Griffith FOODS™

From Movement to Mainstay:

How Plant-Based Proteins Are Changing the Game for Good

Griffith FOODS™

TABLE OF CONTENTS

Plant-Based Proteins: Fad or Fixture?

The past decade will be remembered as a very transitional time for the consumer diet and lifestyle around the world.

The 2010s saw a desire to eat more plant-based meals, the introduction of new protein alternatives, and the development of can-you-believe-it-type meatless burgers, which famously ended up on menus of the biggest fast-food chains.

The biggest change, however, is not what these innovations have done for vegans and vegetarians, but how they've impacted diets and mindsets of all consumers, creating a totally new subcategory of "flexitarians" who are looking for more options too. These consumers come with big appetites and even bigger expectations for health, sustainability, and accessibility. But are plant-based options really healthier? Are they, in fact, better for the planet? And, most importantly, are they here to stay?

The short answer is “yes” — plant-based alternatives are now the new normal in everyday consumer life.

But the industry is far from mastery of this vital concept. With the market’s exponential growth, suppliers and processors have been more reactive than proactive, resulting in strategies that are more reliant on seeing “what sticks” than what will truly address industry challenges.

The truth is, there’s still a lot about plant-based proteins that we have yet to explore, resulting in a “wild, wild west” where anything goes. But those that rise to the top will be the innovators who prioritize consumer insights, the strongest partner relationships, and (above all) taste.

In this report, we explore the uncharted waters of plant-based protein from the perspectives of those who are actively riding them: Griffith Foods culinarians, scientists, and experts, as well as fellow innovators who are driving the next generation of global cuisine. While many new alternatives exist across all food categories (including plant-based dairy, eggs, beverages), our focus will remain on meat alternatives. From common misconceptions about plant-based meat to the customer groups with the biggest growth trajectory, their insights show how opportunities are ripe for the picking in an industry that’s still largely unsettled.

“There is still so much to discover. Although there are customers that are already very knowledgeable, we all still get things wrong because it is such a big and unexplored area.”

WAN YIEN

Manager of Research and Development, Griffith Foods

COVID-19: A Prime Example?

Changing diets and motives for skipping traditional meat couldn't be more timely in light of the recent coronavirus pandemic, which not only has its roots in animal consumption, but has presented extreme obstacles throughout the entire global supply chain. While traditional meat has famously been absent from store shelves, recent Nielsen data suggests that retail sales of alternative meat also increased in March 2020, providing a viable alternative to flexitarians in the midst of shortage. From meat scarcity to supply chain back-ups, these constraints demonstrate a clearer imperative than ever for the food industry to present more alternatives to consumers.

Is plant-based meat actually healthier?

Does it really lower greenhouse emissions?

Are plant-based offerings worth the investment for food industry leaders?

The Good, the Bad, and the Unknown of Plant-Based Proteins

Despite the surge in popularity of plant-based meat alternatives in just the past five years, consumer (and even industry) education is still lacking around the benefits it genuinely provides and where it still falls short.

Our research unveiled several misconceptions that still linger among processors and consumers alike and the truth about where plant-based meat really shines.

Business

MISCONCEPTION

Investing in plant-based proteins will cannibalize core brand offerings.

Understandably, some processors are a little hesitant to venture outside of their core offerings. Less than two years ago, many processors believed their retail and foodservice customers still weren't ready. But the tides have changed in that small amount of time, and today, animal meats and plant-based proteins often live simultaneously in shopper baskets.

An increase in health and sustainability initiatives, coupled with investments in plant-based food businesses are likely to continue boosting industry growth. While the plant-based protein market accounted for $18.5 billion in 2019, its 28% compounded annual growth rate puts it on track to grow to an astounding $85 billion by 2030. The real worry is not whether to invest in this market, but how businesses will keep up with the demand. To close that gap, processors must not only double down on communication with consumers for vital feedback but continue addressing production challenges by developing equipment and processes that are specific to plant-based protein.

$85B

It's 28% compounded annual growth rate puts it on track to grow to an astounding $85B by 2030.

MISCONCEPTION

One size fits all for alternative-minded processors.

From available ingredients and supply offerings to regional differences and customs regulations, what works for one customer may not work for another. The heavy fragmentation of the supply base has resulted in products and ingredients that are very different in terms of taste, functionality, customs, and (most certainly) pricing, especially considering where the supply originates around the globe.

Luckily, more plant-based possibilities are emerging, including pea, wheat, lab-based, beans, and other pulses, and even insect protein. But even securing these alternative offerings (many of which are produced in Asia) has been a challenge in recent months with the current global restrictions on imports and exports due to COVID-19. Thus, the more diversity of protein bases, the better. The key will be finding a niche for these offerings, as many of the alternative proteins that are being produced are still aimed at mimicking meat products. Will these alternative proteins ever be able to rise above their substitute status and stand on their own?

Sustainability

MISCONCEPTION

Plant-based protein is only for earth-minded eaters.

Despite the potential for plant-based proteins to slow the impacts of climate change, consumer motivation to buy them is most commonly related to the health halo surrounding them. While vegans and vegetarians tend to be more motivated by ethical or environmental reasons, flexitarians are mostly driven by perceived taste and health benefits, with sustainability as a secondary advantage.

Regardless of their motivations, consumers now know there's a lot more to consider than just what's on the plate. Today, consumers across all diets are giving more consideration to where and how their food is produced than in decades prior. The key for processors is in aligning corporate philosophies and values with those of the consumer to meet their needs, while still aiming to make offerings accessible and scalable.

"Many customers still underestimate the market's size. Processors used to say that their consumers weren't ready for plant-based protein, but that's changing. They're ready — they just need a delicious product."

SUBRA BALAKRISHNAN

Director of Global Business Development, Griffith Foods

MISCONCEPTION

Simply replacing animals with plants will solve environmental challenges.

Yes, plant-based meat has the potential to significantly impact the fight against climate change. Livestock cultivation has been determined as one of the most greenhouse gas-intensive activities around (about a 15% share), while "fake meat" reduces everything from land use to water consumption.

But "environmentally-friendly" is more about total sustainability, reaching beyond just the removal of animals. Every facet of the supply chain must be considered, from ingredient selection (which has varying levels of impact to grow, harvest, and manufacture) to production (including the type of equipment used, factory emissions, and the employee footprint).

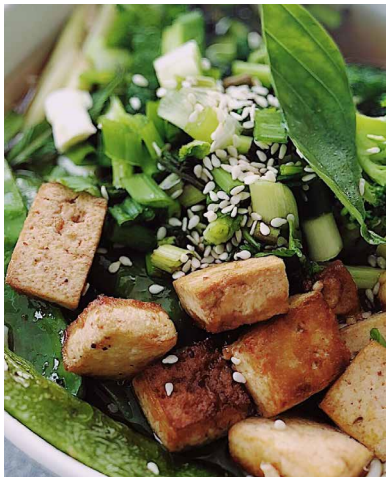
Health

MISCONCEPTION

Plant-based protein is the healthier option.

The term "healthy" is subjective. While simply being plant-based may be considered healthy for some, the heavy processing and increased additives of alternative meat are dubbed inferior for others. In 2019, Whole Foods leadership famously denounced plant-based meats for their heavy processing, calling them unhealthy.

The truth is that some plant-based meats actually have higher levels of sodium than their traditional meat counterparts. And many customers specifically request that their plant-based products be developed with the same percentage of fats and other additives to ensure the analogue matches the taste and texture of animal meat as much as possible. Thus, winning in this area will require identifying and meeting the needs of the markets being targeted with the most delicious foods. For flexitarians whose main priority is adding new options to their diet, high processing will be secondary to their desire for the tastiest, high-quality product.



MISCONCEPTION

Clean label is the highest priority.

While healthfulness may not be consumers' top priority, there is still a growing concern about food composition and increasing demand for clean label products. Currently, plant-based products contain an extensive list of ingredients that are mostly unfamiliar to consumers in order to closely replicate the taste and texture of animal-based meat. And without knowing these ingredients, understanding their nutritional value is completely lost. But the industry is not far enough along in its mastery of plant-based meat to extend its focus beyond creating the tastiest, most craveable products.

This is not to say that clean labels won't be a priority — even in the near future. With the market's recent exponential growth, the next 12-18 months will be dedicated to perfecting taste, but cleaning up labels will come next, using ingredients that are more recognizable to the average consumer.

"Alternatives like lab-based proteins and insect proteins are great in terms of functionality and texture, but it still comes back to what the consumer is going to accept and want to eat."

ROB KALSCHEUR

Global Purchasing Category Manager, Griffith Foods

Pricing & Accessibility

MISCONCEPTION

Plant-based protein is just for vegans and vegetarians.

Changes in culture, allergies, food accessibility, climate, and ethical beliefs within generations have all given rise to a number of different diets besides solely vegan or vegetarian. Today, 38% of Americans, 53% of UK consumers, and 69% of Germans identify as flexitarian, prioritizing plant-based cuisine, but occasionally incorporating meat and poultry. Gen Z makes up 13% of the market. Yet, just 6% are Boomers. Though somewhat new, the flexitarian demographic represents a category of consumers that's already larger than both vegetarians (5%) and vegans (3%) combined.

This presents a huge opportunity for food manufacturers to meet the rising demand of consumers who are looking for new alternatives. Already, plant-based protein is becoming more prevalent in grocery, school lunches, hospitals, and other institutions, largely due to the boom created by quick-serve restaurants (QSRs). These early pioneers are not only reaping the benefits of a largely unsettled market but strengthening perceptions of their brands by being seen as trendy and pushing the boundaries of traditional fast food.

MISCONCEPTION

Plant-based is for the health-minded affluent.

Studies show that socioeconomic status and diet are closely linked, correlating lower-income families with higher meat consumption and limited access to education on the benefits of a plant-based diet. But the surge in plant-based proteins, particularly among QSRs, has made alternative meats accessible (and affordable) to more of the population. The Impossible Whopper, which debuted in 2019 at $5.59, has been added to Burger King's two-for-$6 value menu, making the meatless burger available to more customers.

Around the globe, however, plant-based meat alternatives may be perceived a bit differently. In some South American countries, plant-based meats are provided by the government to ensure low-income families have access to protein-rich nutrition, leading to a negative connotation as an "undesirable handout."

"The number one thing when it comes to plant-based protein is everybody wants a great-tasting product. The product can be healthy...but if it doesn't taste good, there's no point."

SUBRA BALAKRISHNAN

Director of Global Business Development, Griffith Foods

Taste & Texture

MISCONCEPTION

Mastering plant-based meat can be done with the same equipment used for animal proteins.

Data suggests that flexitarians are chasing the most delicious meatless products, prioritizing taste and texture over other motivations like cleaner labels. But achieving taste that most closely mimics animal meat requires extensive processing and additives to mask plant taste and mock traditional meat.

Part of the challenge is the equipment itself. The majority of plant-based meats are still being processed using traditional protein equipment, which requires different techniques and further dehydrates an already-dry base. Luckily, more processors are beginning to swap equipment for new systems that are built specifically for plant-based alternatives, keeping moisture levels intact and additives to a minimum.

MISCONCEPTION

Plant-based meat looks and functions the same as animal protein.

Despite the prevalence of vegetable-based diets for decades, we're still in a learning period when it comes to working with plant-based proteins. As processors gain market insights and continue to test new ingredient combinations, education on what to look for in quality products and how to cook with plant-based proteins is still lacking for consumers. Does raw plant-based meat pose the same health risks as animal meat? Does it turn brown when cooked like traditional meat, or are there different visual cues to watch for?

New color solutions — from beet extracts to an iron-containing compound called leghemoglobin — are being used in popular plant-based ground meat to mimic that of myoglobin, the compound gives beef its red color. While these color solutions work well, they are primarily needed for consumers who are not educated on what plant-based protein should look like and may be turned off by the natural tan colors of the product. As consumers of plant-based meat become more concerned with nutritional content and cleaner labels, they may also oppose the addition of these color agents.

"In the retail industry, people purchase with their eyes. If the visuals don't look comparable to the animal counterpart, it tends to turn people off...
We need to do more educating on what these new products are supposed to look like."

GREG MEYERS

Innovation Manager, Griffith Foods

The Intersection of Culinary Art & Plant-Based Food Science

So where does the food industry go from here?

Suppliers, food scientists, research and development teams, processors, and culinologists alike are currently working to develop new techniques of delivering on taste and texture in order to combat the industry's biggest challenges and misconceptions. The game-changers will be those that intersect innovation, food science, and culinary art to make a real impact.

In business...

It's time to go big or go home.

As with animal proteins, the goal of plant-based protein is still to deliver a product that appeals to the average consumer by combining culinary art and the science of product development. To do this, processors of alternative proteins must double down on plant-based innovation and finally approach it as a true offering instead of a fad that will eventually pass. We must begin to treat plant-based protein innovation not as a flash in the pan, but as a long-term investment that will play out over the next several decades and beyond. To thrive, the plant-based meat category must overcome its small size and highly fragmented nature with more disruptors who are focused and take it seriously.

Education is crucial.

Consumers aren't the only ones who still need guidance in working with plant-based meats. While there are still many unknowns in plant-based protein, setting a foundation of knowledge for consumers and food industry players in terms of its purpose and what to look for will help food manufacturers pave the way for a more fruitful future in this ever-changing market. This also requires a deeper understanding of global perspectives by examining each culture's beliefs, history, attitudes, and preferences for taste in plant-based proteins, bringing insight and new culinary techniques that will influence how and what we translate across borders.

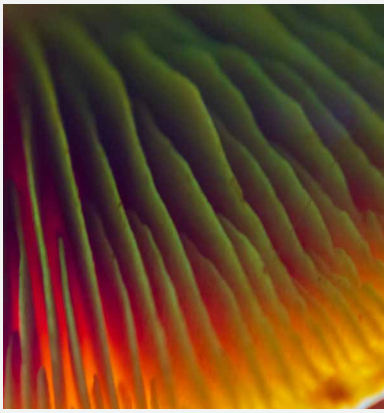
Collaboration across the supply chain is absolutely vital.

For the future of plant-based proteins to be successful, collaboration across the entire supply chain is imperative. This not only requires continuous communication between sales/marketing, R&D, and buyers to take action on the customer feedback they're regularly hearing but to build deep partnerships with top suppliers for customized development of products that will delight both customers and consumers as the market continues to evolve.

In sustainability...

Real change requires big moves.

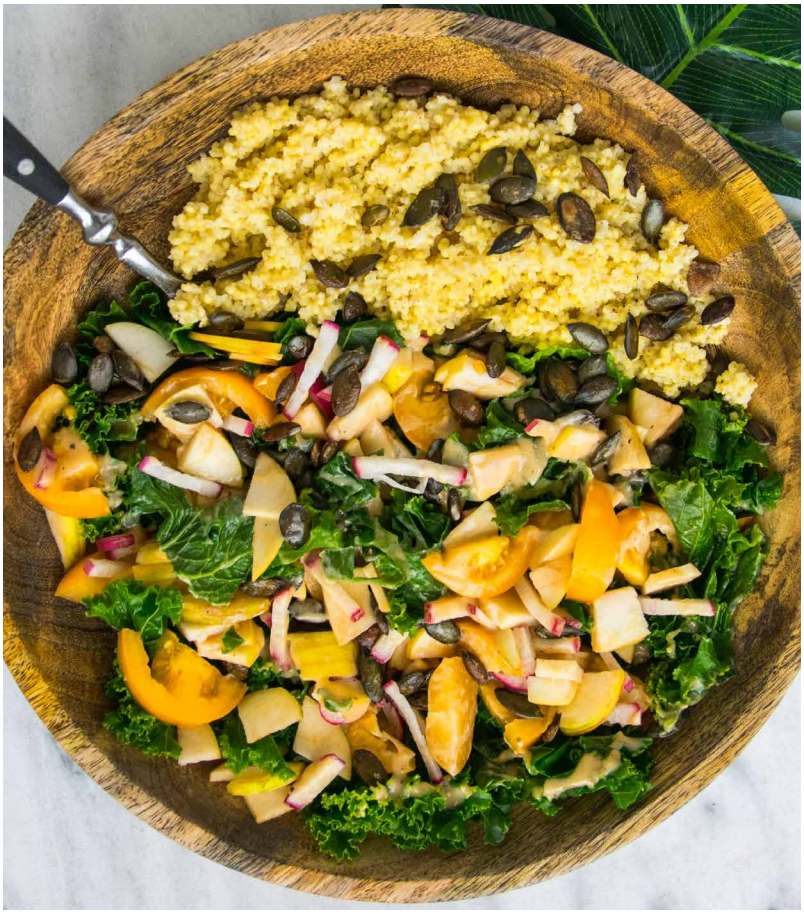
The U.S. produces more than 105 billion pounds of animal-based meat per year, while alternative meat accounts for only 0.5% by volume. Alternative proteins, while more eco-friendly, have only made a small dent in the footprint of the meat industry. To truly make an impact on climate change, the plant-based meat industry must not only incorporate sustainable practices into its processing but tap into the biggest motivators of volume sales: foodservice. QSRs and fast-casual restaurants have largely defined how we eat as a culture by making food more accessible. With the emergence of plant-based alternatives in foodservice (ranging from mom-and-pop shops to national chains), we can begin to produce the volume necessary to make an impact.



In health...

New and emerging protein sources abound.

While the plant-based proteins available today may not be the picture of health and nutrition for the extensive additives and blockers it takes to more perfectly match back to animal meat, a number of alternative proteins are being explored that may hold the key to healthier meats and accepted tastes. These trendy, unique proteins include mycoprotein derived from fungi; insect proteins (primarily from crickets); legumes, pulses, and bean powders; ancient grains; and lab-based or cultured meat. But not all of these sources are accepted in every region or culture (for instance, insect protein is taking off in Europe and Asia, but only among Gen Z in the U.S.). Achieving true health advantages may come with the exploration of these alternative protein sources, but may also require better consumer education of what plant-based proteins are supposed to taste like.



In accessibility...

Foodservice and retail can reach the masses.

Big names in fast food and retail are following suit with Burger King's success of the Impossible Whopper. In August 2019, KFC debuted its first plant-based chicken nugget with the help of Beyond Meat to please crowds, while Subway permanently added its meatless meatball sub to menus around the world.

In the retail space, Kroger recently experimented with dedicated plant-based sections of the meat aisle, which have traditionally been kept far away from animal meat products. The placement is designed to appeal to flexitarians, who are likely to have both meat- and plant-based products in their cart. In addition, the development of vegetarian jerky, plant-based snacks, and even frozen items will provide greater accessibility to meatless foods, reinforcing the incorporation of plant-based products into more consumer diets.

In taste and texture...

Innovative processing techniques are central to solving category challenges.

We're seeing a number of innovative processing techniques in plant-based meats, including order of ingredients; type and amount of force, sheer, and mixing; scaffold and whole muscle mimicking; and vacuum mixers that aren't usually present in animal protein processing in order to speed up hydration of drier plant-based materials. Wet extrusion processes have also become popular in Russia and parts of Europe, but not so much in the U.S.. Processors are also exploring fat mimetics (carbohydrate- and/or protein-based molecules that mimic fat) to match the desired texture and mouthfeel of animal fats. These techniques and plant-specific innovations are crucial to setting meatless meats apart from their animal-based counterparts and producing the best possible products.

Taste is king.

The flavors of plant-based protein have been shown to weaken significantly over time. While many companies continue to develop maskers and blockers to manage the vegetal flavor of plant-based proteins, we have been especially focused on how flavors and seasonings interact to manipulate flavor and prolong taste. At Griffith Foods, this approach provides a baseline for product development, culinary, and sensory science teams to work together to create great-tasting concepts that last throughout the product life cycle. These innovations are important for mastering taste in a market that is hungry for delicious plant-based products that mimic real meat.

"I do believe that in the next five years, we're going to see a decline in people who want to use traditional meat processing equipment for plant-based products. That's the only way to be successful in the future."

MATT ALBRIGHT

Director of Research and Development Protein, Griffith Foods

Speed, Agility, and the Next Big Disruptors

Which industry segment is poised to achieve the greatest growth and success in plant-based protein?

In this young and largely unsettled market, opportunity is everywhere. Those who engage early and quickly respond to consumers' changing needs and preferences will succeed in this sector that has proved itself more than a fad.

Foodservice Operators

Despite new trials of plant-based fast food options...

as well as the success of early pioneers like Burger King's Impossible Whopper, these menu items are still not widely adopted among QSRs and other foodservice companies. While slow to adopt the trend across the entire segment, foodservice companies still have tremendous opportunity to reach new audiences and make believers out of traditional meat-eaters.

The main advantage for the foodservice industry is their unprecedented reach. Because of their tremendous scale, fast food chains are able to roll out new concepts quickly, while keeping costs down in comparison to other plant-based offerings. Whereas a grocery store may offer a multi-pack of plant-based burgers for upwards of $15, QSRs allow consumers to trial alternative meats for just a fraction of that — and already hot and ready. This reach provides enormous opportunity to bring in consumer segments who may not otherwise choose to dine through foodservice (e.g. vegans, vegetarians, and other health-minded eaters). The challenge, however, is in maintaining the same taste that's expected from other core menu offerings.

"In the alternative protein space, speed and agility are most valuable in a product development partner. We are working on accelerated timelines, and there's no time to waste."

SARAH FRICK

Senior Marketing Manager, Cargill

Retail

The advantage for grocery retailers lies in...

their ability to impact the market from a volume perspective, delivering mass amounts of plant-based products to a greater portion of consumers. Of course, retail certainly isn't new to plant-based protein, as brands like Morningstar have commoditized a number of meat products for decades, most notably in patty form.

Conversely, brands that do well in QSR are seeing slowing sales in the grocery space. This may be due to the development of more affordable private brands like Kroger's Simple Truth pea protein burgers or Aldi's meatless meatballs and chicken patties. For retailers, winning in the plant-based foods category will not only require developing delicious, high-quality products that are affordable, but the ability to drive sales at a larger scale.

Processors

From ingredient combinations to hydration processes...

there are a number of processing techniques emerging that have the power to affect future operations. But the biggest opportunity for processors is in developing equipment that is specifically made for plant-based proteins. When products are made using machines that are specially developed to address the challenges of plant-based proteins, it results in higher-quality products, faster production, and continuous R&D for further plant-based product development.

But equipment is only one piece of the pie. Many processors are still missing the people and backing to scale this opportunity, slowing their ability to make faster and proactive decisions. This is largely due to the belief that we're still in a testing ground. But to succeed, processors must move beyond the belief that plant-based proteins are a fad. In a market that is clearly demonstrating stable growth, it is worth it for processors to invest in the people, partners, and R&D that will pioneer and improve the future of plant-based products.

The Perfect Recipe for Plant-Based Protein Success

Despite the tremendous growth of plant-based proteins in just the past five years, the popularity of these products is in the midst of yet another growth spurt, barrelling toward $85 billion by 2030.

The opportunity is massive. But the probability of success for foodservice, processors, and retailers alike will be dependent on:

1 Focusing on one goal at a time,

whether taste, price and scalability, or cleaner labels down the road.

2 Staying ultra-connected to all parts of the supply chain

by partnering with companies who are familiar with global trends, tastes, and textures.

3 Closing the knowledge gap

by educating customers through thought leadership, consumer insights, and relevant content.

4 Lowering consumer barriers to accessibility

through more scalable processing techniques that reduce prices.

5 Acknowledging that we're only in the beginning stages

of this new era of alternative meat, while looking to the examples and progress of other analog industries for guidance.

Sure, there's a lot to consider. But the next decade will see tremendous innovation of plant-based foods in all facets of production, from increased nutrition to greater accessibility. Those poised to win in this volatile market will be companies that prioritize R&D, technology, consumer insights, and culinary science to achieve true innovation that delivers on what modern consumers want and need. These tasks may seem daunting, but having the right partners to collaborate with throughout this uncharted territory will help turn product development visions into reality.

Griffith Foods is the Preferred Partner for Plant-Based Innovation

With over a century of global food industry expertise, Griffith Foods is the ideal product development partner, offering deep industry knowledge, global insight, and collaborative innovation for your next endeavor.

We are committed to helping our customers create better products and a better, more sustainable world through industry-leading:

Collaboration

Your goals are our goals, and we won't stop until they're achieved. No matter your challenge, we're there at every step of the journey to help you succeed.

Speed

We understand that when it comes to meeting the demands of your customers, there's no time to waste. Our size and global presence allow us to nimbly deliver as your needs and processes change.

Insights

We're on the front lines of the industry, regularly conducting testing and cultivating data and consumer insights you can actually use.

Griffith FOODS™

Creating Better Together

Join us as we help pioneer the next generation of culinary innovation at griffithfoods.com