



Plant-based proteins and the convenience factor:

A MARRIAGE OF TWO TRENDS

Plant-based products have taken the food and beverage industry by storm – disrupting categories across the spectrum, from desserts to condiments. Plant-based meat alternatives are emerging as the new star of the alternative category, and as these products reach parity in taste, texture and price, they are also gaining steam in one of America's favorite food categories – convenience.

Make no mistake, Americans still want convenience foods, despite the effects of the global pandemic, which saw people spending more time cooking and eating at home. Coupled with increasing consumer demand for products that are healthful, nutritious and sustainably produced, the marriage of meat alternatives and convenience seems like a match made in heaven. But brands need to stay on top of the trends to be successful in this quickly evolving category.

Despite the COVID-related challenges, 2020 proved to be a remarkable period for alternative foods as a whole – and specifically plant-based meat alternatives. According to data from the Plant Based Foods Association (PBFA) and the Good Food Institute, the plant-based foods segment reached \$7 billion in 2020, a 27% increase over the previous year, with consistent growth nationwide. Plant-based meat alternatives did even better. The category jumped to \$1.4 billion in 2020, an increase of 45.3% and one of the highest growth rates for any alternative category.¹ Researchers attribute the growth to an ever-growing number of consumers who are adding plant-based products to their diets because they both taste good and support health.

Data from Innova Market Insights underscores this finding with global consumers reporting that their top reasons for selecting plant-based options were health, variety, sustainability and taste, but health was the clear leader, cited by 53%.²

New alt formats

Certainly a desire for plant-based protein is driving these increases. And consumers are now accepting alternative protein sources in new convenient formats, from plant-based nuggets and hot dog alternatives to plant-based frozen meals. More than half of U.S. consumers now say they have tried a plant-based meat alternative (any kind, including veggie burgers), according to proprietary data from Cargill, with 36% noting trial of plant-based burgers, meatballs and ground formats; 27% citing trial of plant-based nuggets and breaded patties.⁸

This acceptance is also leading to growing sales of plant-based frozen meals, now a \$520 million category that's up 29% since 2019 and outpacing total frozen food growth by 8%.⁴

Plant-based frozen meals

(total dollar sales in millions)



Source: 52-week calendar years ending December 30, 2018, December 29, 2019 and December 27, 2020. Raw data commissioned from SPINS and coded by PBFA and GFI.

Manufacturer strides in replicating meat's taste and texture has done much to boost these new alternative categories. A study from BCG and Blue Horizon Corporation, "Food for Thought: The Protein Transformation," suggests that alternative proteins will make up 11% of the overall protein market by 2035 as these ingredients increasingly match animal protein in taste, texture and price, with parity from sources like soy, peas and other plant proteins expected as soon as 2023.⁵

Modern convenience

Consumer attitudes about convenience foods are also shifting in this post-COVID era. Prior to 2020, convenience foods centered on ease and portability, but convenience products now need to take this to the next level by offering consumers a sense of empowerment, according to a new report from The Hartman Group, called "COVID-19 and New Modern Convenience." Consumers now want convenience products that offer a sense of control, supporting their development of skills like food preparation and helping to address daily pressures they face.

As such, products that offer a sense of resilience and provide consumers with the opportunity to take control will be increasingly desirable, according to the report. In other words, products that are easy to use, sustainably produced and healthy will address consumer needs for solutions while also aligning with their personal values and ethics.



This has further opened the door for alternative convenience products. Meal kits are a great example of this trend. They provide consumers with much-needed dinnertime solutions that provide fresh, plant-based ingredients, but they can also be customized with what's on hand or to meet specific dietary plans, such as paleo, vegan and keto diets.

Meat alternatives are also ramping up in frozen foods and snacks, ranging from plant-based tenders with dipping sauce to pasta with plant-based meatballs and breakfast items.

Alternative formulation strategies

While consumers find the idea of plant-based meat alternatives appealing, they also want these products to meet their expectations for taste and texture, an integral element for repeat purchase. So pushing the envelope with product formulation techniques that meet these expectations and address challenges will continue to be critical.

Some plant proteins, for example, can introduce off-flavors. So it's important to find a plant-based protein with a clean, neutral taste. One option is yellow pea varieties, which are noted for their ability to minimize these off-flavors.

Replacing animal proteins in many of these products also requires specific expertise to replicate the original bite, succulence and texture. It generally takes a combination of ingredients to re-create all of these functions. For example, textured pea proteins have proven a solid choice for producing plant-based meat alternatives, but they also often require a hydrocolloid such as carrageenan to form a gel and retain water. Native starches might also be needed as a binder to create the correct balance between juiciness and bite.

How these products will be used by the consumer is another important consideration. For example, formulators will need to consider whether the plant-based meat alternative will be frozen or refrigerated, if it will require freeze-thaw stability, as well as how it will be prepared in the home.

Because of their versatility and neutral flavor, pea proteins are an important option for convenience foods with plant-based protein. Peas provide solid protein content to help meet a product's protein goals. While they are not a complete protein like chicken or beef, this can be compensated for by using a blend of pea proteins with other plant-based sources, such as rice.

Peas also offer a strong sustainability story. They are a useful rotational cover crop, because they help replenish needed nitrogen in the soil and save farmers the effort of adding it. They can also serve as an additional cash crop in the off season. Peas have a solid label-friendly perception, and some varieties are even available as Non-GMO Project Verified and USDA Certified Organic.

Soy-based ingredients are another option, with a long history in development of plant-based proteins and prepared meals. These versatile ingredients provide a good source of protein while adding flavor and juiciness to the products. Textured soy flour, in particular, can help meat processors address changing ingredient costs by serving as an efficient meat extender and replacement for textured soy concentrate.

Although there are still many challenges to address within plant-based protein categories, consumer interest continues to grow. This is leading to new investment capital for the segment that will contribute funding for needed R&D and capacity increases, all of which will help these products reach mass-market scale while remaining affordable and accessible.⁶ This is good news for product manufacturers, who will need to tap into new formulation techniques and strategies to stay one step ahead of the curve as the growing variety of new alternatives continues to disrupt the segment.

Grow your business with Cargill's expertise in plant-based proteins.
Learn more at cargill.com/plantprotein.

¹ Plant Based Foods Association (PBFA)/Good Food Institute (GFI). Raw data commissioned from SPINS, powered by IRI and coded by PBFA/GFI for 52-week calendar year ending December 27, 2020.
<https://www.plantbasedfoods.org/retail-sales-data/>

² Innova Market Insights. "Powering Up on Plant Protein." March 24, 2021.
<https://www.innovamarketinsights.com/powering-up-on-plant-protein/>

³ Cargill Proprietary Data. "Plant-based Dairy and Meat – Consumer Research." February 2021.

⁴ Ibid. Plant Based Foods Association.

⁵ BCG.com. "Alternative Protein Market to Reach at Least \$290 Billion by 2035." March 23, 2021.
<https://www.bcg.com/en-us/press/23march2021-alternative-protein-market-reach-290-billion-by-2035>

⁶ Keerie, M. "Record \$3.1 Billion Invested in Alt Proteins in 2020 Signals Growing Market Momentum for Sustainable Proteins." The Good Food Institute. 2020 State of the Industry highlights. March 18, 2021.
<https://gfi.org/blog/2020-state-of-the-industry-highlights/>

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