining significant momentum in North America, Europe, and Asia Pacific. According to World Animal Foundation, currently, more than 5% of the American population considered themselves vegan.

According to Google Trends, veganism was one of the top 5 searched terms on Google in 2022 in the UK and across the world.

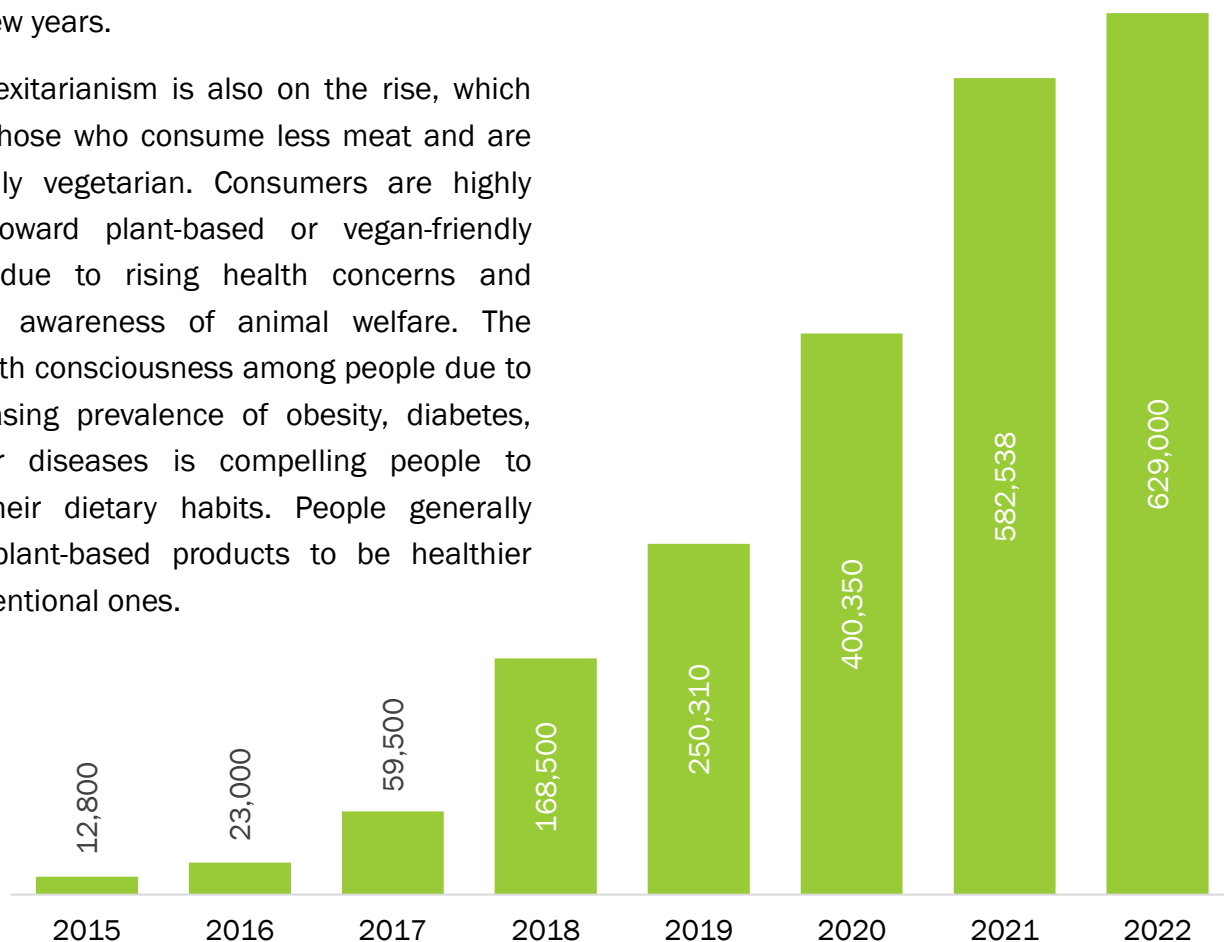
A report published by Veganuary (a non-profit organization that encourages individuals worldwide to adopt a vegan lifestyle for the whole month of January) states that approximately 629,000 in 2022 people signed up for the 'Veganuary Campaign' in 2022. The figure below shows the number of worldwide participants in the 'Veganuary Campaign' from 2015 to 2022.

Registrations for Veganuary Campaign from 2015 to 2022

As seen in the figure, registrations for the Veganuary Campaign increased dramatically over the past few years.

Further, flexitarianism is also on the rise, which refers to those who consume less meat and are occasionally vegetarian. Consumers are highly inclined toward plant-based or vegan-friendly products due to rising health concerns and increasing awareness of animal welfare. The rising health consciousness among people due to the increasing prevalence of obesity, diabetes, and other diseases is compelling people to change their dietary habits. People generally perceive plant-based products to be healthier than conventional ones.

Veganuary Participants



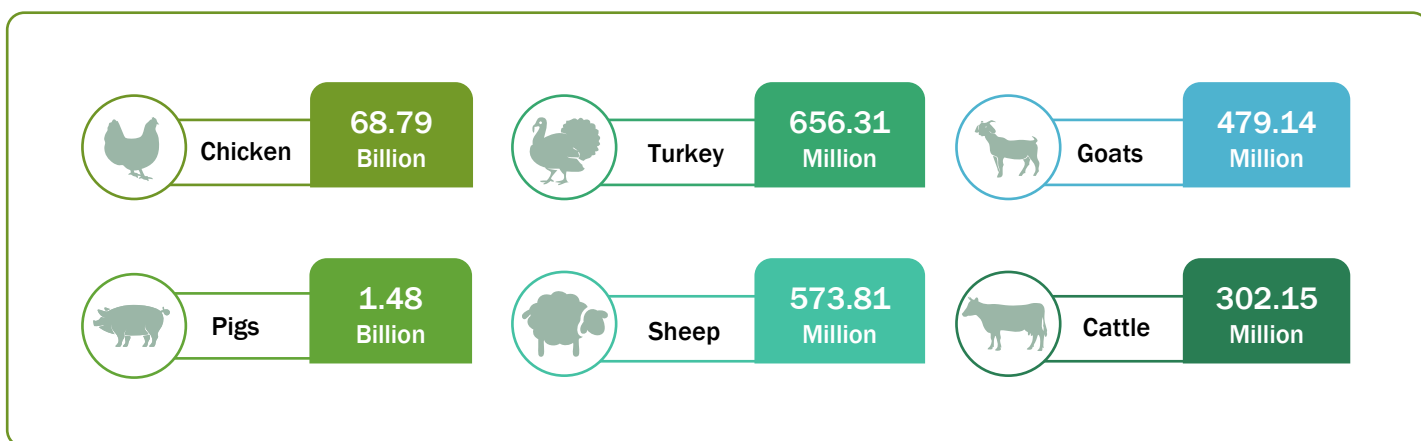
Source: Veganuary Campaign

Concerns Pertaining to Animal Welfare

The rise of the veganism trend is also attributed to increasing empathy toward animals. The rising awareness regarding the ill-treatment of animals in slaughterhouses and factories has raised concerns about animal protection among consumers.

Across the globe, over 72 billion animals are slaughtered for food every year. Chicken accounts for the majority of this number, followed by pigs.

Animal Slaughtering Statistics, 2022

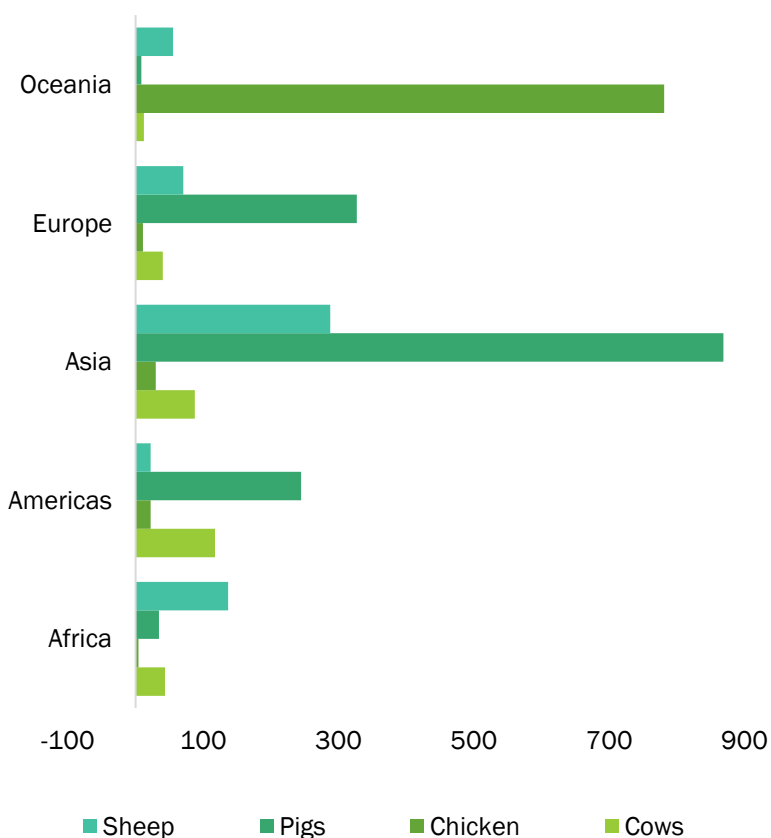


Source: Veganuary 2022 Campaign Review

Consumers are now aware of the negative impact of consuming meat or animal-based diet on the environment

The principles of animal welfare involve reducing the number of animals used, replacing animals with inanimate or non-sentient alternatives, and refining procedures to minimize pain and distress experienced by those animals.

Organizations such as Blue Cross, People for Animals, People for the Ethical Treatment of Animals and others have been working toward promoting animal welfare and plant-based diets.



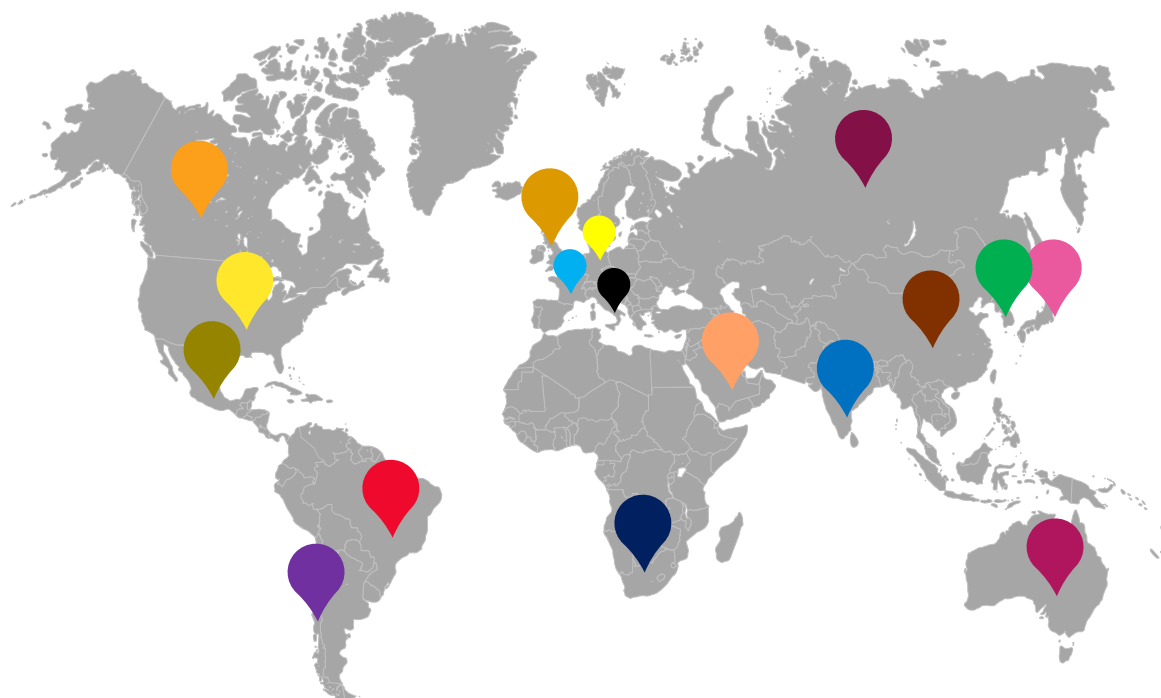
According to the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), an average of 68% of the world's population are lactose intolerant. The prevalence of lactose intolerance or lactose malabsorption is high across Asia Pacific and Africa due to a lack of genetic mutation for digesting lactose. According to the National Institute of Health (NIH), lactose intolerance is quite common in the adult population in East Asia, affecting 75–95% of the people in these communities. Thus, countries such as China, Japan, South Korea, and Taiwan are potential markets for dairy alternatives.

Further, according to Food Allergy Research and Education, 6.1 million Americans of all ages showed compelling milk allergy symptoms as of 2022. People with lactose intolerance are recommended to have a lactose-free diet to avoid allergies and digestive problems such as diarrhea, abdominal bloating, and nausea. Moreover, people allergic to milk are also recommended to consume plant-based dairy products. Therefore, such people are searching for alternatives that are easy to digest and fulfill their daily nutritional needs.

Dairy alternatives or dairy-free products are made from almond milk, soymilk, and coconut milk, which are free from lactose. Moreover, plant-based dairy products have similar texture, creaminess, and consistency to conventional dairy products. Furthermore, plant-based dairy products are fortified with nutrients, such as protein and calcium, that meet the daily nutrient requirements of consumers. Thus, the increasing prevalence of lactose intolerance and milk allergies among consumers drives the dairy alternatives market.

High Prevalence of Lactose Intolerance





 Australia	44%	 Japan	73%
 Brazil	60%	 Mexico	48%
 Canada	59%	 Russia	61%
 Chile	56%	 Saudi Arabia	28%
 China	85%	 South Africa	81%
 France	36%	 South Korea	100%
 Germany	16%	 United Kingdom	8%
 India	61%	 United States	36%
 Italy	72%		

Source: The Insight Partners , secondary sources

- Prevalence of lactose intolerance is the major factor propelling the growth of the dairy alternatives market
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COVID-19 Pandemic – Boon or Bane to Plant-Based Industry?

The plant-based food industry was experiencing a boom in early 2020, and the COVID-19 pandemic escalated this trend further.

People who were avoiding meat during the pandemic due to the trustworthiness of the meat sources, chose plant-based meat products. In several countries, as a preventive measure, borders were controlled, travel restrictions were imposed, and country-wide lockdowns were declared, which subsequently developed harsh effects on the overall supply chain. Meat production and processing were hampered due to the limited availability of animal feed, transportation, and workforce. Further, meat shortages in a few countries during the pandemic and the closure of meat plants boosted plant-based food sales because of its longer shelf life and ease of purchase.

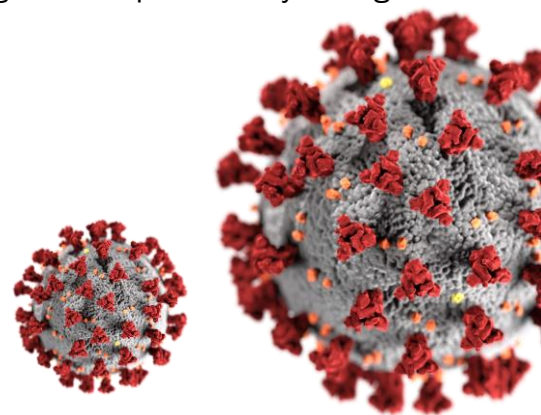
The pandemic impacted the global supply chain, including food items. Food safety concerns and restaurant closures have also altered consumers' food preferences. As per the European survey, more than 25% ate less animal-derived food products, and more than 20% increased their consumption of plant-based food products.

The prices of meat and meat products fluctuated due to supply–demand gap, lockdown restrictions, and panic buying. Hence, plant-based meat had an added advantage over animal-based meat in terms of longer shelf life and product availability.

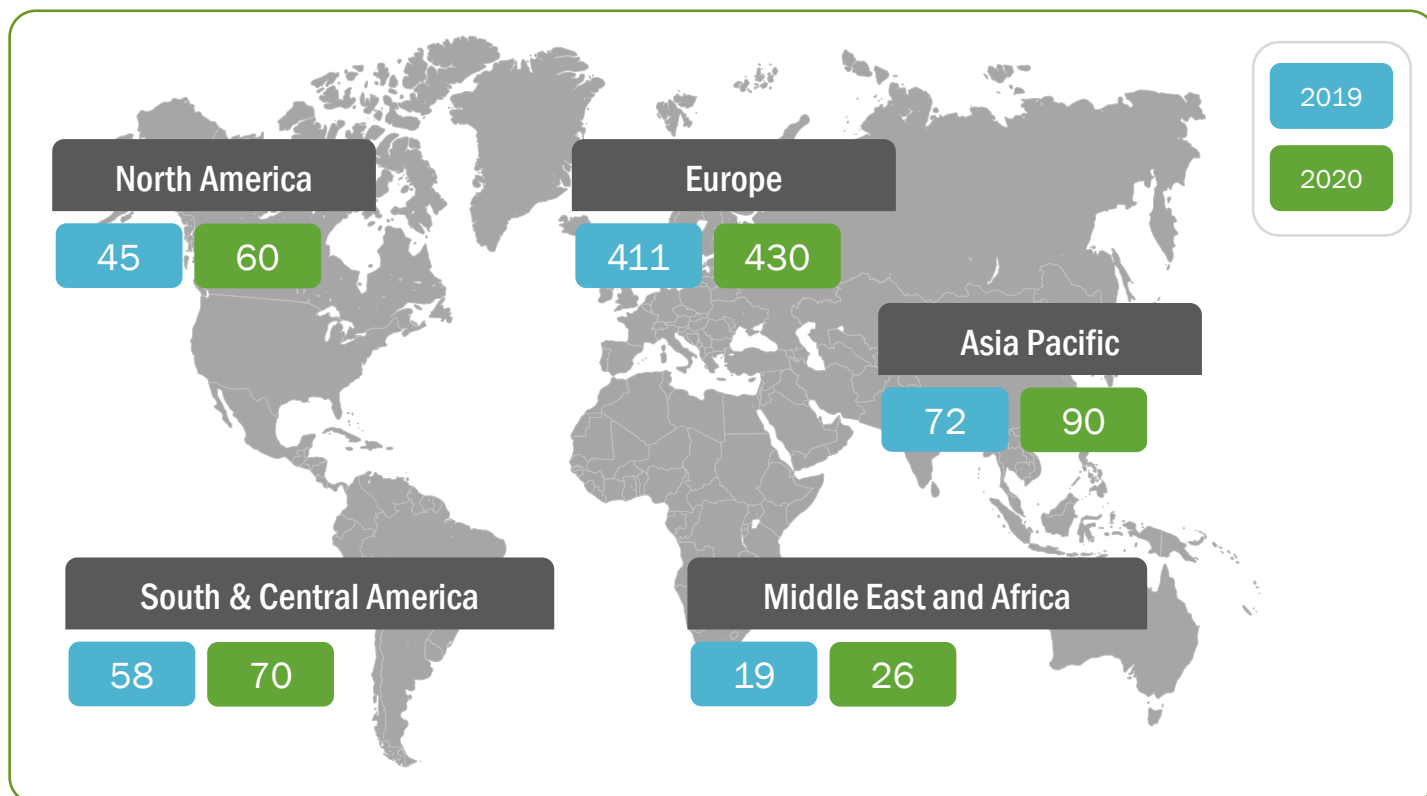
Earlier, there were too many restrictions on plant-based food; however, after the COVID-19 outbreak, regulations were relieved temporarily. Governments in a few countries relaxed some policies for plant-based food. For example, FDA relaxed its guidelines for selling plant-based meat products.

Due to the pandemic, plant-based food companies heavily invested in the retail sector. Companies such as Beyond Meat Inc, Tofurky Co., Impossible Foods, and The Meatless Farm Co. changed their product offerings and reach strategies. In 2020, Impossible Foods received funding for expansion in restaurants and retail sector. They have also entered into a partnership for wholesaling.

During the pandemic, Beyond Meat monthly revenue increased by nearly 50% due to rising consumer interest in plant-based food, meat supply issues due to COVID-19, and massive distribution channel. The company started a “Feed a Million+” initiative by providing plant-based meat burgers to help the needy during the outbreak.



New product launches primarily in European countries were predominant during the pandemic.



Source: The Insight Partners , secondary sources

As the pandemic originated in wet markets of meat and was aided by meat processing, the traditional supply chain of meat was rattled. COVID-19 was a major game changer for the plant-based meat industry due to product innovation, easier to produce and sell considering hygienic conditions, and social distancing norms.

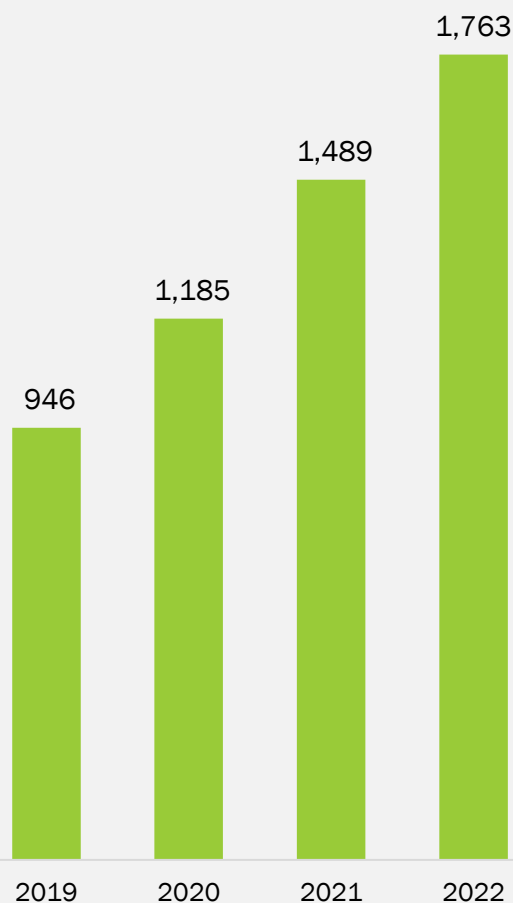
Manufacturers producing plant-based meat increased significantly in North America, Europe, and Asian countries. Indeed, the pandemic period was a boon to these companies as they could carve out space in the market. High capital investments and technological advancement are likely to boost the overall growth in the plant-based food industry post-pandemic.

Future of Plant-Based Meat and Dairy Alternatives

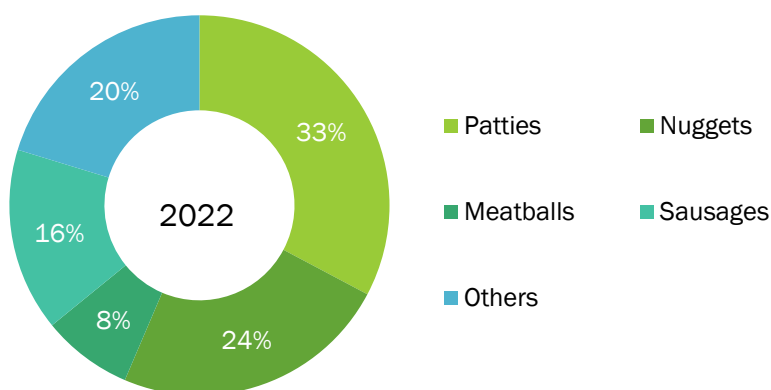
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The US is one of the major markets for plant-based meat, reaching a valuation of US\$ 1.7 billion in 2022.



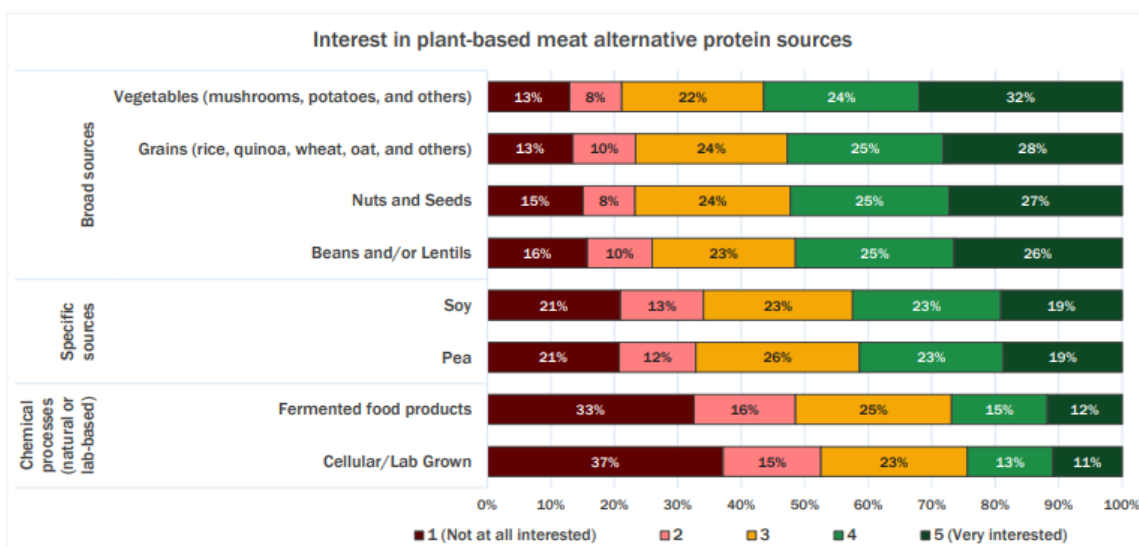
Global Plant Based Meat Products Market Revenue Share, by Type (2022 and 2030)



Source: The Insight Partners Analysis

Patties and nuggets are the most popular plant-based meat products. Many fast-food chains such as McDonald’s and Burger King have started to offer plant-based meat versions of their popular burgers.

Interest in Plant-Based Meat Alternative Protein Sources

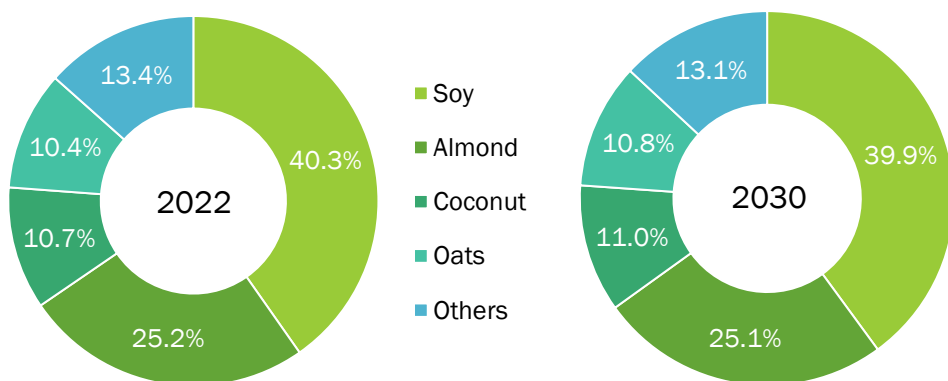


The International Food Council

According to surveys, vegetables were the most favored protein source for plant-based meat. Grains were also one of the popular ingredients. However, plant-based meat manufactured using fermented food products and cellular or lab grown meat were found to be the least favored among the people, with around a third of the survey participants stating that they are not at all interested. Safety concerns pertaining to the ingredient seem to be primary concern for the people as per the results of this survey, due to concerns about the efficacy and quality of cellular or lab grown products.

Global Dairy Alternatives Market Revenue Share, by Source (2022 and 2030)

Soy is the most popular source of dairy alternatives. Soy-based dairy alternatives are popular among women as an alternative therapy for raising estrogen levels, which is projected to fuel the market.



Soy is rich in nutrients and has a high protein content compared to other dairy alternatives, which is expected to drive the segment’s growth over the forecast period. However, this trend is not the same across all regions, with almonds being the most popular source of dairy alternatives in North America and South and Central America.

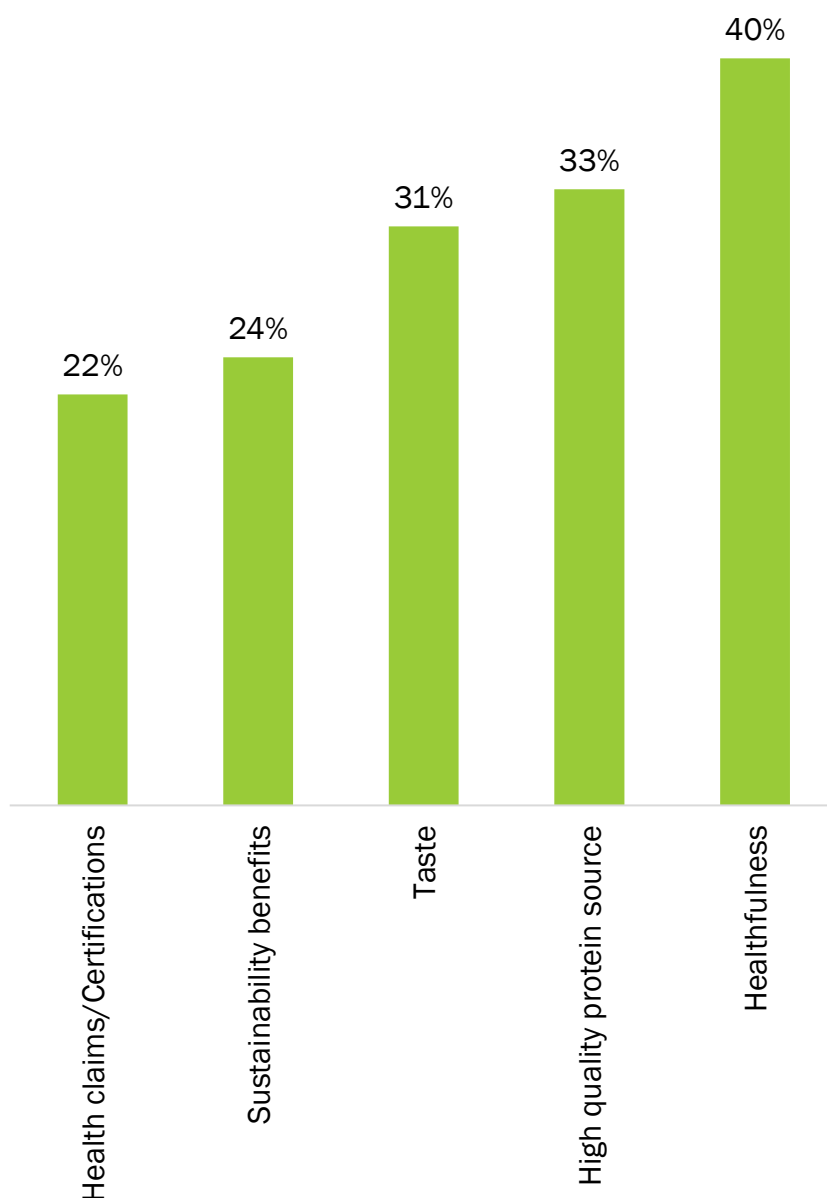
Is It Going to Be An Uphill Battle?

The plant-based meat and dairy alternatives segment has been emerging in the plant-based food category; however, food manufacturers must overcome a few challenges. The prime challenge the industry faces is the first initial purchase of plant-based food products and further getting it to make repeat purchases. If a new consumer dislikes the taste, consumers generally tend to sacrifice nutrition over taste despite its nutritional value. In the recent research study conducted in the US, more than 45% of consumers say they don't like plant-based food products because of their taste.










Reasons to Opt for Plant-Based Meat

Consumers willing to go for plant-based food products expect the product to be simple and have familiar ingredients with less additives and over flavoring.

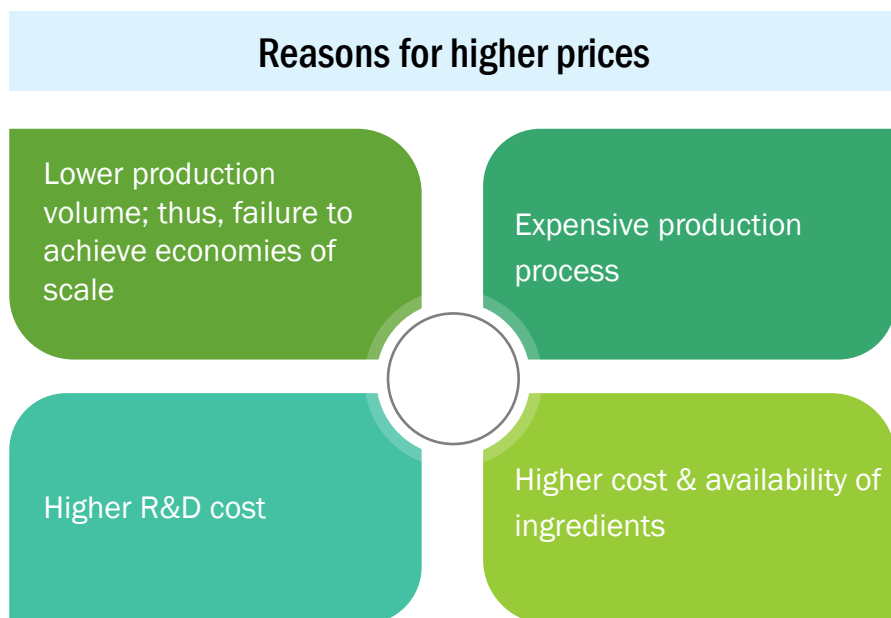
In a survey conducted by Kerry for consumer attitudes about food safety in plant-based meat products, nearly half of the respondents said they were concerned about food safety in plant-based meat. A consumer expects the same shelf life and expiry warnings as traditional meat. Further, more than 60% of the consumers read product ingredients and nutritional content before buying plant-based meat. Mostly, plant-based meat has longer ingredient lists; hence, consumers prefer shorter labels with more familiar ingredients.



Fighting the Price Imparity

Prices for Traditional Products (USD per 100 gms)	Product Type	Prices for Plant-Based Products (USD per 100 gms)
0.63-0.88	 Sausages	1.37-1.60
0.88-1.33	 Burger Patties	1.4-1.6
0.88-1.33	 Ground Crumbles	1.1-1.4
1.00-1.5	 Slices	1.7-2.0
0.49-0.82	 Nuggets & Popcorn	1.4-1.7
0.07-0.1	 Milk	0.14-0.31
0.16-0.29	 Ice Cream	1-1.5
0.28-0.52	 Yogurt	0.9-1.1
0.66-1.5	 Cheese	1.7-2.6

- As per a survey, 30% of the consumers would not want to buy plant-based products either because they are more expensive, or they do not taste good.
- Plant-based products' manufacturers are battling to achieve price parity with traditional meat and dairy products



Challenges – Consumer Behavior and Perception

TASTE & TEXTURE

In various surveys conducted in the US on plant-based food, more than 40% consumers preferred taste over health, price or environment as a buying factor. Consumers don't like the plant-based meat due to its off-note taste

FOOD LABELLING

Consumers prefer simple & shorter labels with more familiar ingredients. Ingredients that sound with “chemicals” or “additives” are not valued by consumers

HEALTH PERCEPTIONS

Some consumers compare it with the simplicity and naturalness of the meat along with other factors like high processing, higher salt and nutritional content

INITIAL & REPEAT PURCHASE

The first challenge is getting consumers to make the initial purchase and getting them to continue to buy same product

PRODUCT AVAILABILITY

Product reach especially in developing countries through various channels is limited

Growth Strategies and Initiatives

New Product Launches

- More than 500 plant-based products were launched in last three years by the market players
- During May 21 and July 2022, Beyond Meat launched 11 products.

Publication of Recipes

- To create awareness among consumers and to clear away negative perceptions towards taste and texture, manufacturers are publishing varieties of recipes on their websites
- Beyond meat, Impossible Foods, Morningstar Farms, Tofurky, among others to do so.

Efforts to Achieve Price Parity

- By increasing production and achieving economies of scale
- In early 2021, Impossible Foods, reduced their prices by 15% for food service distributors and by 20% for retail stores

Collaborations with Celebrity Chefs and Personalities

- In Jan 2020, Beyond Meat partnered with Martha Stewart and Subway Canada to launch new plant-based Beyond Meatball Subs.
- In March 2021, Field Roast partnered with chef Roy Choi to introduce Plant-Based Kogi Dog, the Signature Stadium Dog, to Los Angeles.

Strategies

Entry of Meat & Dairy Players in Plant-based Alternatives Market

- Tyson Foods started 2021 with the unveiling of plant-based breakfast patties under its Jimmy Dean brand
- In November 2021, the Marfrig-ADM venture, PlantPlus Foods, announced a pair of acquisitions in the sector. The JV snapped up Sol Cuisine in Canada and Chicago-based Hilary's for a joint consideration of US\$140m.
- In Jan 2021, PepsiCo, Inc. and Beyond Meat, Inc. announced they would form The PLANeT Partnership, LLC (TPP), a joint venture to develop, produce and market innovative snack and beverage products made from plant-based protein.

Tie-ups with Retail and Food Service Chains

- During Aug 20 to July 21, Beyond Meat Partnered with food service and retail brands such as Hopdoddy Burger Bar, Yum! Brands, Carls Jr., McDonald's Corporation, TGI Fridays, Lawson, Coles, Jindiingxuan, and Metro China
- Impossible Foods tied up with Walmart, Sprouts Farmers Market, Goldbelly, LIDL'S, Publix's, Trader Joe's, The Kroger Co., Halal Shack between March 2020 and July 2021

Analyst's View

The growth of the plant-based food industry over the last few years is set to outpace the growth of other food products in the industry. Manufacturers are adopting various strategies to achieve price parity between traditional animal-based products such as meat and dairy products. With the growth in demand as consumers show interest in these products, scaling production can majorly assist the manufacturers in bringing down the retail prices of these products. The pandemic and the climate crisis have significantly raised awareness among the public on the ecological footprint of people's choices. Abstaining from meat for one day a week for an entire year can save 8 pounds of emissions each Monday. Collectively, this adds up to the amount of emissions generated by driving 348 miles in petrol- or diesel-operated car.

Asia Pacific countries such as China and India hold a huge potential for this market as these two countries account for a major share of the global population, including many meat and dairy consumers. Increasing awareness and entry of new players in the market could significantly boost the growth of the plant-based food market in the region and could potentially be the largest market for plant-based food.

The biggest opportunity for plant-based food and beverages manufacturers is to solidify their place in consumers' shopping carts. However, the industry is at a developmental phase and much work must be done before it grabs around US\$ 100 billion opportunity by 2030.

About Us

The Insight Partners is a global research and consulting company that teams up with industry players to address their most pressing business difficulties and explore growth opportunities. We are a one-stop shop for providing qualitative and quantitative insight gleaned through industry research.

Through our market intelligence services our clients can better identify its market segment, market penetration, and overall opportunity with the aid of multi-level information in the analyses. Inclusion of competitor intelligence, focusing on details about a company's description, competitors, products and services, latest developments , and financial information can help strategy and marketing leaders choose the right decision based on the underlying information.

Our team for subject matter experts and consultants is dedicated to offering our clients the best possible research and analyses at an affordable cost. Our success depends on a culture of close cooperation and a large, diversified global community that is committed to improving the world and one another every day. Our success depends on a culture of close cooperation with the commitment to improving the decision making for business growth and prosperity.



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Related Studies

<u>Dairy Alternatives Market</u>
<u>Plant Based Meat Products Market</u>
<u>Plant-based Dips Market</u>
<u>Plant-Based Protein Market</u>
<u>Plant-based Yogurts Market</u>
<u>Plant-based Beverages Market</u>
<u>Plant Based Ice Cream Market</u>
<u>Plant Based Chicken Wings Market</u>
<u>Vegan Food Market</u>
<u>Dairy Alternative Ingredients Market</u>
<u>Rice Protein Market</u>
<u>Vegan Chocolates Market</u>
<u>Vegan Yogurt Market</u>
<u>Vegan Sauces Dressings and Spreads Market</u>
<u>Dairy-free Cheese Market</u>
<u>Dairy Free Creamer Market</u>
<u>Dairy-free RTD Protein Shakes Market</u>
<u>Dairy-Free Snacks Market</u>
<u>Dairy-free Whipped Cream Market</u>