

Appetite for disruption

A SECOND SERVING

JULY 2020





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About this report

This report is an update on FAIRR's collaborative investor engagement on sustainable proteins, which is supported by 88 investors with \$13.2 trillion in combined assets.



Foreword

This report shows that 2020 is set to be a watershed in the shift from animal proteins towards plant-based and new protein sources. The protein transition has gone mainstream.

COVID-19 has crystallised this trend, putting animal protein supply chains into meltdown and placing biosecurity and workers' rights issues in the global spotlight. But this pandemic is only the latest straw on this camel's back. Animal agriculture supply chains were already under severe pressure for their contribution to climate change, land degradation, biodiversity loss and antimicrobial resistance.

A more effective and resilient solution is required if we are to adequately address the issue of soaring global protein demand – and that solution lies in alternative proteins.

As FAIRR's Sustainable Proteins engagement reveals, large food retailers and manufacturers are on the front line of this transition. The evidence in this report finds that two in five global food giants now have dedicated teams to develop and sell plant-based alternatives to meat and dairy products, and 47% of the retailers engaged now sell (or plan to sell) plant-based meat alternatives 'on the meat aisle'.

This is a systemic shift both in the approach by global food producers to be actively part of the solution, and in the way that we as consumers will shop and eat.

Investors can taste blood

Given the focus and scale of change, it is no surprise then that the alternative protein sector has attracted almost double the investment of last year in just over six months of 2020, and the market is expected to grow to \$17.9 billion by 2025.

FAIRR's own engagement with 25 global food retailers and manufacturers has also skyrocketed ten-fold since 2016. Total combined assets supporting this engagement have grown from \$1.25 trillion to over \$13 trillion.

This report offers hard evidence that the world's biggest supermarkets and food-makers are vying for their slice of the plant-based pie. They are drastically scaling-up and skilling-up their capacity to research and develop plant-based alternatives to meat and dairy, and tangible goals for a protein transition are being put in place.

Still a long way to go

Whilst it is highly encouraging that two companies have achieved top 'pioneer' status for their diversification into plant-based, and that 48% of companies now have Scope 3 targets that include emissions from animal agriculture, it is just the beginning. We need to see many more food retailers and manufacturers set strategic goals, supported by relevant metrics, to track and report on their protein exposure over time. The risk for those that don't, is that they get left behind.

For the first time since the green revolution 60 years ago, which created factory farming, food technology presents a viable path forward to meet global demand for proteins more sustainably. A fact that our global food producers would be wise to take notice of.

Jeremy Collier

Founder, FAIRR, and
Chief Investment Officer,
Coller Capital



Introduction

“Consumption of healthy and sustainable diets presents major opportunities for reducing GHG emissions from food systems and improving health outcomes.”

IPCC Special Report
Climate Change and Land, August 2019

The COVID-19 outbreak has triggered an unprecedented health and economic crisis. As well as affecting every country in the world, this novel virus has laid bare the underlying risks, vulnerabilities, and inequities of today's global food system. Nowhere is this more evident than in the animal protein industry. US pork processors, for example, saw their output capacity reduce to 50% in early May, roughly 20% of the industry's workers contracting the virus.¹ Poultry farmers in Canada have collectively reduced output by 12.6%.² These effects are being felt across the entire supply chain, with large grocery retailers in the US having to ration the amount of meat that consumers can buy.³

Although the exact origins of COVID-19 remain unclear, the virus is widely believed to be the latest in a long list of zoonotic pathogens to have recently emerged. Such pathogens occur when bacteria is transmitted from animal to human, and include SARS, swine flu and H5N1 bird flu. In the past, more than two-thirds of zoonotic diseases originated in wild animals such as bats, rodents and primates.⁴ Since the 1940s, however, nearly half of all zoonotic diseases in humans were found to have come from livestock.⁵ This increase in disease incidence is closely linked to the industrialisation of animal agriculture, which has transformed the availability and accessibility of cheap protein sources. Moreover, it has created the perfect breeding ground for zoonotic diseases, which are now threatening global food security.

Consumers worldwide are rethinking how they eat and what they eat amidst supply chain disruptions and public concern over the link between meat production and viral diseases. This has prompted a surge in demand for plant-based products, particularly in Asia where African Swine Fever (ASF) has decimated pork production and pushed prices up. Chinese hog prices in May were 82% higher compared to 2019, and the direct cost of ASF to the sector is estimated between \$55-130 billion.^{6,7} Pork consumption is also estimated to drop by about 35% this year, which is significant given China accounts for 40% of global pork demand.⁸

Global diets need to become more balanced and diversified, with a greater focus on plant-based and alternative proteins (fruits and vegetables, grains, pulses, meat analogues, cell-based meat, and insects), which the IPCC describes as a major mitigation strategy with the potential to reduce 0.7-8 Gt CO₂e per year by 2050.⁹

Today's crisis has exposed the systemic weaknesses in global protein value chains, and this will only be exacerbated by their contribution to climate change, land degradation, biodiversity loss and antimicrobial resistance.

Figure 1

The four drivers of protein diversification

Extensive
market
opportunity

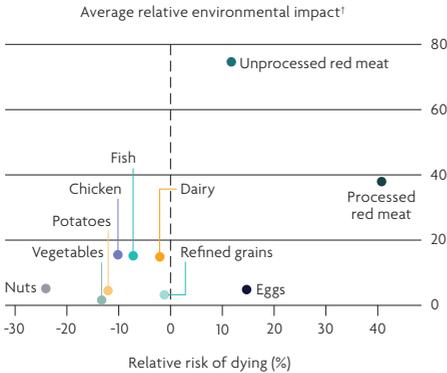
High
innovation
potential

Positive
ESG
impacts

Increasing
advocacy and
regulation

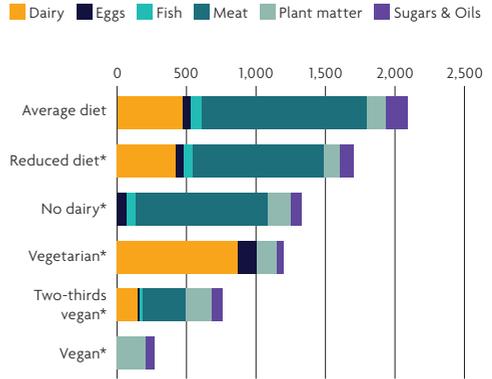
Figure 2
High steak diets

Health and environmental impact of one extra serving per day



[†] Vegetables = 1
* Simulated diets to reach 2,300 calories per day

United States, greenhouse-gas footprint kg of CO2 equivalent per person per year



Source: "Multiple health and environmental impacts of foods", by Clark et al., PNAS; "Country-specific dietary shifts to mitigate climate and water crises", by Kim et al., Global Environmental Change

Dietary choices are key determinants of environmental sustainability and human health

In the US, beef accounts for only 4% of the retail food supply by weight, yet it represents 36% of diet-related GHG emissions.¹⁰ Meanwhile, higher intakes of animal-derived protein are linked to higher death rates from cardiovascular disease (CVD) and cancer.¹¹ A 2019 study by Oxford University and the University of Minnesota found that an adult who eats a typical Western diet and then chooses to eat an additional two rashers of bacon per day (or 50g of processed red meat) per day, will increase his or her chance of death by 41%.¹²

Supply-side interventions alone are not enough to mitigate the negative environmental and social impacts stemming from the sector. Fortunately, change is underway. Innovation in the food system is at an all-time high; consumer perception and demand is changing rapidly, which is further prompted by the current global health crisis; and Big Food is evolving its strategic and sustainability ambitions to ensure brands stay relevant and climate-positive.

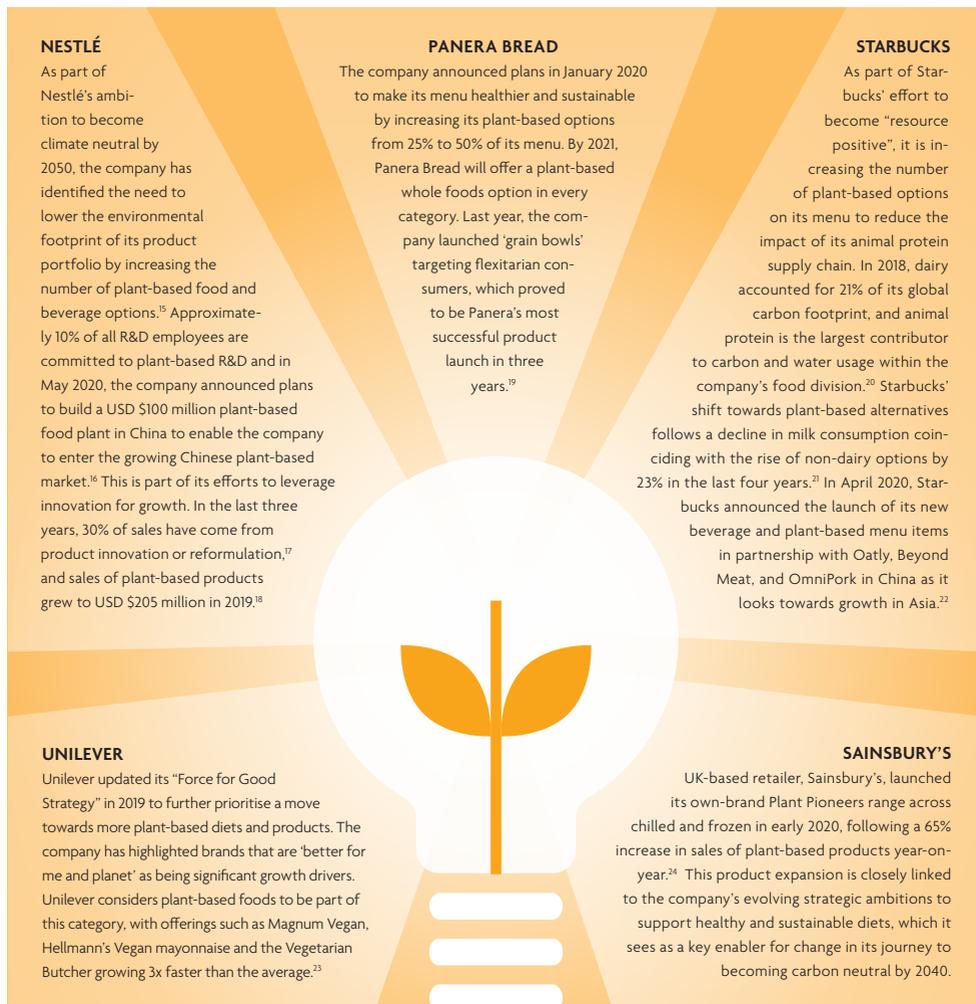
Protein diversification is driving business growth and positive climate impacts

As demand for protein continues to grow, so too does the challenge of sustainably feeding a growing population. This does, however, present many new commercial opportunities. Analysis by the FAIRR Initiative shows that the global protein market is valued at around \$1.5 trillion.¹³

The nascent meat alternative market still represents approximately 1%, though it is projected to take a significant chunk of the total protein market in the coming years, with estimates ranging from 3% by 2025 to 60% by 2040.¹⁴

Figure 3

Companies are using protein diversification to drive growth and become climate positive



Protein diversification has, therefore, become both an important growth driver and a climate risk-mitigation tool for companies worldwide. Companies are investing more in research and development (R&D), marketing and their internal capacity to ensure long-term portfolio and supply chain resilience.

Terms like 'plant-based' or 'vegan', though previously considered niche, are now commonly used by companies. 72% of the 25 companies in FAIRR's engagement have referred to these terms in their quarterly and annual reports to investors and other stakeholders, compared to 64% in 2018/19.

The dairy industry is under pressure. Two major US dairy producers, Dean Foods Co. and Borden Dairy Co., filed for bankruptcy in November 2019 and January 2020 respectively, citing a decline in dairy consumption alongside rising demand for non-dairy alternatives as major headwinds.²⁵



Figure 4

Declining US milk consumption



Source: USDA National Agricultural Statistics Service

Meanwhile, demand for plant-based alternatives has risen by 23% in the last four years²⁶ and today it represents an estimated 12% of the total global dairy market. Brands such as Rebel Kitchen, Rude Health, Oatly and Alpro have become international household names as health-conscious consumers turn towards plant-based alternatives.

In China, where an estimated 85% of the Chinese population is thought to suffer from some sort of lactose intolerance,²⁷ international brands like Oatly, a Swedish oat drink company are making a play for the huge market through partnerships with brands like Starbucks.

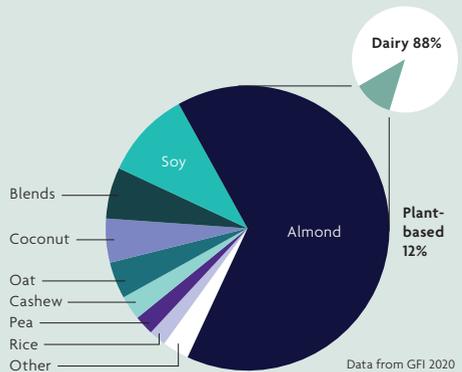
The star performer has been Oatly, which is looking to double its revenue from \$200 million in 2019 to \$400 million by 2021, and it is reportedly working with Goldman Sachs to assess the possibility of an IPO within the next couple of years.²⁸

The COVID-19 pandemic has continued to increase volatility for the dairy sector. Although traditional milks sales were up 32% during lockdown, this was not enough to offset lost demand in the foodservice and hospitality sector. Dairy processors in France, Italy and the US have asked producers to reduce milk deliveries by up to 5%.²⁹ Saputo, a large Canadian dairy company, listed substitution risk from “animal-free dairy” products in its recent CDP disclosure as a key long-term risk to its business.

As producers worldwide continue to grapple with the impacts of COVID-19, plant-based alternatives are likely to benefit. The supply chains are shorter, more flexible and less labour intensive, which means that they can be easily scaled up or down to meet market demand. Changing consumer demand alongside rapid innovation from companies in the dairy sector (e.g., Oatly) will also continue to increase the risk of substitution.

Figure 5

Share of global milk market by type (2019)



Data from GFI 2020

TurtleTree Labs

Founder(s)

Fengru Lin (CEO)
Max Rye (Chief Strategist)

Headquarters

Singapore, San Francisco

Number of employees

30

Stage

Pre-seed

Total capital raised (USD)

Undisclosed for now

Website

turtletreelabs.com



About

TurtleTree Labs is the first biotech company in the world with the ability to create the full composition of milk from any mammal using its proprietary cell-based technology. The approach involves working with mammalian cells so they can be cultured, differentiated, and induced to lactate in vitro. The resulting product is able to match natural milk in nutritional composition, quality and taste given that the same cells used to produce milk in vivo are cultured and induced to produce milk ex vivo. The application of TTL technology is beyond cow's milk and can be used to produce human-based milk and disrupt the infant nutrition market. This method of producing milk can achieve a 98% reduction in carbon footprint. TurtleTree Labs' vision is for everyone in the world to have access to sustainable and nutritious milk.

Interview with Fengru Lin & Max Rye

How is COVID-19 impacting the food industry, and specifically, meat and dairy consumption? How are food businesses in Asia responding?

Fengru: COVID-19 is certainly highlighting the need for food security. As supermarket aisles get emptied and eggs get dumped, people are aware that current systems of producing and distributing food are very fragile.

In Singapore, where more than 95% of food consumption is sourced from overseas, the national 30-by-2030-goal (i.e., producing 30% of nutritional needs domestically within Singapore by 2030) is being thrust into the spotlight. The government knows that the various agencies – from regulators, research institutes and universities to the international Economic Development Board – need to align behind food tech companies to make it happen.

Many plant-based and cellular-based 'meat' companies are using this time to educate consumers. Green Monday recently launched its plant-based OmniPork products in collaboration with Starbucks in Hong Kong. Bühler and Givaudan join forces in Singapore to open a unique innovation centre dedicated to plant-based food. There is no better time to convince the masses that we need to change our ways and seek alternative sources of food.

To access the full interview, please visit fairr.org/sustainable-proteins



Market update

“Today’s investors have the opportunity to simultaneously deliver long-term growth and help preserve natural resources for future generations. UBS predicts that the sustainable protein market could grow to \$85 billion dollars by 2030,^{*} a disruption that brings material risks and opportunities for the food industry. Soaring global protein demand simply cannot be met through traditional animal protein production. Companies should act now to allocate resources to support the transition to a more healthy and sustainable food system.”

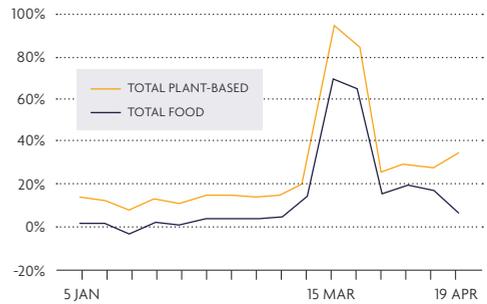
Valeria Piani

Strategic Engagement Lead, Sustainable and Impact
Investing at UBS Asset Management

* UBS CIO GWM (2019) - The food revolution: the future of food and the challenges we face.
Available at: <https://www.ubs.com/global/en/wealth-management/chief-investment-office/investment-opportunities/sustainable-investing/2019/food-revolution.html>

2019 was undoubtedly a big year for the alternative protein market, with the successful IPO of Beyond Meat; Burger King rolling out the Impossible Whopper in the US and the Rebel Whopper in Europe; and plant-based seafood making its debut through brands such as Good Catch. In early 2020, the COVID-19 outbreak struck markets worldwide, causing severe supply chain disruptions across multiple industries including the meat sector, which was hit particularly hard following numerous factory closures in the US, Germany and the UK. Although it is too early to say what the long-term impacts of COVID-19 will be, it has so far had a positive impact on the alternative protein industry. When compared to the same period last year, sales of meat alternatives in the US were up by 200% in the week ending 18 April 2020, while fresh meat was up by just 30%.³⁰

Figure 4
Plant-based vs total food retails sales in the US



Source: 16 weeks ending April 19, 2020. Plant Based Foods Association commissioned data from SPINS.

FAIRR Climate Risk Tool 2.0

Companies can either address climate impacts through supply-side intervention or avoid some of the impacts associated with their existing animal protein portfolios by diversifying towards alternative proteins. The Coller FAIRR Climate Risk Tool 2.0 enables investors to assess the potential downside risks and upside opportunities related to 40 animal protein companies in a 2-degree global warming scenario.

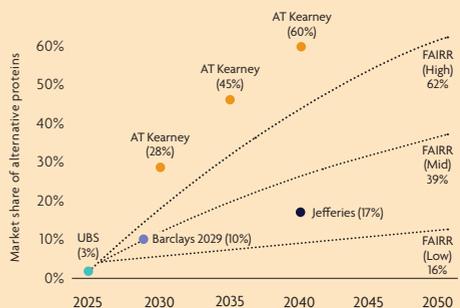
The tool assesses profitability according to two elements: (1) the climate impacts that the company faces and (2) its ability to mitigate those impacts including its exposure to alternative protein sources. For those companies with alternative protein exposure, the effect of growing their exposure faster or slower can deliver significant financial upside and downside.

As part of this tool, FAIRR has modelled different growth scenarios within the alternative protein market. In FAIRR's low growth scenario, the alternative protein market tracks the slower adoption of electric vehicles to achieve a 16-22% share of the total global protein market by 2050 (the range is explained by possible carbon taxes on meat affecting customer substitution).

In FAIRR's high growth scenario, the alternative protein market rises to a 62-64% share of the total global protein market in 2050. These estimates are in line with analyses performed by other institutions.

For more information, visit fairr.org.

Figure 7
Growth scenarios within the alternative protein market



Source: FAIRR



Given the challenges associated with replicating the multi-functional nature of eggs, it is not surprising that plant-based eggs are one of the least developed categories in the alternative protein market. In 2019, however, it was the fastest growing category in the US as traditional egg sales fell by 10%.

Growth in this category has been largely driven by the increasing popularity of Just Egg, as well as by companies moving towards cage-free egg production in response to growing pressure on animal welfare from consumers and civil society. For example, leading US retailers, Walmart and Kroger have committed to going cage-free by 2025. This has caused demand and price for caged eggs to drop. Cal-Maine Foods, the largest US egg producer, saw its first quarter earnings for FY2020 drop by 14% while egg prices dropped by 30% compared to the previous year.³¹

Just Egg, a mung bean liquid egg alternative from US-based start-up, JUST, is leading the way in the plant-based egg category. The company is valued at \$1.2 billion and has raised \$300 million in venture funding.³²

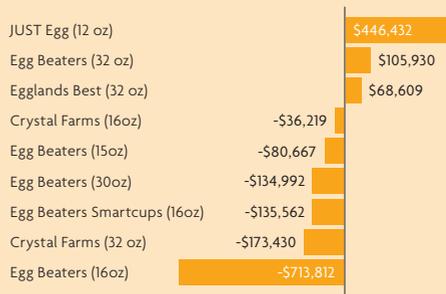
Just Egg is sold in 9,000 grocery stores including Walmart, Whole Foods, Kroger and Costco, and has been eating away market share from established brands like Conagra's Egg Beaters to become one of the bestselling liquid egg products. The company is looking to enter Europe in 2020 and is currently seeking regulatory approval.

It has also announced several new partnerships to expand its manufacturing and distribution capacity across multiple markets including Mexican multinational bakery firm, Grupo Bimbo; US leading egg manufacturer, Michael Foods; South Korean food company, SPC Samlip, and South East Asia's largest food company, Betagro Group.³³

In 2019, Just Egg accounted for 30% of all purchased units and 40% of dollars spent in the liquid egg category.³⁴

Figure 8

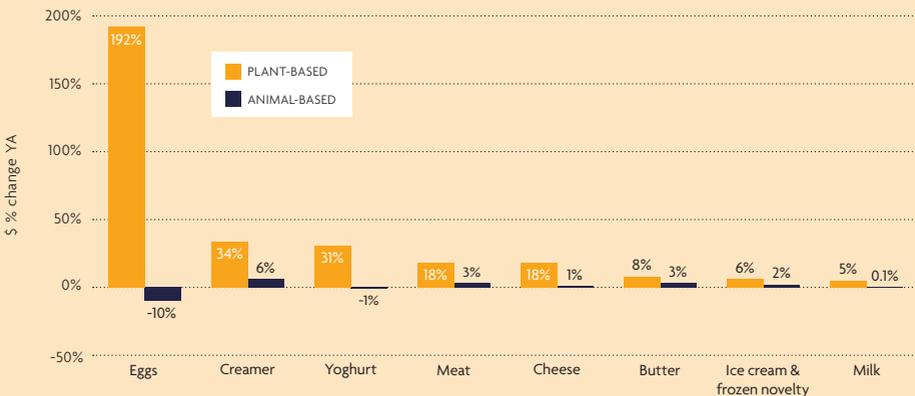
Sales of liquid egg brands (over same 12 week period)



Data: IRI national US data, 12 weeks ending 24/03/2019

Figure 9

Animal-based and plant-based product comparison: dollar sales growth 2019



Source: SPINScan Natural and Specialty Gourmet (proprietary), SPINScan Conventional Multi Outlet (powered by IRI), 52 weeks ending 29-12-2019. The Good Food Institute 2020

US & Europe

The US remains the largest market for alternative proteins, having reached \$5 billion in sales in 2019, with meat alternatives representing nearly \$1 billion in sales.³⁵ Sales of meat alternatives grew at 18%, whereas the overall market for retail food in the US grew at 4% during that same period.³⁶

In Europe, the UK has the largest plant-based market with an estimated value of \$1.1 billion in 2019 and sales growth of 40% between 2014 and 2019.³⁷ According to Mintel research, almost a quarter of all new food product launches in the UK were labelled 'vegan' in 2019.³⁸

“The Chinese Mainland and Asia as a whole is probably going to be one of the most important markets for us very soon.”³⁹

Toni Petersson

Oatly's CEO

Asia

Asia has seen interest around plant-based proteins surge, and global companies are looking eastward for new frontiers of plant-based growth. According to Euromonitor, China's 'free from meat market', which includes plant-based products meant to replace meat, has grown by 33.5% since 2014 to \$10 billion in 2018.⁴⁰ Before COVID-19, the market was expected to be worth \$12 billion by 2023.⁴¹ However, after being hit by global outbreaks of ASF and COVID-19, which, at the time of writing, have no known cure, concerns around food safety and the link between increased disease prevalence and intensive animal production is driving consumers to reconsider their protein sources.⁴²

Plant-based pork brand, OmniFoods, has experienced phenomenal growth across multiple Asian markets, including Singapore and Thailand.⁴³ In China, local plant-based start-up, Starfield, has partnered with six major restaurant chains: Papa John's, Brut Eatery, Hong Li Village, Nayuki, Gaga Chef and Element Fresh to sell its plant-based ground meat products from the end of April.⁴⁴



OmniFoods

Founder(s)

David Yeung

Headquarters

Hong Kong and Canada

Number of employees

250 full-time employees under
Green Monday Holdings

Stage

Undisclosed

Total capital raised (USD)

Undisclosed

Website

omnifoods.com



About

OmniFoods (formerly Right Treat), a food tech company, is a member of Green Monday Holdings. Established in April 2018, its mission is to innovate food that treats the planet right, the animals right and us right. The company's food scientist team, which is based in Canada, innovates Food 2.0 based on the Asian eating culture and cooking habits while ensuring that the ingredients are cruelty-free, cholesterol-free, antibiotic-free and hormone-free. The launch of OmniPork, which was the first product offering from OmniFoods, has attracted international attention. In just two years, it was launched in several global markets and has become a popular plant-based ingredient. In April 2020, OmniFoods then launched OmniPork Luncheon and OmniPork Strip, thus leading a new wave in the food tech trend. The company also has a ready-to-eat series, OmniEat, which offers a range of healthy and nutritious ready-to-eat food.

Interview with David Yeung

How is COVID-19 impacting the food industry, and specifically, meat and dairy consumption? How are food businesses in Asia responding?

COVID-19 has exposed how archaic, fragile and – in certain cases – unethical the industrial animal farming industry is. Globally, consumers are becoming much more aware of the risks associated with their dietary choices and food consumption, which has led food and beverage (F&B) businesses to respond by offering more alternative options. As the pandemic stabilises in parts of Asia, we are seeing huge chains like KFC, Pizza Hut and Starbucks launching plant-based choices.

To access the full interview, please visit [fairr.org/sustainable-proteins](https://www.fairr.org/sustainable-proteins)

In April 2020, **Starbucks** joined forces with **Beyond Meat**, **Oatly** and **OmniFoods** to offer a new plant-based food and beverage menu in China. Among other products, Starbucks will sell Beyond Beef Pesto Pasta, Beyond Beef Classic Lasagne, and Beyond Beef Spicy & Sour Wrap. It will also offer OmniPork Vietnamese Style Noodle Salad and OmniPork Mushroom Sauce Grain Bowl.⁴⁵

Beyond Meat has ramped up its efforts to enter the Chinese market. The brand's partnership with **Starbucks**, announced in April 2020, marked its official entry into the Chinese market. In July 2020, the company also joined forces with the Chinese technology company, Alibaba, to make Beyond burgers directly available to consumers in mainland China. Initially, Alibaba will be rolling out Beyond Meat products at 50 of its Freshippo stores in Shanghai, where consumers will be able to place orders via an app. Beyond Meat has set up a website in China and maintains a social media presence on Tencent's WeChat.⁴⁶

In April 2020, **KFC** carried out a three-day trial in three of China's largest cities (Shanghai, Shenzhen and Guangzhou) to test a new plant-based chicken nugget in partnership with **Cargill**. KFC also plans to launch a new range from both Alpha Foods and Gardein at selected Hong Kong stores under the name, 'The New Era Plant-Based Series'.⁴⁷ In addition to Cargill's partnership with KFC, the company will be releasing its own brand called PlantEver, which will be directly available to Chinese consumers from June 2020.⁴⁸

NH Foods, a leading meat processing company in Japan, launched five meat alternative products in January 2020, including plant-based ham, sausages and burgers.⁴⁹

Nestlé announced in May 2020 that it will be investing over \$100 million to strengthen its Chinese footprint and support the development of innovative and premium products, including the development of its first plant-based production facility in Asia.⁵⁰

Figure 10
Global companies are looking eastward for new frontiers of plant-based growth

Key market dynamics and drivers

Food technology and innovation continue to develop as investments in the sector increase. The Asian food tech community, in particular, is developing rapidly with several promising key players emerging in China and Singapore. Plant-based and alternative seafood companies like BlueNalu and Good Catch are also gaining traction, while the price gap between traditional meat products and alternatives is narrowing.

Investments in alternative proteins remain strong despite the pandemic

The first half of 2020 has proven hugely successful for the start-up community. Between January and the beginning of July, over \$907 million was invested in plant-based foods, surpassing the \$457 million in 2019.⁵¹ Similarly, over \$290 million has so far been invested in cell-culture this year, which is more than triple the investment in 2019.⁵²

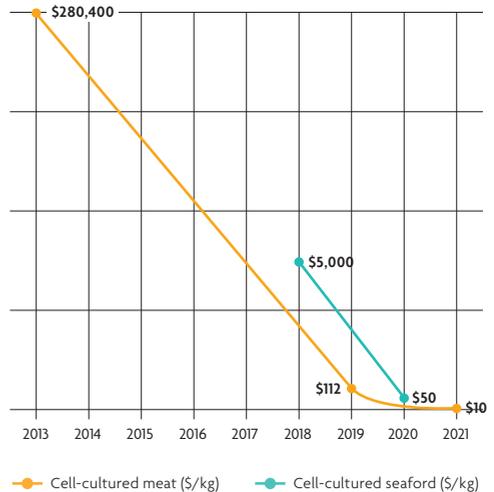
Faux seafood is gaining traction

Plant-based seafood has tended to lag behind meat alternatives, representing less than 1% of the overall plant-based market in the US, with the majority of sales coming from frozen as opposed to refrigerated products.⁵³ Part of the challenge has been replicating the flakiness, fragility and nutritional profile of traditional fish and seafood, which is why the handful of companies working in this space are focussing on developing and perfecting a single product line (e.g. shrimp or tuna) rather than working to develop multiple products and 'species'.

The innovation potential has not gone unnoticed by leading food companies, which are now investing in and partnering with start-ups in this space. Last year, Tyson Foods invested in New Wave Foods, a plant-based start-up that uses seaweed and soy protein to make shrimp.⁵⁴ Earlier this year, two leading global seafood companies entered into significant partnerships with alternative protein companies. Grupo Nutreco, an animal nutrition and aquafeed producer, and Pulmuone, a South Korean food company, have invested in and partnered with BlueNalu.^{55 56}

Figure 9

Production costs of cell-cultured meat compared to cell-cultured seafood

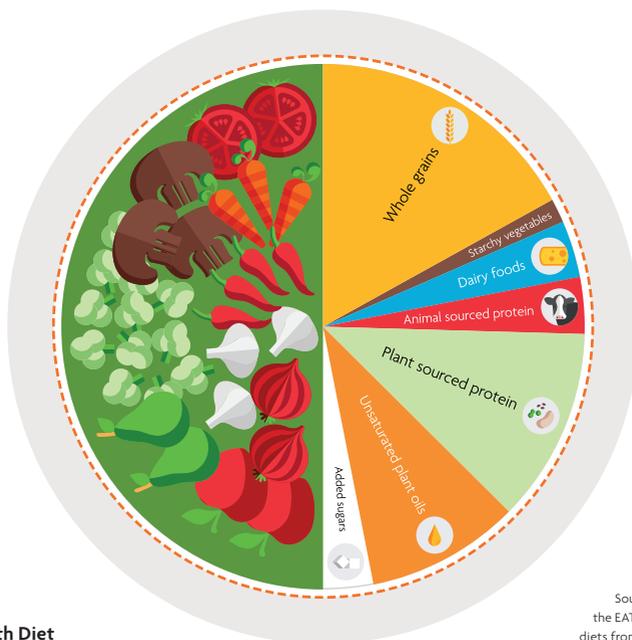


Cell-cultured seafood based on data disclosed by Shiook Meats.
No data prior to 2018.

Bumblebee Foods, which is famous for its canned tuna, has also entered into a partnership with Good Catch to leverage its sales, distribution and logistics network, and gain expertise to improve access and affordability for the plant-based tuna brand.⁵⁷ Nestlé, too, announced that it is dipping its toes into the fish-free market with plans to launch a plant-based tuna salad later this year.⁵⁸

Production costs are decreasing.

Cost will be an increasing barrier to market expansion, especially now that COVID-19 is increasing consumer sensitivity to price. Although it is currently cheaper to buy traditional meat products, with the average retail price per pound for traditional meat in the US at \$4.13 compared to \$4.52 for plant based⁵⁹, a number of leading start-ups and global food companies in the sector have announced price reductions.



Source: Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems 2019

The Planetary Health Diet

JUST Egg had a hugely successful year in 2019, which it now hopes to surpass as it looks towards economies of scale. During the first quarter of 2020, the company cut the average retail price of its 12-ounce bottle by 37.5% to \$4.99 (USD).⁶⁰ Impossible Foods has also cut its price by an average of 15% but this reduction is only available for foodservice distributors.⁶¹ According to the company, this price drop puts its products between \$7.90 and \$8.50 per pound, which it says is “about the same price as organic grass-fed ground beef, per pound”. Meanwhile, Beyond Meat announced in June that it will start selling limited edition value packs of 10 patties in the US for \$15.99, which equates to \$1.59 per burger.⁶² This is the cheapest price point to date for a Beyond Meat burger.

For cell-culture, cost and scale remain a challenge. The cost of production has, however, come down significantly since 2013, from \$280,400 to around \$112 per kilo of cultured meat.⁶³ Three companies – Memphis Meats, Mosa Meats and CUBIQ Foods – have said that they are aiming to get their products to market by 2021, with a target price of around \$10.⁶⁴

Nutrition is still a concern

Nutrition remains a concern for some products, especially for popular plant-based meat alternatives, which have persistently been questioned in the media. A side-by-side analysis of an average beef burger and some of the best known meat alternative brands indicates somewhat of a draw. The beef burger is high in cholesterol, saturated fat and calories, while all the plant-based burgers listed in Table 1 have a higher salt content and – with the exception of Nestle’s Sweet Earth Sensational Burger – a slightly lower protein content. Irrespective of whether the burger is plant or meat-based, these products still equate to fast food and are not very healthy. Meat alternatives do, however, have an important role to play in helping consumers transition, particularly in the West, towards lower yet higher quality animal protein consumption. According to the Eat Lancet Commission, the transition towards healthy and sustainable diets requires doubling the consumption of fruits, vegetables, legumes and nuts, while reducing the intake of sugars and red meat by more than 50%.⁶⁵

Table 1

FAIRR nutrition comparison between beef and leading plant-based meat alternative brands

Plant-Based Burger	Calories (per 100g)	Cholesterol (per 100g)	Saturated Fat (per 100g)	Sodium (per 100g)	Sugar (per 100g)	Protein (per 100g)	Price per packet (as at 30 June 2020)	Price per patty
Sweet Earth Sensational Burger	230	0mg	6g	354mg	<1g	23g	\$5.99 (2 patties)	\$2.99
Impossible Burger	212	0mg	7g	327mg	<1g	17g	\$6.99 (2 patties)	\$3.50
Beyond Burger	230	0mg	4g	310mg	0g	18g	\$7.35 (2 patties)	\$3.67
Simple Truth Emerge Plant Based Patties	204	0mg	8g	345mg	0g	18g	\$4.49 (2 patties)	\$2.24
BOCA All American Veggie Burger	155	7mg	1g	648mg	<1g	18g	\$3.79 (4 patties)	\$0.95
Gardein Ultimate Plant Based Burger	212	0mg	14g	398mg	<1g	17g	\$4.49 (2 patties)	\$2.24
Plant Pioneers Smoky 'Jack' Quarter Pounder	141	Not Reported	2g	461mg	1.9g	6.2g	\$3.07 (2 patties)	\$1.53
Naked Glory Legendary Quarter Pounder	186	Not Reported	3.5g	490mg	0.73g	15g	\$3.37 (2 patties)	\$1.68
Average US beef patty	295	84mg	9g	230mg	0g	23g	\$2.99 (2 patties)	\$1.49

Sources: Sweet Earth Sensational Burger product information and price from Ralphs; Impossible Burger product information and price from Dillons; Beyond Burger product information and price from the Vegan Kind Supermarket; Simple Truth Emerge product details on Kroger website; BOCA burger product information and price from Kroger; Gardein plant-based burger product information and price from King Soopers; Plant Pioneers product information on Sainsbury's website; and Naked Glory product information and price from Tesco. Average US beef patty used USDA database for: beef, ground, patties, frozen, cooked, broiled NDB Number: 13317



FAIRR *view*

Affordability, taste and nutrition are key factors for long-term success in alternative proteins

Beyond the initial customer excitement of trying something new, successful alternative protein products and brands must be able to develop and retain their new customer base.

Invest in taste

Having a tasty product is perhaps the most important factor. Technology has played and will continue to play a crucial role in ensuring that the taste, texture, flavour, smell and nutritional profile of plant-based and alternative protein products are in the future at least on par with meat, if not better.

Pay attention to nutrition

Consumers want 'clean' and healthy products. Both the Beyond Meat and the Impossible burger have been referred to as being healthier than regular burgers. However, there are increasing concerns about processed ingredients as well as the nutritional profile of plant-based meat alternatives more generally. After winning over consumers on taste, companies need to be looking towards enhancing nutritional profiles to create healthier versions without compromising on the taste, texture, flavour or experience of these products.

Price parity is key

Price is one, if not the most important influencer of choice. The market has come a long way since the veggie burgers of the 1980s but transitioning the standard diet towards one that is good for both people and planet requires more than the average veggie burger or dairy alternative. It requires consumers to make an explicit choice. After all, consumers need to want to eat plant-based because it tastes better, feels better and is cheaper than meat.

Shiok Meats Pte. Ltd.

Founder(s)

Dr Sandhya Sriram and
Dr Ka Yi Ling

Headquarters

Singapore

Number of employees

11

Stage

Series A (currently raising)

Total capital raised (USD)

\$7.6 million

Website

shiokmeats.com



About

Shiok Meats is a cell-based clean meat company, the first of its kind in Singapore and South-East Asia. Its mission is to bring delicious, clean and healthy seafood and meats by harvesting from cells instead of animals. Shiok Meats will bring cell-based crustacean meats (shrimp, crab, lobster) to your table. Its meats are animal-, health- and environment-friendly with the same taste, texture, more nutrients and no cruelty. “Shiok” in Singapore and Malay slang means fantastic and delicious. The company is currently in the R&D phase and will commercialise in a few years.

Interview with Dr Sandhya Sriram

How is COVID-19 impacting the food industry, and specifically, meat and dairy consumption? How are food businesses in Asia responding?

In people’s minds, the COVID-19 virus originated from meats/ seafoods sold at the Huanan Seafood Market in China. This has led consumers to re-think their food choices, especially around meat and seafood consumption. COVID-19 has made consumers more educated and aware of their food choices. This has led to a reduction in the purchasing and consumption of meat, predominantly among the younger population.

The COVID-19 pandemic has also impacted food supply and food safety – given that Singapore imports 90% of its food consumption, the disruption in the food supply chain has made us look more closely at local sources of food. Food businesses in Asia are having to adapt, and unfortunately, some have had to shut down due to lower demand or due to not being able to operate during the lockdown. Asia was always more open to alternative proteins than the West. Consumers are now even more open to alternative proteins given the likelihood that COVID-19 originated from a wet meat market. Consumers are much more open to listening, educating themselves and trying different alternative proteins.

For companies like us, it is the most crucial time to enhance the transparency of our processes and technology, and the education of potential consumers even more. At the time same, the path to commercialization has to be shorter to meet demand.

To access the full interview, please visit [fairr.org/sustainable-proteins](https://www.fairr.org/sustainable-proteins)



Regulation

“Even as they deal with COVID-19’s impacts on public health and the food supply, the U.S. Department of Agriculture and Food and Drug Administration continue to make good progress towards developing their joint regulatory framework for cell-based/cultured meat, poultry and seafood. This is an encouraging sign for the industry, and for consumers since diversity in our food supply means greater stability, availability and choice.”

Alliance for Meat, Poultry
and Seafood Innovation

Positive regulatory outlook

The regulatory outlook for the alternative proteins market is positive, particularly given that many countries across the world are looking towards innovation to reduce the negative impacts of current production systems and to secure national food security. This includes Singapore with its 30-by-2030 commitment, the EU and its recent Farm to Fork Strategy, and most recently, Canada, which announced a \$100 million investment in plant-based foods.

The regulatory approval process in the EU requires foods and/ or ingredients not previously sold and consumed to obtain certain pre-market authorisations. According to the EU Novel Foods Legislation (Regulation EU 2015/2283), the European Food Safety Authority (EFSA) is responsible for carrying out the relevant assessments on a case-by-case basis. Cell-culture is included in its mandate.

In the US, novel foods can be subject to regulatory oversight by multiple federal and state agencies. For cell-culture, the US Department of Agriculture (USDA) and the Food and Drug Administration (FDA) have announced that they will share joint oversight and are currently working to establish a clear regulatory pathway for cell-cultured products.

In Singapore, as part of the government's ambition to produce 30% of its nutritional needs in Singapore by 2030, it is investing in innovation and creating a supportive environment to enable the expansion of technologies like cell-culture. The Singapore Food Agency (SFA) has been developing a new novel foods regulatory framework that will require cell-culture and other alternative protein companies to seek pre-market approval including a safety assessment which is estimated to take between three to six months.⁶⁶

The battle over labelling has intensified

As the number of alternative protein products in the market increases, so has the lobbying activity from the dairy and meat industry particularly around labelling. Since 2018, at least eight bills have been approved in countries worldwide, including France, and several states in the US where it is prohibited to use dairy and meat-related terms such as 'milk' or 'sausage' to describe plant-based products. However, strong opposition from organisations like the Good Food Institute (GFI), the Plant Based Foods Association (PBFA) and the recently established Alliance for Meat, Poultry and Seafood Innovation (AMPS Innovation) has helped level the playing field for plant-based and cell-cultured meat. In Mississippi, USA, a bill was passed in July 2019 that prohibited food companies from using terms such as 'veggie' to describe plant-based products, though it was overturned in November 2019. PBFA has been instrumental in preventing legislation passing in Arizona, Indiana, New York, New Mexico and Washington.

To access a summary of proposed, approved or rejected bills on plant-based labelling please visit fairr.org/sustainable-proteins.

“The growth of the plant-based foods market has brought with it a growing battle over the labelling of these foods. In the face of intense lobbying from the dairy and meat industries, the PBFA is calling for a regulatory landscape that fosters innovation and levels the playing field for plant-based food companies.”

Michelle Simon

Executive Director,

Plant Based Foods Association

Avant Meats

Founder(s)

Carrie Chan (CEO)
Dr Mario Chin (CSO)

Headquarters

Hong Kong Science Park

Number of employees

5

Stage

Pre-pilot (2019 completed
POC, 2020 cost reduction R&D,
2021 pilot production)

Total capital raised (USD)

Undisclosed

Website

avantmeats.com



About

Avant Meats is a technology company with patent-pending solutions for large scale cultivation of cells at an economically viable cost in an environmentally sustainable way. The company was founded in 2018 and is headquartered in the Hong Kong Science Park.

Applications of the technology include cultivated meat as food. The company's pilot products are fish meat and fish products that have been tailored for China and other Asian markets. The products are GMO-free, pollutant-free and more nutritious than conventionally produced fish.

Other applications include the production of functional marine proteins that are currently being produced at high cost. Products are used as ingredients in health supplements, skincare and wound dressing products.

Interview with Carrie Chan and Dr Mario Chin

How is COVID-19 impacting the food industry, and specifically, meat and dairy consumption? How are food businesses in Asia responding?

Although the long-term effects of COVID-19 have yet to be revealed. Our personal views are that in the West, the production and slaughter of animals for food has been deliberately disassociated from consumer minds by the meat industry. In the East, however, freshness is considered very important in Chinese food culture. It is one of the reasons why live animals, in cages waiting to be slaughtered is a common scene in marketplaces that are mostly wet and of varied hygiene conditions.

With COVID-19, the concern over the hygiene standards of markets and food safety has been brought to attention. I would not be surprised if people now go more frequently to supermarkets for their groceries. There, they will be more exposed to branded and packaged products. In Hong Kong, supermarkets are like neighbourhood stores. The range of products is relatively limited, hence, people would still need to visit wet markets, for items such as live fish and seafood. Hypermarkets are more common in mainland China's top tier cities. They often come with a wet grocery section, which may completely eliminate the need to visit a wet market. These will drive further changes in food businesses in this part of the world.

To access the full interview, please visit [fairr.org/sustainable-proteins](https://www.fairr.org/sustainable-proteins)

Starfield

Founder(s)

Kiki Wu & Cross Chen

Headquarters

Shenzhen, China

Number of employees

26

Ingredients used

Protein from soy and beet for red colouring

Stage

Angel

Total capital raised (USD)

Undisclosed for now

Website

starfieldcn.com



About

Starfield is a plant-based meat pioneer brand with its own R&D capability and production base in China. Starfield is innovating plant-based meat through the use of molecular sensory techniques, which create a striking similarity between plant-based meat and real meat in colour, flavour and taste, without the need to use artificial food flavoring. Starfield's vision is to promote a better lifestyle for human beings, one that is both healthy for the humans and environmentally friendly, as well as kind to animals.

Interview with Cross Chen

How is COVID-19 impacting the food industry, and specifically, meat and dairy consumption? How are food businesses in Asia responding?

In the first and second quarters of 2020, consumption at restaurants declined sharply due to the impact of the COVID-19 pandemic. Pork consumption became significantly suppressed and at the same time, the supply of pork decreased, which led to higher pork prices. As a result, the home consumption of pork also decreased. China is a major consumer of pork but in light of the pandemic, the overall consumption of meat and dairy products in the first quarter of 2020 was lower compared to the previous year.

As far as we know, COVID-19 intensely affects the foodservice industry and the whole retailing sector in China due to government regulation at this time. Specifically, restaurants are facing a serious business and financial crisis of late because people have not been allowed to get together for meals. At the same time, people have started to cook more often. Consequently, e-commerce that meets the demand for "non-contact" services and "new retail supermarkets" with instant delivery/home delivery services have experienced explosive growth, satisfying people's dietary needs at home.

To access the full interview, please visit [fairr.org/sustainable-proteins](https://www.fairr.org/sustainable-proteins)

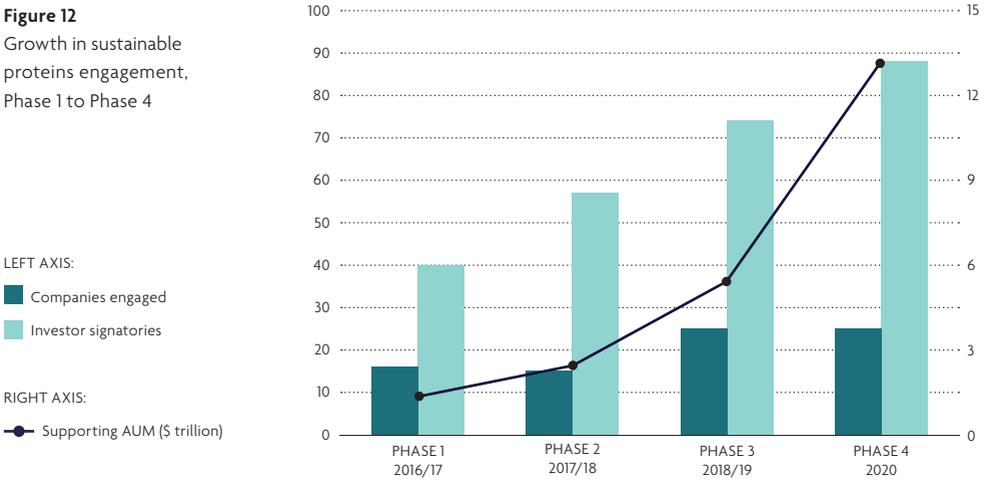


Investor engagement on protein diversification

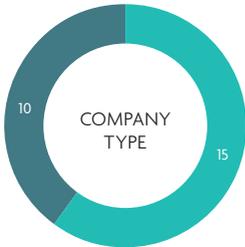
FAIRR's sustainable proteins engagement is the first and largest global investor engagement focussed on encouraging global food companies to develop a global, evidence-based and board-endorsed approach to transition protein portfolios away from an over-reliance on animal proteins and towards diversified and sustainable alternative protein sources.

Investor support for the engagement has grown tenfold since it was first launched in September 2016. Phase 4 of the engagement is supported by 88 investors with combined assets of nearly \$13.2 trillion.

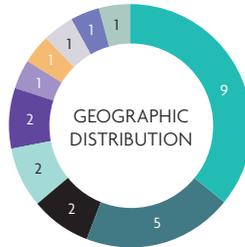
Figure 12
Growth in sustainable proteins engagement, Phase 1 to Phase 4



Company universe by type and geography



■ Retailer
■ Manufacturer



■ Australia
■ Canada
■ Columbia
■ France
■ Ireland
■ Netherlands
■ Sweden
■ Switzerland
■ UK
■ US



\$2.6

trillion
combined
market
capitalisation



\$1.8

trillion
generated in
revenue in
2018/2019



23/25

companies
sent formal
responses



21/25

entered into
dialogue with
FAIRR and/or
investors

Summary of company engagement

PHASE 1: 2016–2017 EXPLORATION

- **Number of companies**
16 global retailers and manufacturers
- **Objective**
Raise awareness of the issue with companies and assess their current thinking.
- **Process**
Companies contacted by post and email in September 2016, with follow-up calls as needed.
- **Investor support**
40 investors representing \$1.25 trillion in combined assets
- **Outcome**
13 of 16 companies sent meaningful responses. Kroger and Whole Foods did not respond. Costco's response was inadequate.

PHASE 2: 2017–2018 INFORMATION GATHERING

- **Number of companies**
16 global retailers and manufacturers
- **Objective**
Clarify companies' strategic approach, including whether a risk assessment of their portfolio's current protein mix had been conducted, metric development for monitoring protein exposure, and R&D budgets.
- **Process**
Companies contacted by post and email in July 2017. FAIRR organised company dialogues with investors between August and November 2017.
- **Investor support**
57 investors representing \$2.3 trillion in combined assets
- **Outcome**
50% of the companies met with FAIRR and/or investors. 14 of 16 companies sent meaningful responses. Whole Foods did not respond. Costco and Morrisons' response was inadequate.

PHASE 3: 2018–2019 ASSESSING COMPANY PROGRESS

- **Number of companies**
25 global retailers and manufacturers
- **Objective**
Assess company progress towards developing a protein diversification strategy, including metrics.
- **Process**
Companies contacted by post and email in August 2018. FAIRR organised company dialogues with investors between October 2018 and April 2019.
- **Investor support**
74 investors representing \$5.3 trillion in combined assets
- **Outcome**
72% of the companies met with FAIRR and/or investors. 22 of 25 companies sent meaningful responses. Costco did not respond. ICA Gruppen AB and Woolworth Group's response was inadequate.

PHASE 4: 2019–2020 IMPROVING DISCLOSURE

- **Number of companies**
25 global retailers and manufacturers*
- **Objective**
Publicly disclose information relating to a company's long-term approach, including board-level support, to transition protein portfolios
- **Process**
Companies contacted by post and email in January 2020, and company calls between April and May 2020.
- **Investor support**
88 investors representing \$13.2 trillion in combined assets
- **Outcome**
84% of the companies met with FAIRR and/or investors. 23 of 25 companies sent meaningful responses. Costco did not respond. Kraft Heinz provided limited information after the release of their new strategy was delayed.

*Ocado is no longer part of the engagement. The company has been replaced with Colombian food manufacturer Grupo Nutresa whose business model is more closely aligned with rest of the companies in the engagement.

What is protein diversification?

Companies must:

Evaluate their current exposure to animal proteins and the risk profile of these supply chains.

Assess the strategic implications of growth plans that are predicated on a higher reliance on animal proteins (through scenario analysis).

Commit at the highest level to transitioning their global business model to less resource-intensive food products.

Develop a cross-functional strategy (involving R&D, marketing, sustainable sourcing) to undertake a transition.

Set clear goals and timelines to achieve a transition.

Report on the right metrics to evaluate portfolio transition.

“Changing consumer attitudes, food tech innovation, environmental and health risks – also for workers – are set to reshape the protein production industry as we know it, with the alternative protein market expected to grow to \$17.9 billion by 2025. This brings sizeable opportunities for companies that implement strategic goals for managing a robust protein transition.”

Nina Roth

Director, Responsible Investment
BMO Global Asset Management

Evaluating company progress with the FAIRR framework

FAIRR's evaluation framework assesses companies on six assessment categories: Materiality, Strategy, Product Expansion, Consumer Engagement, Tracking & Reporting, and Investor Engagement. The assessment categories are designed to track company approach to mitigating supply chain risks in animal protein commodities, as well as their approach to expanding alternative protein portfolios through product development and consumer engagement.

The six assessment categories are each supported by five key performance indicators (KPIs), which have been customised for retailers and manufacturers. FAIRR has further refined the framework to provide more detailed scoring guidance across all KPIs. For retailers, this year within the Product Portfolio assessment category, we have differentiated between private label and external branded products.

Companies are scored based on their performance against each of the six assessment categories. Five of the categories are equally weighted at 18%: Materiality, Strategy, Product Portfolio, Consumer Engagement and Tracking & Reporting. Company engagement with investors has a lower weighting at 10%. Final company scores are calculated as the total sum of scores for each assessment category. Companies can receive a maximum score of 100 points and are categorised across five levels to indicate how prepared they are to undertake a protein diversification strategy: Inactive; Reactive; Active; Proactive; and Pioneer.

All companies received a detailed qualitative assessment of their performance against the evaluation framework and were given the opportunity to provide feedback. We referred to each company's annual report, quarterly earnings calls, sustainability reports, websites, CDP responses (if publicly available) and any other publicly available source, including media reports. We also incorporated information from company responses to the investor letter and notes from company/investor meetings, where available.

Overview of FAIRR's six-part evaluation framework

MATERIALITY	STRATEGY	PRODUCT EXPANSION	CONSUMER ENGAGEMENT	TRACKING & REPORTING	INVESTOR ENGAGEMENT
<p>Company acknowledges high animal protein exposure as material business risk and board level support for portfolio transition</p> <p>Scenario analysis on soft commodity supply chains including protein completed and a clear understanding of impacts</p>	<p>Company has time-bound commitment(s) in place to transition multiple categories to more sustainable product choices</p> <p>Percentage based absolute emission or Science-based target on Scope 3</p>	<p>Evidence demonstrating:</p> <ul style="list-style-type: none"> Resourcing in R&D and/ or cross-sectoral collaborations Product reformulation across categories Expanded product portfolio 	<p>Evidence demonstrating</p> <ul style="list-style-type: none"> Product promotions and marketing initiatives to encourage shift towards sustainable diets Product placement merchandising plant-based products adjacent to conventional categories 	<p>Company discloses formal metrics in annual public reporting on:</p> <ul style="list-style-type: none"> Protein exposure Scope 3 emissions linked to animal agriculture 	<p>Level of engagement with the investor coalition on this issue</p>

FAIRR members can access the detailed evaluation framework for retailers and manufacturers at fairs.org/sustainable-proteins.



Companies are categorised across five levels to indicate how prepared they are to undertake a protein diversification strategy

LEVEL	SCORE RANGE	WHAT THIS TYPICALLY MEANS
INACTIVE	0	The company shows no evidence that it is expanding its portfolio to alternative protein sources. Further, the company has not undertaken any supply chain initiatives to mitigate environmental impacts of its animal protein commodities.
REACTIVE	1-29	The company is reacting to increased consumer demand for alternative and plant-based protein products. It has launched or added some products to meet this demand. The company has some healthy/nutrition goals to increase the consumption of whole grains and vegetables through its products.
ACTIVE	30-51	The company acknowledges the environmental and health impacts associated with diets heavy in animal proteins. The company is working actively to expand its alternative protein portfolio and has ad-hoc initiatives to engage consumers on the benefits of plant-based diets. On the supply chain side, the company has committed to setting science-based targets, including on its agricultural supply chain. It also has some initiatives in place to address the environmental impacts of its animal protein commodities.
PROACTIVE	52-72	The company explicitly acknowledges the environmental and health impacts associated with diets heavy in animal proteins and accepts the materiality of this issue for its business. However, it does not demonstrate explicit board-level support to undertake such a transition. The company has conducted some type of risk or scenario analysis to understand how its growth will be impacted by animal protein commodities. The company has an active R&D programme on alternative proteins. It demonstrates evidence of using multiple strategies to expand its product portfolio and engage consumers on the benefits of plant-based diets. The company has established internal metrics to track progress but does not share this externally.
PIONEER	73-100	The company has modelled the implications of growing animal protein consumption (in line with anticipated trends) on its business and sustainability strategy. The company demonstrates explicit board-level support to undertake a protein transition. This is supported by a publicly available quantitative target that provides the roadmap for how it will transition to a protein portfolio in line with sustainability and health considerations. The company has a sourcing programme in place to reduce the sustainability impacts of its animal protein sourcing, including through a science-based target to reduce emissions. The company has an active R&D programme on alternative proteins. It demonstrates evidence of using multiple strategies to expand its product portfolio and engage consumers on the benefits of plant-based diets. This is supported by a growing category share of alternative/plant-based foods and protein products across its business. The company establishes formal, standardised metrics to track its protein portfolio transition in line with its protein transition target.



Measuring company progress

“The COVID-19 crisis has exposed the fragility of supply chains, and illuminates the need for innovative and alternative proteins to be explored as a potentially more resilient solution to the issue of soaring global protein demand. That’s why Northern Trust Asset Management has joined FAIRR’s initiative to engage food companies on their long-term strategy to address human needs and consider alternative proteins. With the US plant-based sales up 200% from April 2019 to April 2020, investors are interested to see supermarkets and food retailers diversify their protein sources to fortify their supply chains in a resource-constrained, post-COVID landscape.”

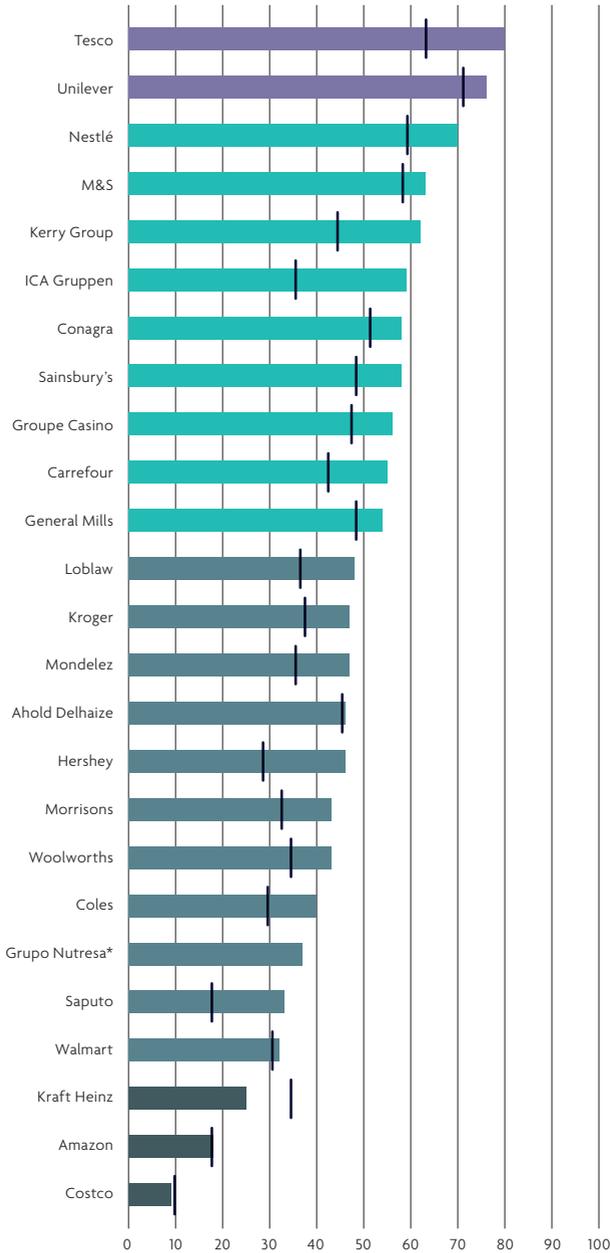
Julia Kochetygova

Head of EMEA Stewardship, Northern Trust Asset Management

Figure 13
2020 total scores and ranking



*This is the first year FAIRR has engaged with Grupo Nutresa. The company has replaced Ocado, given its business model is more closely aligned with the rest of the companies in the engagement.



Source: FAIRR



Summary of results

Tesco and Unilever are the first two companies in the engagement to achieve the 'Pioneer' level. This reflects the progress made by these to evolve their business and sustainability strategies in line with a dietary transition towards low-impact protein sources. Tesco and Unilever are exploring demand-side interventions that go beyond simply increasing product choice for consumers. However, no company has set time-bound, board-endorsed commitments to transition multiple categories and/or brands towards low-carbon and less resource-intensive ingredients and products.

Swedish retailer ICA Gruppen has seen the largest score increase following the launch of its Växa Initiative in May 2020, which outlines its strategic approach to increasing the development and consumption of plant-based foods.

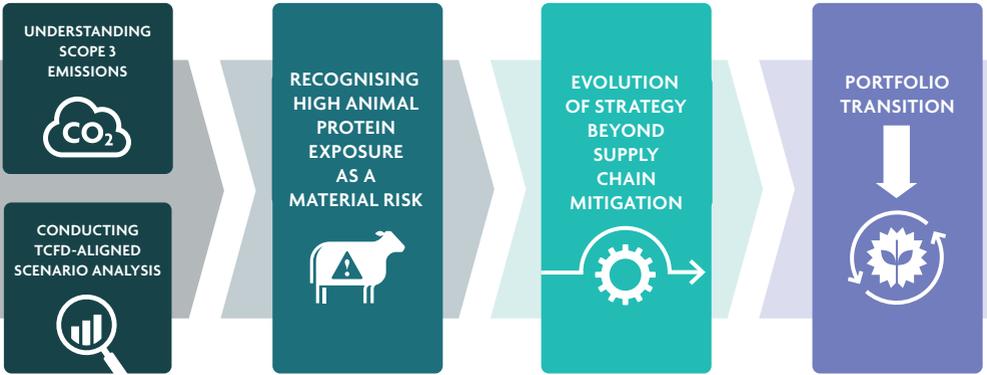
Hershey and Kerry Group have also made good progress, while Canadian-dairy manufacturer, Saputo has moved from having no direct exposure to the plant-based market to owning a dedicated brand and appointing a Senior VP for Plant-Based Foods.



Only two companies have seen score deductions in Phase 4. Costco remains one of the lowest-performing companies in the engagement. The company is one of North America's largest meat sellers and owns a poultry processing facility in Nebraska, but has taken few steps to reduce impacts across all of its animal protein supply chains. This year, Kraft Heinz saw a drop in its score due to limited evidence demonstrating innovation within its portfolio, which includes its flagship plant-based BOCA range. The company has, however, indicated that it is working to develop its approach to protein diversification and plans to release information later this year.

Figure 14

Pathway to action: from understanding impacts to diversifying protein sources



Source: FAIRR

Discussion of results for Phase 4

Pathway to action

A common trajectory that food companies follow in establishing a comprehensive and strategic approach to protein diversification begins with companies building an understanding of their current and future risk exposure in animal protein supply chains through risk assessments and scenario analysis.

Understanding Scope 3 emissions, including those from animal agriculture, is a fundamental first step that enables companies to appreciate the outsized contribution typical of protein supply chains. The factors underpinning this may be familiar – including methane from enteric fermentation, land use change and deforestation – but a quantitative assessment delineates the proportion of emissions that are associated with different supply chains. It allows companies to see that efforts to reduce and mitigate supply chain impacts are best concentrated where footprints are the largest.

Scenario analysis, a key recommendation of the Task Force on Climate-related Financial Disclosures (TCFD), is another important tool that enables companies to stress test the resilience of their animal protein supply chains across different climate futures.

In FAIRR's engagement, 87% of companies that have carried out TCFD-linked scenario analysis on agricultural sourcing and/or quantified Scope 3 emissions from animal agriculture publicly recognise and discuss the environmental impacts associated with their animal agriculture portfolios.

This has influenced the evolution of many companies' strategies, prompting a re-evaluation of existing supply chain efforts and a move towards a dual approach – one that includes supply chain impact reduction and mitigation, but also reviewing ingredients and transitioning to sustainable alternatives wherever possible.

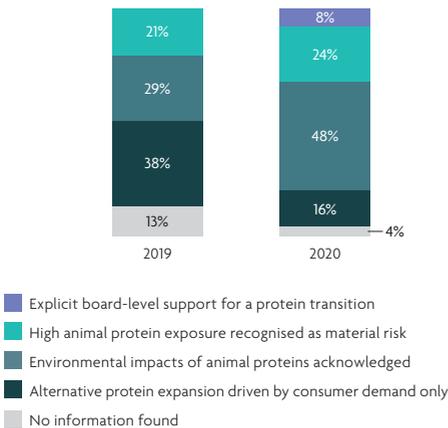
Mondelez, for example, has assessed its total value chain emissions and identified dairy as a key contributor. As a result, dairy is included in its new SBTi-approved target and the company is working to develop a climate mitigation strategy for its dairy supply chain. Companies like Tesco, ICA Gruppen and Unilever are going a step further by evolving their current strategies beyond the supply chain and towards the consumer.

Recognising animal protein exposure as a material risk

The number of companies in the engagement that recognise the explicit connection between protein portfolios and environmental impacts such as climate change has increased by 67%. 24 of 25 companies now recognise the materiality of acting on protein diversification. This increased recognition has raised the average materiality score from 6.6 in 2019 to 8.6 in 2020.

Figure 15*

Recognition of the material risks associated with animal protein portfolios



Walmart is the only company in the engagement that does not explicitly recognise the importance of protein diversification either from a consumer demand perspective, or as a climate risk mitigation tool.

BEST PRACTICE



ICA Gruppen

Swedish retailer ICA Gruppen launched the Växa Initiative in May 2020. It is sponsored by the board and explicitly focussed on increasing the proportion of plant-based food in Swedish diets. Through this initiative, ICA Gruppen publicly recognises the shift towards greater plant-based food consumption as the most crucial step towards creating a sustainable food system:

“Increasing the proportion of plant-based food is the single most important change to create a long-term, sustainable food system.” (Homepage Växa Initiative, translated from Swedish)

The Initiative discusses three key areas:

1. Scaling up and collaborating with companies to support plant-based marketing and go-to-market strategies;
2. Facilitating the stocking of local plant-based products in ICA stores; and
3. Collaboration and open research to develop and test new vegetable and plant-based products.

Scenario analysis of protein supply chains

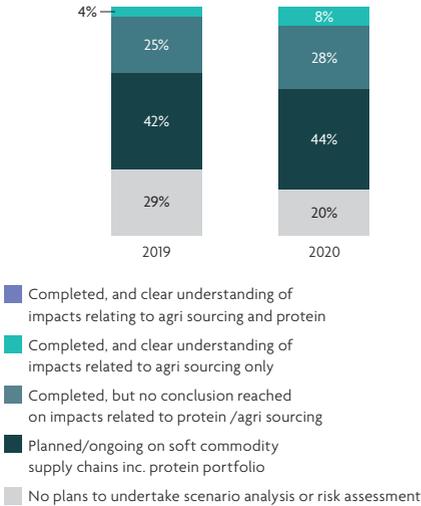
Although the number of companies completing scenario analysis or risk assessments on their soft commodity supply chains has increased to nine (up from seven in 2019), there remains a lack of meaningful disclosure around findings. Two companies – Tesco and Conagra – have publicly reported high level findings from their completed scenario analysis or other risk assessment.

Two companies have seen a reduction in scores due to a lack of follow-up on commitments disclosed. Previously, Carrefour indicated in 2019 that it planned to undertake scenario analysis on supply chains including proteins, yet further discussions indicate that the company is yet to begin the work formally. General Mills also confirmed that its work in this space is ongoing.

*2019 n=24, 2020 n=25. Grupo Nutresa replaced Ocado for 2020 and Ocado has been omitted from 2019 data for consistency

Figure 16*

Has a TCFD-aligned scenario analysis been conducted?



BEST PRACTICE



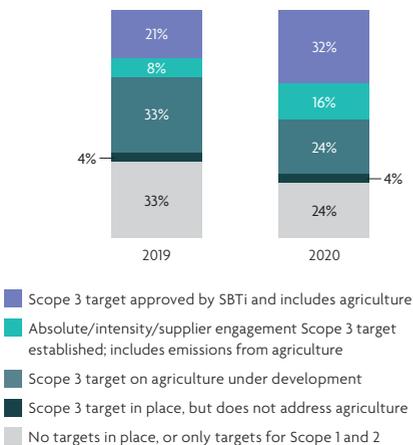
Tesco

Tesco conducted their first Task Force on Climate-related Financial Disclosure (TCFD) scenario analysis in 2018/19. It focussed on animal proteins, produce and UK property, which comprise the company’s key commercial categories in the UK. In terms of animal protein, the analysis covered milk, beef, lamb and chicken. The methodology and high-level findings are documented in its 2020 Annual Report where Tesco publicly committed to implementing the recommendations that arose from their scenario analysis.

The key physical risks identified include exposure to rising temperatures, changes in rainfall patterns and extreme weather events disrupting supply chains. Transition risks include widespread dietary shifts away from animal proteins and climate policies that are in line with a 2-degree warming scenario. The company has also established a three-pronged approach to addressing risk, which includes expanding its plant-based offerings, addressing livestock impacts, and supporting the development of climate policy. Through this, Tesco has identified plant-based foods and meat alternatives as a key opportunity. In the future, Tesco hopes to expand its focus to include soy and will assess current impacts alongside the risks and opportunities associated with feed sources and animal proteins.

Figure 17*

Does the company have Scope 3 emissions targets?



Scope 3 emissions targets

The number of companies that have committed to reducing emissions across their value chain, including animal agriculture, has increased significantly over the last twelve months. 12 out of 25 companies have set Scope 3 targets, which include emissions from animal agriculture. Eleven of these are publicly disclosed. Only Kerry Group’s Scope 3 emissions target, which has been approved by the SBTi, but at the time of writing, has not yet been publicly announced.

*2019 n=24, 2020 n=25. Grupo Nutresa replaced Ocado for 2020 and Ocado has been omitted from 2019 data for consistency

Table 2

Comparison of company Scope 3 targets

Company	Target Year	Baseline Year	Target (% reduction/ Mgt CO2e amount)	CO2e in Target year (Mgt) - if disclosed	Submitted to SBTi	Level of Disclosure
Groupe Casino*	2025	2018	10%	18.68	Approved Sep-19	
Nestlé*	2020	2014	8%	102.3	Approved Feb-17	
General Mills*	2025	2010	28%	11.97	Approved Sep-15	
Carrefour	2030	2019	29%		Approved Jun-20	
Mondelez	2025	2018	10%		Approved Jan-20	
ICA Gruppen****	2025	2006	70%		Approved Sep-18	
Unilever	2030	2010	50%		Approved Jun-17	
Tesco	2030	2015	17%		Approved Jun-17	
Marks & Spencer**	2030	2017	13.3		Approved Jun-17	
Walmart***	2030	2015	1000		Approved Nov-16	
Morrisons	2030	Not disclosed	Net zero ag. emissions		Not SBTi approved	
Kerry Group	2030	Not disclosed	30%		Approved date not disclosed	
Sainsbury's					Jan-20	
Ahold Delhaize					Feb-19	
Hershey					Jan-19	
Conagra					Oct-18	
Kraft Heinz					Jul-18	
Grupo Nutresa						
Loblaw						

KEY (Level of Disclosure):

In the process of setting Scope 3 targets Set Scope 3 targets Targets approved by the SBTi Full disclosure of targets

We understand full disclosure of targets to mean disclosure of base line year, target year, target % reduction, and baseline year amount of CO2e.

Note: The target (% reduction) refers to a reduction of x amount of Scope 3 emissions from the base year by the target year. The target year is the year companies have committed to achieving their target by. The baseline year is a reference point that companies base their target on. A company's target (% reduction) is based on the total amount of Scope 3 emissions in their baseline year.

*Amount of Mgt CO2e found in 2019 CDP disclosures.

**Marks & Spencer only have a scope 3 target by weight. They do not disclose whether this is avoided or reduced emissions, or whether it is a target per year or total over the period 2017-2030.

***Targets by weight of CO2e are no longer approved by the SBTi, they must be based on a percentage of emissions.

****ICA Gruppen release their baseline year emissions in terms of CO2e/m2



Adopting commitments to improve protein sustainability and plant-based consumption

Clear time-bound commitments or milestones are crucial to measure progress and ensure accountability. Within this assessment category, we look for commitments that supported the increased consumption of plant-based and/or alternative protein foods; and comprehensive sustainable sourcing programmes to reduce the sustainability impacts of sourcing animal proteins.

The number of companies that have adopted commitments relating to plant-based foods and/or proteins as part of their business or sustainability strategies has increased with the average strategy score going from 7.6 in 2019 to 9.3 in 2020.

BEST PRACTICE



General Mills

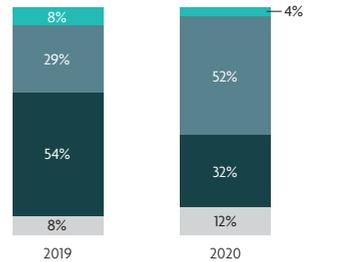
General Mills has a science-based target that commits the company to a 28% reduction in absolute emissions for its Scope 1, 2 and 3 emissions “from farm to fork to landfill”. This is to be achieved by 2025, relative to a 2010 baseline.

According to the Science Based Target initiative (SBTi), the Scope 3 target covers total GHG emissions across all relevant categories with a focus on purchased goods and services (dairy, row crops, and packaging). According to the company’s most recent Global Responsibility report, agriculture and transformation represents 52% of GHG emissions across its value chain. Within this, emissions from meat and dairy represent 15% and 21% respectively.

Through the CDP, General Mills discloses its baseline year CO₂e amount at 16.6 Mgt, which has been revised upwards, adding 0.1 Mgt of CO₂e to include the acquisition of pet food business, Blue Buffalo in 2018. Progress against its target is reported annually.

Figure 18*

Does the company have targets to shift to diversified protein targets?



- Time-bound commitment(s) to transition multiple categories/brands to more sustainable product choices
- Time-bound commitment(s) to increase choice or sales of plant-based foods
- Commitments supporting a healthy and sustainable diet
- Sustainable sourcing programme(s) on meat, dairy and seafood
- No information

Sustainable sourcing

At a base level, our assessment considers whether companies have adopted sustainable sourcing commitments on key animal protein commodities. While we do not assess the quality and strength of these initiatives, we do look for programmes that address environmental issues (e.g., deforestation risks, emissions, biodiversity and water use) rather than welfare or social issues.

Most of the companies in the engagement have some type of sustainable sourcing programme in place for at least one key animal protein. Marks & Spencer, General Mills, Unilever and Nestlé stand out with the most comprehensive sustainable sourcing programmes that address a number of environmental challenges across beef, fish and seafood, lamb, pork, poultry and dairy.

*2019 n=24, 2020 n=25. Grupo Nutresa replaced Ocado for 2020 and Ocado has been omitted from 2019 data for consistency



Hershey and Saputo are the only companies that do not yet have a sustainable sourcing programme in place for their main protein exposure, which is dairy. However, both companies have indicated to FAIRR that they are working to develop a climate mitigation strategy for their dairy supply chain.

Healthy and sustainable diets

Health and wellbeing remain a core focus for companies, with health concerns often cited as a key driver for increasing consumption of plant-based foods. The majority of companies in the engagement now support the incorporation of plant-based foods, wholegrains and/or fruit and vegetables as part of their health and nutrition programmes.

No company in the engagement has set a category-level targets to low-carbon and less resource-intensive ingredients and products. Companies like Kerry Group and Unilever have indicated that they have internal targets in place to support the expansion of plant-based products and solutions, but these are not publicly disclosed. Furthermore, some companies (including Tesco and Carrefour) have stated that they are working to identify what a meaningful protein diversification target might look like. They are considering research from the EAT-Lancet Commission and the IPCC to establish a view on the amount of protein that one should consume for optimal health and sustainability.

BEST PRACTICE



Unilever

Unilever updated its “Force for Good Strategy” in 2019 to prioritise the plant-based diet transition alongside existing supply-side initiatives.

Unilever has indicated that this transition has been accelerated as a result of COVID-19, which has impacted meat supply, reduced the price gap between meat and meat alternatives, and prompted some consumers to eat more healthily. The company has highlighted brands that are environmentally and nutritionally advantaged as significant growth drivers, with plant-based foods being a key example.

As a result, Unilever has accelerated its investment in plant-based R&D, start-ups, and partnerships and collaborations with universities and consortia. Last year, it opened its ‘Hive’ innovation centre in the Netherlands where, in addition to the development of novel protein sources and plant-based products, Unilever is looking at consumer behavioural change as a key factor in driving a protein transition.

Unilever has a clearly articulated agenda for improving the sustainability of its portfolio and has aligned its commercial and sustainability objectives. The next step for Unilever should be the development of public targets or time-bound commitments to transition relevant brands or product categories in its portfolio.

Plant-based product portfolios are expanding

Most companies in the engagement continue to invest in technology, are increasing internal capacity to support the expansion of plant-based products portfolios, and are actively working with external partners, including universities and industry initiatives, to advance the development of novel protein ingredients. Product reformulation efforts remain largely focussed on the removal of ingredients like salt, saturated fat, additives, sugar, gelatine, and calories. The average product portfolio score across the twenty-five companies in the engagement has increased from 6.9 to 7.9.

UK-based retailer Tesco is the only company to achieve full marks in this category. The company continues to build out its internal resources and now has a specialist team dedicated to plant-based innovation, which has been crucial to the successful expansion of its own-brand plant-based ranges (including Plant Chef and Wicked Kitchen). It is also the only company in the engagement to recently reformulate existing products to be fully plant-based.

Canadian dairy processor Saputo has also made good progress. Through its acquisition of Dairy Crest, the company has gained some direct exposure to the alternative proteins market through a dairy-free brand called Vitalite. It has also appointed a dedicated resource for plant-based business development.

Only four companies saw their scores drop in this category. Costco and Walmart's scores have decreased due to a methodology refinement which now differentiates between increases in product assortment from private labels and external brands. Morrisons, the company continues to expand its plant-based V Taste range, however, its efforts to reformulate existing products beyond gelatine have been limited.

Kraft Heinz' CEO, Miguel Patricio has publicly acknowledged that the company is "far behind" in the plant-based market compared to its peers. The company's BOCA range, which was relaunched in 2018 to become fully plant-based has been losing market share to competitors like Beyond Meat and Impossible Foods. According to Euromonitor, the BOCA burger's share of the US plant-based burger market fell to 3.8% in 2019 vs. 7.3% in 2013.⁶⁷



RETAILERS: OWN-BRAND EXPANSION

Figure 18

Majority of retailers are launching and expanding dedicated own-brand plant-based ranges

RETAILER	BRAND NAME	LAUNCH DATE	NUMBER OF PRODUCTS ⁱⁱ	PRICE TARGET
AHOLD DELHAIZE ⁱ	AH Vandaag Vegetarisch	Pre-2019	18	AFFORDABLE
CARREFOUR ⁱ	Carrefour Veggie	Pre-2019	80	AFFORDABLE
COLES ⁱ	Nature's Kitchen	August 2019	20	AFFORDABLE
GROUPE CASINO ⁱ	Monoprix Le Vegetal	Pre-2019	159	AFFORDABLE
	Casino Veggie	Pre-2019	17	AFFORDABLE
KROGER	Simple Truth Plant Based	September 2019	80	AFFORDABLE
MARKS & SPENCER	Plant Kitchen	January 2019	70	PREMIUM
MORRISONS	V Taste	Pre-2019	40	AFFORDABLE
SAINSBURY'S	Plant Pioneers	October 2019	30	AFFORDABLE
TESCO	Plant Chef	October 2019		AFFORDABLE
	Wicked Kitchen	January 2019	100	PREMIUM
WOOLWORTHS	Plantitude	October 2019	12	AFFORDABLE

ⁱ These companies also have plant-based products within other existing lines

ⁱⁱ Number of products are estimates based on information from the companies Amazon, ICA Gruppen and Loblaws are expanding through their existing ranges

MEAT & POULTRY

MEAT &

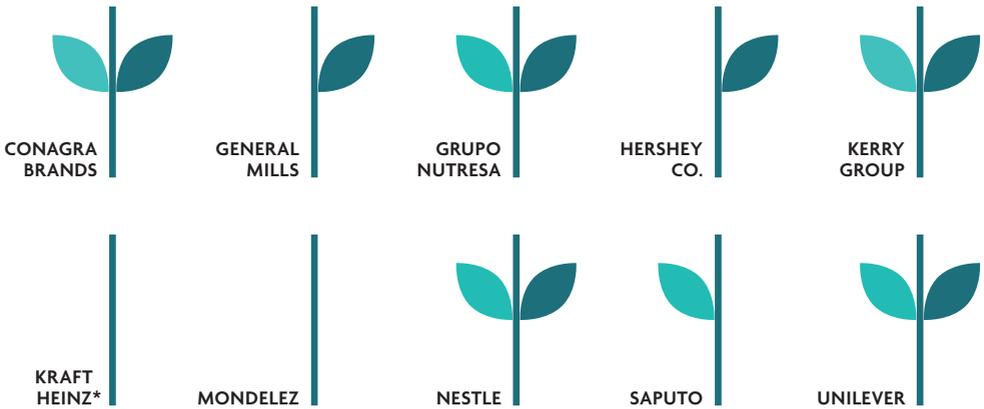


Costco and Walmart's efforts remain predominantly focussed on increasing the number of external branded products on offer, rather than developing products within their own ranges. Walmart US, which represents the majority of the company's revenue has added a number of external brands like TUNO and Tofurky, yet the world's largest retailer lags many of its peers when it comes to developing plant-based products under its private label. Asda, which is Walmart's UK subsidiary, launched its own plant-based range in January 2020. However, Asda represents less than 6% of Walmart's total revenue and it operates relatively independently from Walmart US.

MANUFACTURERS: NEW PRODUCT LAUNCHES

Figure 19

Manufacturers are expanding their plant-based product assortment through dedicated plant-based brands and/ or within existing brands



*Although Kraft Heinz has plant-based brands, it has not grown its product assortment in last 12 months

Source: FAIRR



Kraft Heinz is the only manufacturer with a dedicated plant-based brand (BOCA) that has not grown its product offering. It is also one of only two manufacturers, along with Mondelez that has not expanded its plant-based product offering in any significant capacity.

“Investors are increasingly seeing diversification into alternative proteins as an opportunity to mitigate potentially disastrous climate risks whilst building resilience for the widespread market disruption ahead. Amundi has engaged leading European retailers on how they plan to reduce their dependence on increasingly volatile animal protein sources and seize the opportunities presented by more sustainable proteins in the long-term.”

Caroline le Meux

Head of ESG Research, Voting & Engagement, Amundi



FAIRR *view*

Growth varies by region

For manufacturers and retailers, product launches are concentrated in areas where the market for plant-based products is most mature (i.e., Europe, North America, and Australia). Exceptions include General Mills' collaboration with Omnipork for Wanchai Ferry dumplings. Carrefour has expanded its offerings in Brazil, while Groupe Casino appears focussed on portfolio expansion in its home market of France. As with Carrefour, however, it runs an extensive operation in South America (c.43% of Groupe Casino's total sales).

A different pathway is envisaged for plant-based product expansion in emerging economies. In these countries, access to sufficient protein remains a challenge. Nestlé and Unilever recognise the need for differentiated strategies. In sub-Saharan Africa, for example, the focus will likely be on meeting nutritional requirements rather than encouraging consumers to switch to meat alternative products. There is also a significant opportunity to help markets bypass the need for the industrialisation of animal agriculture by diversifying both the production and consumption of protein to ensure that nutritional and sustainability challenges are addressed.

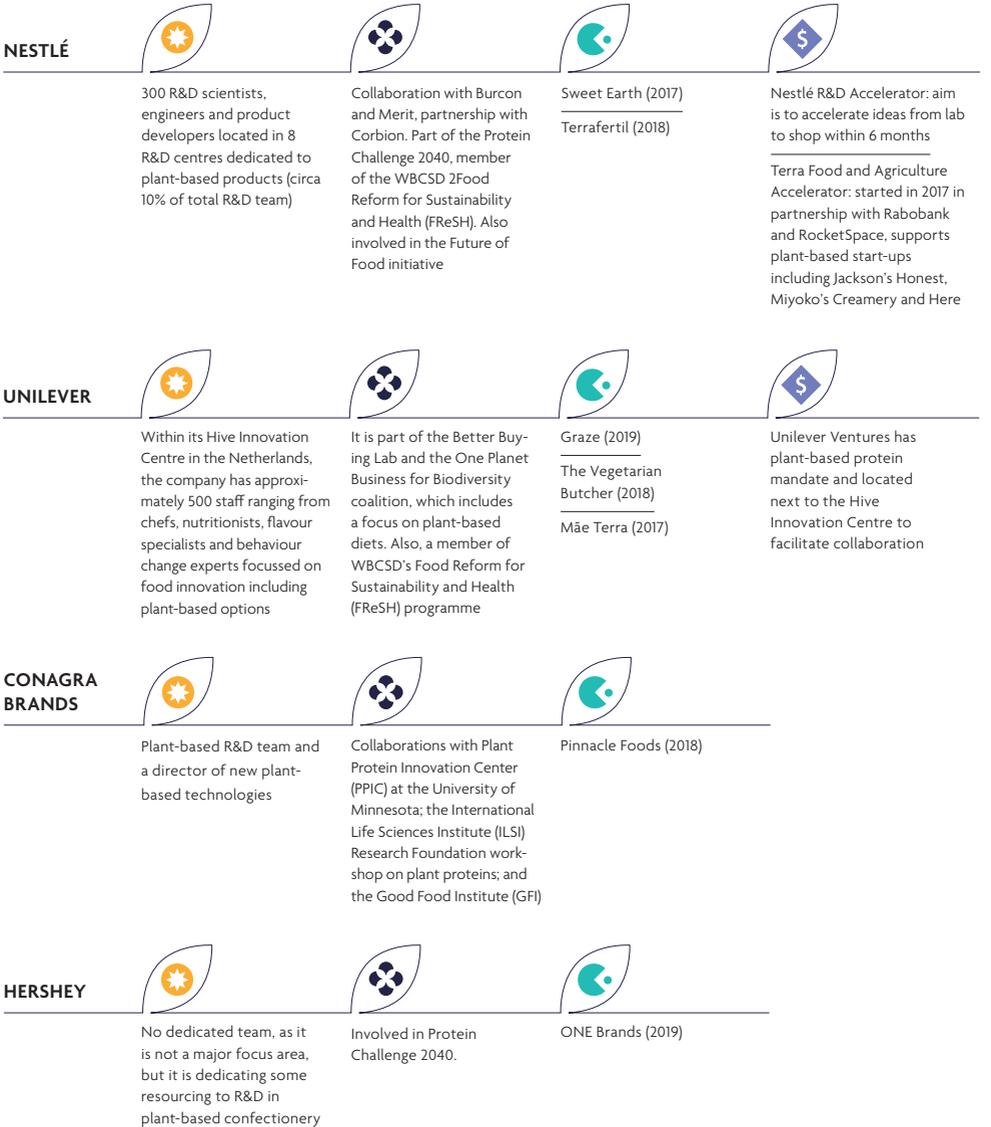
Partnerships with local organisations, suppliers and governments are key to achieving long-term food security. This is a stark contrast to Western economies where average protein consumption greatly exceeds the national recommendations. In these Western states, moderating protein consumption is necessary, which, along with the transition to less resource-intensive, plant-based food systems, is a key driver for reducing environmental impacts.

Inaction in less developed markets will ultimately call into question the sustainability commitments of companies with global operations. After all, the material environmental risks to which protein portfolios are exposed are global physical constraints unmoved by the commercial dynamics of varying market maturity and demand. Companies must recognise and tackle this challenge, shaping markets and encouraging uptake through creative, innovative and strategic product development and consumer engagement. Moreover, investors require clarity on company activity in all material operating markets, rather than selective reporting.

Figure 20

Manufacturers are building capacity through collaborations, venture investments and increased staffing

 DEDICATED INTERNAL TEAMS
  COLLABORATION/INNOVATION
  ACQUISITIONS
  VENTURE/DIRECT INVESTMENTS



Source: FAIRR

**MONDELEZ**

Announced a partnership in April 2019 with Israel-based food-tech incubator the Kitchen with a portfolio of 12 companies



SnackFutures: innovation platform launched in 2018. Supports innovation of new brands, investments in Uplift Foods, Hu, Perfect Snacks. Minority investments in Dirt Kitchen and CaPao.

KERRY GROUP

Established cross-functional team across the business to support growth within the plant-based category.



Ojah: Joint venture with the Dutch-based plant-based meat company (2018)
PevesaBiotech (2019)

SAPUTO

New appointment for Senior VP, Business Development, Plant-Based Food



Dairy Crest - owns Vitalite (2019)

KRAFT HEINZ

Evolv Ventures: Kraft's venture arm. Invested \$3.5m in New Culture an animal-free dairy cheese company
Springboard Incubator: invested in coconut-based yoghurt company amongst others in 2019

GENERAL MILLS

301 Inc – venture arm with significant exposure to plant-based start-ups including No Cow, Kite Hill and Rhythm Superfoods. 2020 investment in Gathered Foods

GRUPO NUTRESA

Nutresa Ventures: no plant-based investments or mandates confirmed

Consumer engagement

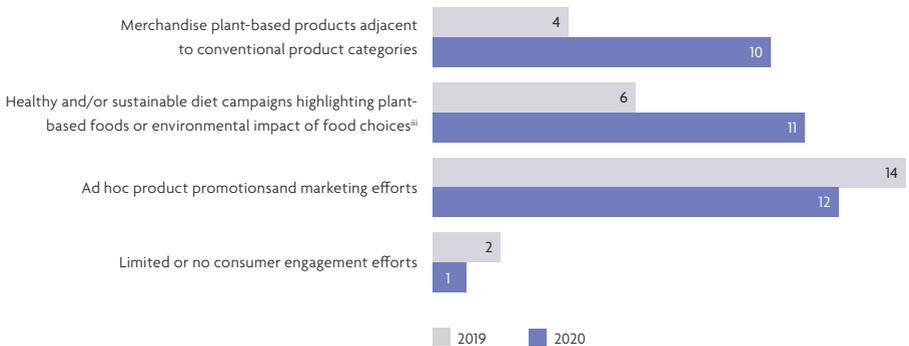
In line with the wider strategic shift that is occurring, which has seen a dramatic increase in the number of plant-based offerings and a greater urgency to address the impacts of climate change through dietary transition – companies have sought to ramp up their marketing efforts. Of the 25 companies participating in our engagement, 22 have demonstrated at least one type of marketing intervention that is focussed on improving plant-based consumption. The average consumer engagement score has also increased across the twenty-five companies in our engagement, from 4.8 to 6.5.

Retailers

Since last year, there has been an 83% increase in the number of retailers with dedicated marketing campaigns and promotions focussed on improving plant-based food consumption. These companies are employing creative branding methods to appeal to a broader range of consumers and help normalise the consumption of plant-based foods.

Figure 21

How are retailers engaging with consumers to support a dietary transition?ⁱⁱⁱ



i Total does not sum to the total number of retailers as companies can be active in multiple areas

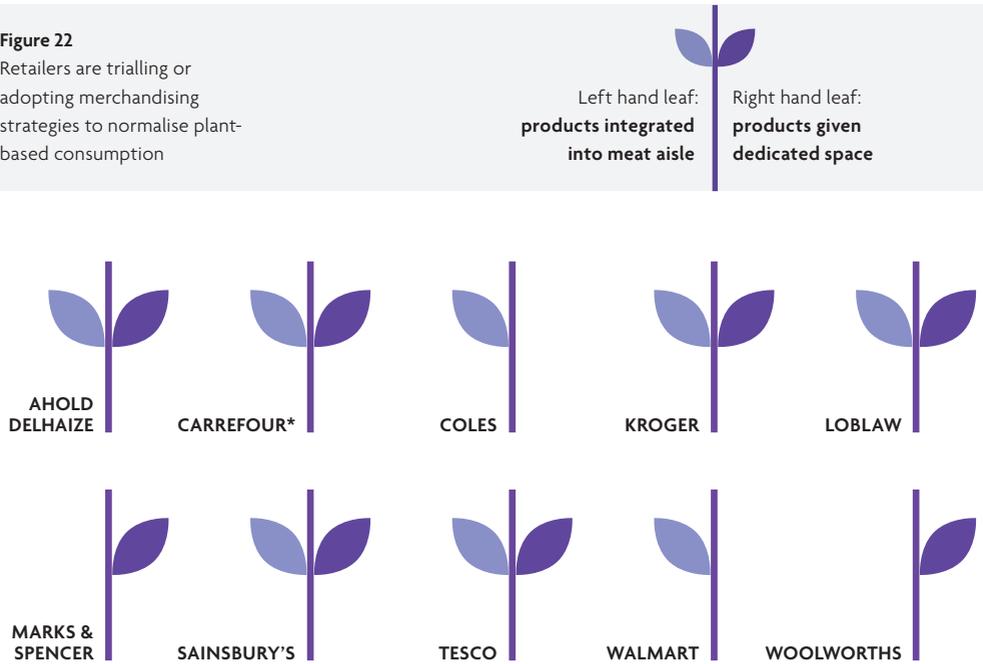
ii Areas correspond to scoring categories in the Consumer Engagement section of the FAIRR Sustainable Proteins framework

iii Healthy and/or sustainable diets that highlight at least 1 of: a) whole grains, fruits and vegetables; b) plant-based foods, c) the link between food choices and environmental impact

RETAILERS: MERCHANDISING STRATEGIES

Figure 22

Retailers are trialling or adopting merchandising strategies to normalise plant-based consumption



*Last year Carrefour trialled out selling plant-based products in the meat aisle, but it was not successful as the products were too expensive.

Source: FAIRR

 Costco is the only retailer in the engagement that has yet to demonstrate how it is engaging consumers through active marketing and promotional strategies to support the shift towards greater plant-based consumption.

Manufacturers

Compared to retailers, manufacturers tend to be less active when it comes to engaging consumers on dietary change and plant-based food consumption. However, this is beginning to change. The number of brand manufacturers with dedicated marketing campaigns focussed on improving plant-based food consumption from either a health or sustainability perspective has more than doubled since last year.

 Kraft Heinz and Mondelez were the only companies with little or no evidence of engaging consumers on this issue. Concerning Kraft Heinz, FAIRR has been unable to find any evidence to demonstrate that the brand is promoting its plant-based products (i.e. BOCA) or engaging directly with consumers. The brand's social media pages on Facebook and Instagram, for example, have not been updated since October 2018 and April 2019 respectively. Mondelez's efforts to engage consumers on the benefits of plant-based diets are exclusively limited to wholegrains. The company has, however, indicated to FAIRR that, as it brings new plant-based products to market, it will engage in strategic conversations with retailers to understand opportunities for promotions and influencing consumer behaviour.

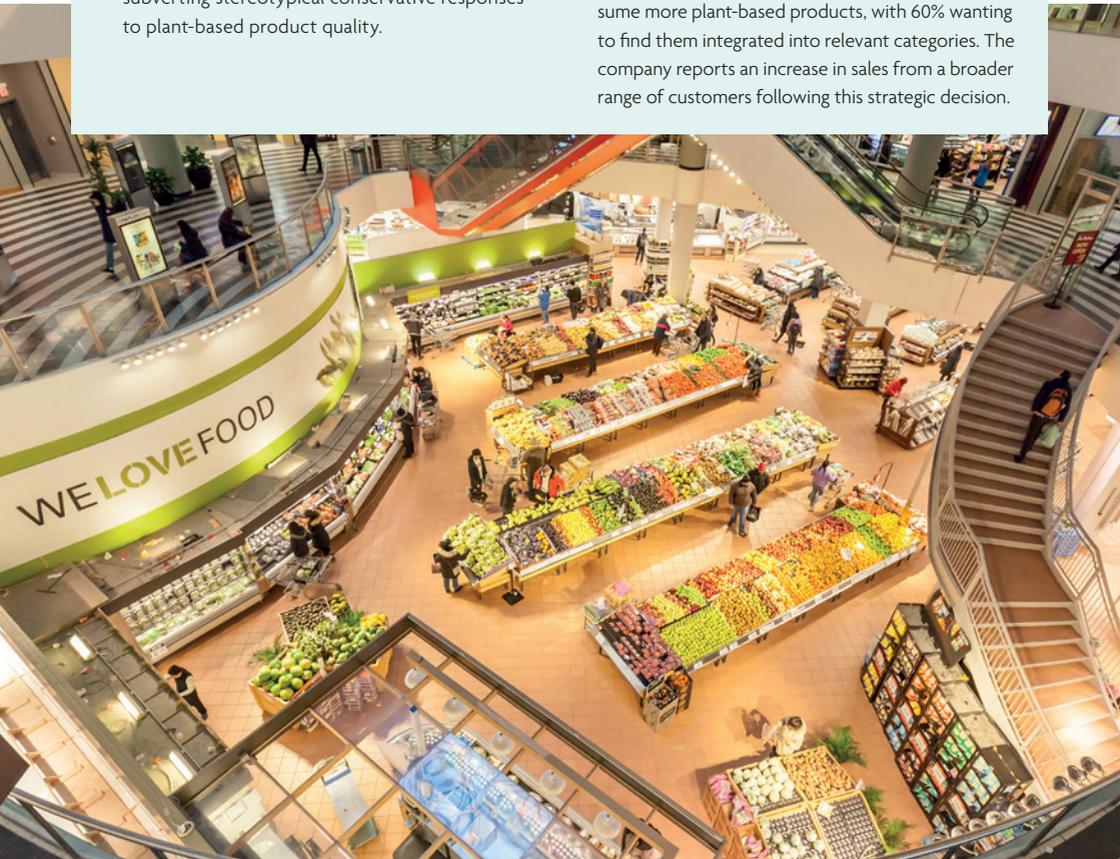


BEST PRACTICE

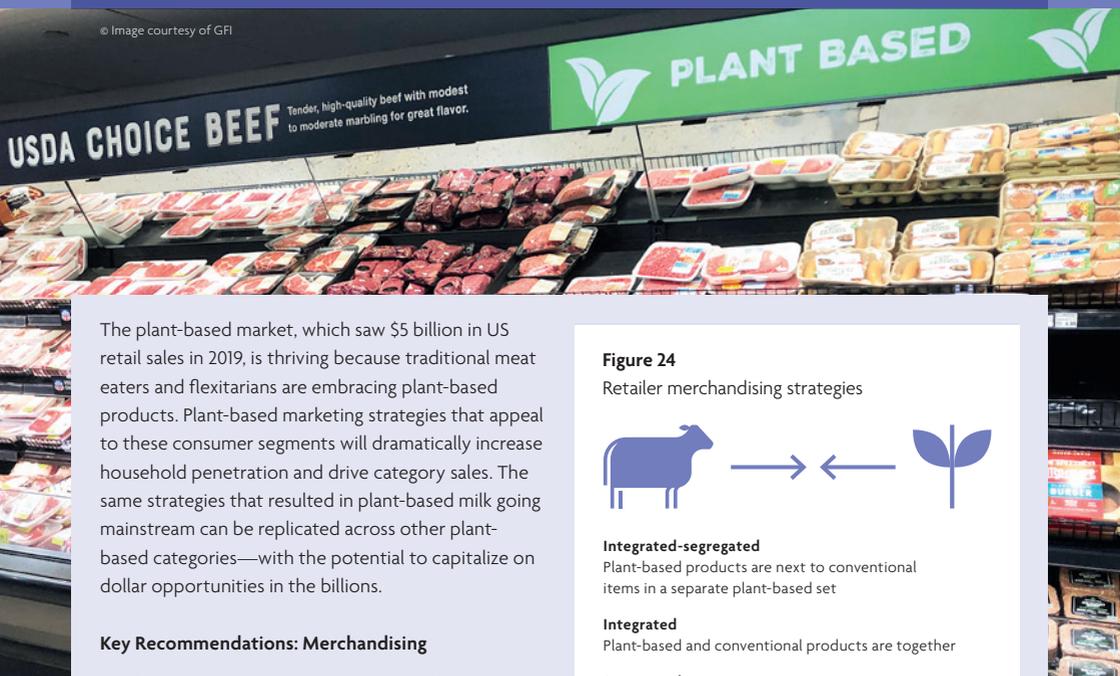
Retailer: Loblaw

In 2020, Loblaw developed a year-long marketing approach divided into three separate and distinct marketing waves to promote the expansion of its own-brand President's Choice plant-based products. Loblaw is using a multi-channel approach, including a national advertising campaign aimed at highlighting the social norm of eating plant-based foods. The company is planning to adopt a similar approach for 2021.

- Six video commercials, which have garnered almost 6 million views on YouTube.
- Adverts and promotional flyers featuring a tongue-in-cheek tagline of “Nothing to Fear”, subverting stereotypical conservative responses to plant-based product quality.
- The company's President's Choice Facebook page has over 450,000 likes and routinely promotes vegetarian and plant-based options with inclusive commentary establishing the norms of eating plant-based food alongside product quality and taste. Examples include “Plant-based is for everyone”; “Everything you'd expect from your burger – without the beef”; and “Creamy, rich and chocolatey cake? Yes, plant-based can do that too”.
- The company's decision to merchandise plant-based products alongside traditional counterparts is informed by third-party market research that identified 43% of Loblaw customers as actively trying to consume more plant-based products, with 60% wanting to find them integrated into relevant categories. The company reports an increase in sales from a broader range of customers following this strategic decision.



© Image courtesy of GFI



The plant-based market, which saw \$5 billion in US retail sales in 2019, is thriving because traditional meat eaters and flexitarians are embracing plant-based products. Plant-based marketing strategies that appeal to these consumer segments will dramatically increase household penetration and drive category sales. The same strategies that resulted in plant-based milk going mainstream can be replicated across other plant-based categories—with the potential to capitalize on dollar opportunities in the billions.

Key Recommendations: Merchandising

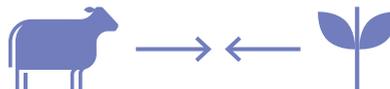
Retailers should merchandise plant-based products integrated or integrated-segregated (in the separate adjacent set) with the comparable conventional set to make these novel products more accessible to the mainstream shopper. An integrated-segregated merchandising strategy affords several benefits for consumers:

- Plant-based options are easily found in go-to areas where the consumer is already shopping for that usage occasion.
- Plant-based and animal-based products can be more easily compared.
- Consumers have the opportunity to appreciate premium plant-based products and trade up.

This strategy is already gaining ground in mainstream retailers. According to The Good Food Institute's Retail Report, 65% of the top 15 retailers in the US merchandise at least one plant-based meat product in the refrigerated meat aisle. Retailers can also leverage "plant-based" aisle signage and shelf tags to communicate store location and product features. Showcasing plant-based categories in endcaps and special displays also helps draw attention to new plant-based product types and seasonal items, especially when these are merchandised next to similar animal-based products.

Figure 24

Retailer merchandising strategies



Integrated-segregated

Plant-based products are next to conventional items in a separate plant-based set

Integrated

Plant-based and conventional products are together

Segregated

Plant-based products are in a separate standalone set

Key Recommendations: Marketing

When marketing plant-based products, it is important to focus on taste, which is the number one driver of purchase intent in the plant-based food category.

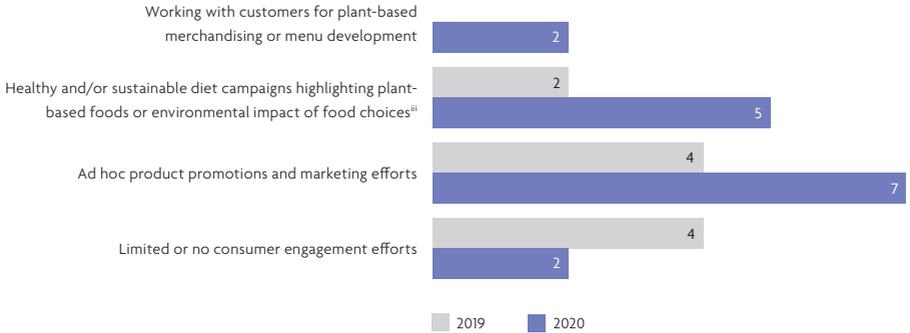
- Appeal to the consumer's desire for tasty, indulgent, delicious foods and illustrate the interchangeability of plant-based options and animal-based options in context – from summer grilling to global cuisine.
- Use inclusive terms such as "plant-based" and "plant-protein," which motivate purchase intent more than restrictive terms such as "vegan" or "vegetarian." (Pairing "plant" with "protein" (e.g., "plant-protein," "plant-based protein") performs best.)
- Leverage existing wellness and nutrition programs, as well as seasonal campaigns, and offer an in-store demo program to increase category exposure.

For more information:

Emma Ignaszewski at emmai@gfi.org
GFI Corporate Engagement Strategist

Figure 23

How are manufacturers engaging with consumers to support a dietary transition?ⁱⁱ



- i Total does not sum to the total number of manufacturers as companies can be active in multiple areas
- ii Areas correspond to scoring categories in the Consumer Engagement section of the FAIRR Sustainable Proteins framework
- iii Healthy and/or sustainable diets that highlight at least 1 of: a) whole grains, fruits and vegetables; b) plant-based foods, c) the link between food choices and environmental impact

BEST PRACTICE



Manufacturer: Kerry Group

In terms of its consumer foods business, Kerry launched its first plant-based own-brand range, Naked Glory, in September 2019, targeting mainstream consumers. Kerry has been working closely with UK retailers, including Tesco, ASDA, Sainsbury’s and Morrisons, to ensure its products are sold in meat aisles, and to develop the brand’s social media presence with the hashtag #cheatonmeat. In September 2019, media reported an investment by Kerry of £2.5 million across digital, social, outdoor and shopper marketing in order to support the Naked Glory brand throughout 2020.

Kerry is also engaging B2B consumers through various channels, including thought leadership, articles, and webinars, to discuss plant-based technology developments and drivers of adoption. The company is also looking to carry out life-cycle assessments (LCAs) on plant-based proteins to help it demonstrate the associated environmental benefits to its B2B customers.



FAIRR *view*

Measuring a portfolio transition

To be effective, metrics need to be part of a coherent strategy with clear objectives. We believe metrics should focus on a category-driven approach to understand the protein composition of key categories, and how these change over time. Companies should focus on categories and products that provide protein in consumer diets, and which have the greatest potential for disruption and diversification.

We recognise that most companies are at the early stage of understanding which retail categories or SKUs should be included in any definition of protein-rich products. At this stage in the protein transition, a standardised definition of key terms such as “sustainable proteins”, “alternative proteins” and “plant-based” is not necessary and may even be impractical. Nevertheless, it is fundamental that manufacturers and retailers disclose their own understanding and definitions of these terms, to ensure that there is alignment across the business and value chain.

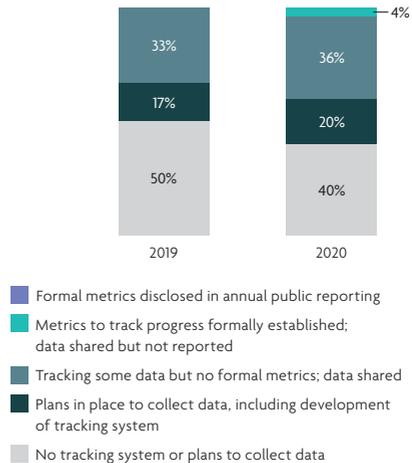
Tracking and reporting

In this assessment category, FAIRR looks at how companies are measuring and tracking changes to (1) protein composition across relevant categories and/or brands, and (2) their emissions linked to animal agriculture. Although this assessment category remains the most challenging, the average score in this category has increased from 5.6 to 7.5 following improved disclosure around Scope 3 emissions linked to animal agriculture. A greater number of companies have also demonstrated that they are collecting relevant data to assess their exposure to different protein sources.

Amazon, Costco, and Loblaw are the only companies in the engagement to provide no evidence demonstrating that they are tracking or planning to track either their protein exposure or emissions linked to animal agriculture.

Figure 25*

Is the company tracking and measuring its protein portfolio?



*2019 n=24, 2020 n=25. Grupo Nutresa replaced Ocado for 2020 and Ocado has been omitted from 2019 data for consistency

Tracking a portfolio transition

Last year, no company in the engagement had metrics in place to internally track changes in product portfolio composition across relevant categories/or brands. This year, one company – US retailer, Kroger – is formally tracking its exposure to plant-based products across different categories as part of its internal monitoring system. These metrics, however, are not publicly disclosed. Nine other companies (compared to eight last year) have indicated that work is underway to collect relevant data, such as through the establishment of new IT systems and internal plant-based definitions.

BEST PRACTICE



Kroger

Kroger continues to demonstrate best practice in this areas. As part of its internal key performance indicators (KPIs), the company tracks and measures customer adoption of plant-based products via sales and penetration of these products across relevant categories (e.g. fresh meat, frozen meat and dairy). For example, Kroger has shared the following with FAIRR:

- From Q4 2018 to Q4 2019, year-on-year growth of plant-based foods in the grocery department was 11%.
- From Q4 2018 to Q4 2019, year-on-year growth of own-brand plant-based products was 13%.
- Simple Truth plant-based products are now in 39 categories, which equates to more than 6% of all categories.

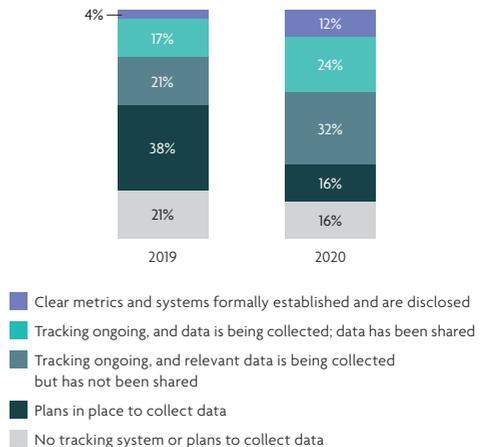
Scope 3 emissions data

Since last year, the number of companies collecting and disclosing relevant data on Scope 3 emissions linked to animal agriculture has increased. In addition to Unilever, General Mills and Nestlé now publicly disclose emissions data linked to animal agriculture either in their annual reports or in their CDP disclosures. An additional fourteen companies, compared to nine last year, are working to collect relevant emissions data to establish a baseline and inform the development of their Scope 3 targets, which includes animal agriculture.

The four companies that provided no indication that they are tracking relevant data or are planning to do so in the short to medium term are retailers. They are Amazon, Costco, Kroger and Loblaw. Three other retailers have not yet started to collect relevant data but have indicated plans to do so as part of efforts to develop future Scope 3 targets.

Figure 26*

Does the company track and disclose data on Scope 3 emissions from animal agriculture?



*2019 n=24, 2020 n=25. Grupo Nutresa replaced Ocado for 2020 and Ocado has been omitted from 2019 data for consistency

Federated Hermes

At EOS at Federated Hermes, we focus our engagement and stewardship on the issues of greatest relevance to long-term sustainable wealth creation. EOS has been a signatory to the FAIRR investor initiative on protein diversification since 2018.

This year we have conducted further review and research into the consumer goods and retail sector to establish companies' actions to date and understand the approach companies are taking to diversify from animal to plant-based foods. Specifically, we want to understand:

- How companies are addressing the impact of food systems on climate change
- How companies are addressing customers' needs and new trends
- The challenges and opportunities the industry is facing
- Whether companies have considered declines in market share, reputation and brand value that could result from a lack of sustainable or plant-based products/ingredients.



We want to see companies proactively develop strategies and ambitious targets in advance of anticipated change in consumer behaviours, leading consumers to positive change

We have identified leaders and laggards which will ensure we set challenging objectives for the companies in our engagement programme.

Our expectations are clear – companies need to publicly acknowledge that meat and protein production have a significant impact on climate change and that protein diversification is a material issue for the business to be discussed at board level.

Businesses have an important role to play in this transition and it is of utmost importance that they enable consumers to change their behaviour by providing better plant-based options.

We understand that there are challenges and risks that businesses are facing, but we are keen to work with the sector and provide insights on behalf of our investor client base. With this in mind, we hosted a retailer roundtable discussion in partnership with the Food Foundation in Q1 this year. The roundtable, attended by major UK supermarkets, identified that the biggest challenge is setting targets and establishing metrics. At Federated Hermes, our series of responsibility seminars host speakers to talk to the firm's investment teams about important issues such as this. In July, the series included a seminar looking at the challenges in the food supply chain including innovation in new products and solutions; and another focusing on sustainable consumption across different sectors including food.

One of the biggest issues of the 21st century will be about our food systems and how it transitions to become healthier for people and our planet. This is a complex issue but not unsolvable which is why this continues to be a focus topic for us.

References

- FAIRR (2020) An industry infected: Animal agriculture in a post-COVID world. Available online at: <https://www.fairr.org/article/industry-infected/>
- Edmiston, J (2020) Chicken farmers to shrink national flock by 12% as coronavirus takes toll on Canada's food supply chain. Available online at: <https://business.financialpost.com/news/retail-marketing/chicken-farmers-to-shrink-national-flock-by-12-as-coronavirus-takes-toll-on-canadas-food-supply-chain>
- Crump, J. (2020) Major grocery chain rationing meat purchases to curb hoarding, 4 May. *The Independent*. Available online at: <https://www.independent.co.uk/news/world/americas/coronavirus-meat-ration-food-hoarding-stockpiling-grocery-stores-a9498731.html>
- Johnson C.K., Hitchens P.L., Pandit P.S., et al (2020) Global shifts in mammalian population trends reveal key predictors of virus spillover risk. *Proceedings B* 287(1) (1924): 20192736. Available online at: <https://royalsocietypublishing.org/journal/rsos/19242736>
- Rohr J.R., Barrett C.B., Civitello D.J., et al (2019) Emerging human infectious diseases and the links to global food production. *Nature Sustainability*, 2(6) 445 – 456. Available online at: <https://www.nature.com/articles/s41893-019-0018-7>
- Cher, A. (2020). Pork exporters to China will have a 'huge advantage' for the next year or two, analysts says. June 11, CNBC. Available online at: <https://www.cnbc.com/2020/06/11/pork-exporters-to-china-have-huge-advantage-for-next-2-years-analyst.html>
- Linden, J. (2020) ASF could cost Asia as much as US\$130 billion, June 5, Feed Strategy. Available online at: https://www.feedstrategy.com/african-swine-fever/asf-could-cost-asia-as-much-as-us130-billion/?utm_source=Omeda&utm_medium=Email&utm_content=NLFeed+Strategy+eNews&utm_campaign=NLFeed+Strategy+eNews_20200607_1600&oly_enc_id=3914A3522689C8X
- Bloomberg (2020) Pandemic to Spark Biggest Retreat for Meat Eating in Decades, July 7. Available online at: <https://www.bloombergquint.com.cdna.ampproject.org/c/s/www.bloombergquint.com/amp/business/pandemic-set-to-spark-biggest-retreat-for-meat-eating-in-decades>
- IPCC (2019) Special Report on Climate and Land Use. Available online at: <https://www.ipcc.ch/srccel/>
- Heller, M. C. & Keoleian, G. A. (2015) Greenhouse Gas Emission Estimates of U.S. Dietary Choices and Food Loss. *Journal of Industrial Ecology*, 19(3) 391-401. Available online: <https://doi.org/10.1111/jiec.12174>
- Clark, A. M., Springman, M., et al. (2019) Multiple health and environmental impacts of foods. *Proceedings of the National Academy of Sciences*, 116 (26) 23357-23362. Available online at: <https://www.pnas.org/content/116/46/23357>
- The Economist (2019) How much would giving up meat help the environment? 15 November. Available online at: <https://www.economist.com/graphic-detail/2019/11/15/how-much-would-giving-up-meat-help-the-environment>
- FAIRR (2019) Protein Producer Index, Pg.9. Available online at: <https://www.fairr.org/index/>
- AT Kearney (2019) How will cultured meat and meat alternatives disrupt the agricultural and food industry. Available online at: <https://www. Kearney.com/documents/20152/2795757/How+Will+Cultured+Meat+and+Meat+Alternatives+Disrupt+the+Agricultural+and+Food+Industry.pdf?06ec385b-63a1-71d2-c081-51c07ab88ad1?t=1559860712714>
- UBS (2019) The Food Revolution: The Future of Food and the Challenges we face. PDF available: <https://www.ubs.com/global/en/wealth-management/chief-investment-office/investment-opportunities/sustainable-investing/2019/food-revolution.html>
- Nestlé Website (2019) Nestlé accelerates action to tackle climate change and commits to zero net emissions by 2050. <https://www.nestle.com/media/pressreleases/allpressreleases/nestle-climate-change-commitment-zero-net-emissions-2050>
- Keeve, A. (2020) Nestlé to open \$100 billion plant-based plant in China, a sign of the times, 25 May. *The Beet*. Available online at: <https://thebeet.com/nestle-announces-plans-to-open-100-billion-plant-based-food-factory-in-china/>
- Nestlé (2019) Annual Review. <https://www.nestle.com/sites/default/files/2020-03/2019-annual-review-en.pdf>
- Askew, K. (2020) Nestlé believes plant-based is a 'once in a generation opportunity' to revive ready meals. 'The story is beyond burgers', 14 February. *Food Navigator*. Available online at: <https://www.foodnavigator.com/Article/2020/02/14/Nestle-believes-plant-based-is-a-once-in-a-generation-opportunity>
- Kelso, A. (2020) More Plant-Based Foods, Drive-Thrus: Here's What Panera's New CEO Has in Store For The Brand, 13 January. *Forbes*. Available online: <https://www.forbes.com/sites/aliciakelso/2020/01/13/more-plant-based-food-drive-thrus-here-what-paneras-new-ceo-has-in-store-for-the-brand/#2c4f99756ba4>
- Lucas, A. (2020) Starbucks aims to become 'resource positive' in climate push, 21 January. *CNBC*. Available online at: <https://www.cnbc.com/2020/01/21/starbucks-aims-to-become-resource-positive-in-climate-push.html>
- Lucas, L. (2019) 5 charts that show milks sales changed and made it tough for Dean Foods to avert bankruptcy, 13 November. *CNBC*. Available online at: <https://www.cnbc.com/2019/11/13/5-charts-that-show-how-milk-sales-have-changed.html>
- Starbucks (2020) Starbucks expand plant-based ingredients and products in China, 20 April. *Starbucks Stories Asia*. Available online: <https://stories.starbucks.com/asia/stories/2020/starbucks-expands-plant-based-ingredients-and-products-in-china/>
- Unilever (2019) Foods and Refreshment, Investor Presentation, 13 November. Available online at: https://www.unilever.com/Images/investor-event-2019-hanneke-faber-foods-and-refreshment-updated_tcm244-541960_en.pdf
- Chiorand, M. (2019) Plant-Based Sales Skyrocket By 65% Year-On-Year at Sainsbury's, 3 December. *Plant Based News*. Available online: <http://www.plantbasednews.org/lifestyle/plant-based-spend-skyrockets-sainsburys>
- Rockeman, O., Mulvany, L. (2020) Milk processors are going bankrupt as Americans ditch dairy, 10 January. *Bloomberg*. Available online at: <https://www.bloomberg.com/news/articles/2020-01-10/distaste-for-dairy-sends-milk-processors-to-bankruptcy-court?ref=spos9xCgE>
- Lucas, L. (2019) 5 charts that show milks sales changed and made it tough for Dean Foods to avert bankruptcy, 13 November. *CNBC*. Available online at: <https://www.cnbc.com/2019/11/13/5-charts-that-show-how-milk-sales-have-changed.html>
- Daxue Consulting (2020) The dairy market in China will be the world's largest by 2022, 1 June. Available online at: <https://daxueconsulting.com/china-dairy-market/>
- Fields, D. (2020) A latte riding on IPO for oat milk leader Oatly, 28 February. *Forbes*. Available online at: <https://www.forbes.com/sites/mergermarket/2020/02/28/a-latte-riding-on-ipo-for-oat-milk-leader-oatly/#3ada2595522>
- Feedstuffs (2020) Rabobank updates dairy outlook for 'unchartered territory', 9 April. Available online at: https://www.feedstuffs.com/news/rabobank-updates-dairy-outlook-unchartered-territory?NL=FP-019&Issue=FP-019_20200413_FP-019_85&svf4enews=42&cl=article_1_b&utm_rid=CPG02000003715328&utm_campaign=48409&utm_medium=e-mail&elq=89bc98bb0c7248279e01f5d4343b3f43
- Terazono, E., Meyer, G. (2020) Pandemic accelerates shift to meet substitutes, 26 April. *Financial Times*. Available online at: <https://www.ft.com/content/0127984a-6def-4040-9bca-002b6fd4e0a>
- Mulvany, L. (2019) Biggest US egg producer plunges as supplies soar and prices drop, 30 September. *Bloomberg*. Available online at: <https://www.bloomberg.com/news/articles/2019-09-30/biggest-u-s-egg-producer-plunges-most-ever-as-supplies-soar?ref=spos9xCgE>
- Shanker, D., Zimmeroff, L. (2020) The US maker of fake mayo pitches China on fake eggs, 4 June. *Bloomberg Businessweek*. Available online at: https://www.bloomberg.com/news/articles/2020-06-04/eat-just-wants-to-bring-fake-eggs-to-china?mc_cid=004a6acb99&mc_eid=bd497223&sr=fp9xCgE
- Food Processing Technology (2020) JUST Egg producer expands global presence with new partnerships, 19 March. Available online at: <https://www.foodprocessing-technology.com/news/just-egg-producer-expands-global-presence-with-new-partnerships/>
- Vegconomist (2019) JUST Egg is top-selling liquid egg in natural grocery stores, 24 July. Available online at: <https://vegconomist.com/companies-and-portraits/just-egg-is-top-selling-liquid-egg-in-natural-grocery-stores/>

- 35 The Good Food Institute (2020) Plant-Based Market Overview. Available online at: <https://www.gfi.org/marketresearch>
- 36 Ibid
- 37 Mintel Press Office (2020) Plant-based push: UK sales of meat-free foods shoot up 40% between 2014-19. 17 January. Available online at: <https://www.mintel.com/press-centre/food-and-drink/plant-based-push-uk-sales-of-meat-free-foods-shoot-up-40-between-2014-19>
- 38 Ibid
- 39 Reuters (2020) Starbucks brings Beyond Meat and Oatly to China with new plant-based menu. 21 April. Available online at: <https://uk.reuters.com/article/uk-starbucks-beyond-meat-china/starbucks-brings-beyond-meat-and-oatly-to-china-with-new-plant-based-lunch-menu-idUKKCN2231XR>
- 40 Ibid
- 41 Master, F. (2020) Coronavirus has put plant protein back on the menu for China. 27 April. World Economic Forum. Available online at: <https://www.weforum.org/agenda/2020/04/plants-protein-coronavirus-safety-china>
- 42 Ibid
- 43 Vegonomist (2020) Newly branded OmniFoods Strives to be world's most popular plant-based ingredient – exactly how can vegan SPAM change the world? 25 May. Available online at: <https://vegconomist.com/food-and-beverage/newly-branded-omnifoods-strives-to-be-worlds-most-popular-plant-based-ingredient-exactly-how-can-vegan-spam-change-the-world/>
- 44 Ho, S. (2020) Chinese plant-based meat Starfield launches at hundreds of restaurants across China. 23 April. Green Queen. Available online at: <https://www.greenqueen.com.hk/chinese-plant-based-meat-starfield-launches-at-hundreds-of-restaurants-across-mainland-china/>
- 45 Reuters (2020) Starbucks brings Beyond Meat and Oatly to China with new plant-based menu. 21 April. Available online at: <https://uk.reuters.com/article/uk-starbucks-beyond-meat-china/starbucks-brings-beyond-meat-and-oatly-to-china-with-new-plant-based-lunch-menu-idUKKCN2231XR>
- 46 Toh, M. (2020) Beyond Meat is coming to Alibaba's grocery stores in China. 1 July. CNN Business. Available online at: <https://edition.cnn.com/2020/07/01/business/beyond-meat-alibaba-intl-hnk/index.html>
- 47 Vegonomist (2020) KFC ushers in a 'new era' with plant-based menu as 83% of Hong Kong's population plans to reduce meat consumption. 29 June. Available online at: <https://vegconomist.com/food-and-beverage/kfc-hong-kong-ushers-in-a-new-era-with-plant-based-menu-as-83-of-hong-kongs-population-plans-to-reduce-meat-consumption/>
- 48 Patton, D. (2020) Cargill expands plant-based protein food for China. 30 April. Yahoo! News. Available online at: <https://in.news.yahoo.com/cargill-expands-plant-based-protein-081610476.html>
- 49 Kawahara, S. (2020) Top Japanese meat processor to introduce plant-based substitutes. 14 January. Nikkei Asian Review. Available online at: <https://asia.nikkei.com/Business/Food-Beverage/Top-Japanese-meat-processor-to-introduce-plant-based-substitutes>
- 50 Nestlé (2020) Nestlé China to invest CHF 100 million in factories, including pet food and plant-based. 20 May. Available online at: <https://www.nestle.com/media/news/nestle-china-investment-factories-pet-food-plant-based>
- 51 GFI (2019) Plant-based Meat, Eggs and Dairy: 2019 US State of the Industry Report. Available online at: https://www.gfi.org/files/soti/INN-PBMED-SOTIR-2020-0507.pdf?utm_source=form&utm_medium=email&utm_campaign=SOTIR2019
- 52 GFI (2019) Cultivated Meat: 2019 State of the Industry Report. Available online at: https://www.gfi.org/files/soti/INN-CM-SOTIR-2020-0512.pdf?utm_source=form&utm_medium=email&utm_campaign=SOTIR2019
- 53 The Good Food Institute (2020) Plant-Based market overview. Available online at: <https://www.gfi.org/marketresearch>
- 54 Lucas, A. (2019) Tyson Foods invests in plant-based shrimp company. 5 September. CNBC. Available online at: <https://www.cnbc.com/2019/09/05/tyson-foods-invests-in-plant-based-shrimp-company.html#:~:text=Its%20venture%20capital%20arm%20is,soy%20protein%20and%20natural%20flavors.>
- 55 Business Wire (2020) BlueNalu announces strategic partnership with Nutreco. 16 January. Available online at: <https://www.businesswire.com/news/home/20200116005142/en/BlueNalu-Announces-Strategic-Partnership-Nutreco>
- 56 Blue Nalu (2020) BlueNalu signs MOU with Pulmuone. Announced Partnership Bringing Cell-based Seafood to South Korea. Available online at: <https://www.bluenalu.com/bluenalu-signs-mou-with-pulmuone-announces-partnership>
- 57 Vegconomist (2020) Major seafood company Bumble Bee Foods partners with Good Catch plant-based seafood. 3 March. Available online at: <https://vegconomist.com/companies-and-portraits/major-seafood-company-bumble-bee-foods-partners-with-good-catch-plant-based-seafood/>
- 58 Evans, J. (2020) Nestlé eyes 'once in a generation' plant-based opportunity. 13 February. Financial Times. Available online at: <https://www.ft.com/content/03590608-4e2e-11ea-95a0-43d18ec715f5>
- 59 GFI (2019) Plant-based Meat, Eggs and Dairy: 2019 US State of the Industry Report. Available online at: https://www.gfi.org/files/soti/INN-PBMED-SOTIR-2020-0507.pdf?utm_source=form&utm_medium=email&utm_campaign=SOTIR2019
- 60 Chiorando, M. (2020) Price of JUST Egg drops to \$4.99 in Whole Foods – more stores to follow. 13 March. Plant Based News. Available online at: <https://www.plantbasednews.org/lifestyle/price-of-just-egg-drops-to-4-99#:~:text=The%20recommended%20retail%20price%20for,%2C%20protein%20processing%2C%20and%20manufacturing.>
- 61 Watson, E. (2020) Impossible Foods slashes prices: 'Our goal is to reach price parity and then undercut the price of conventional ground beef'. 4 March. Food Navigator. Available online at: https://www.foodnavigator-usa.com/Article/2020/03/04/Impossible-Foods-slashes-prices-Our-goal-is-to-reach-price-parity-and-then-undercut-the-price-of-conventional-ground-beef?utm_source=newsletter_daily&utm_medium=email&utm_campaign=04-Mar-2020
- 62 Chiorando, M. (2020) Beyond Meat launches 'value packs' at \$1.59 per Beyond Burger. 17 June. Plant Based News. Available online at: <https://www.plantbasednews.org/lifestyle/beyond-meat-launches-value-packs>
- 63 Axworthy, N. (2019) Price of lab-grown meat to plummet from \$280,000 to \$10 per patty by 2021. 14 July. VegNews. Available online at: <https://vegnews.com/2019/7/price-of-lab-grown-meat-to-plummet-from-280000-to-10-per-patty-by-2021>
- 64 GFI (2019) Cultivated Meat: 2019 State of the Industry Report. Available online at: https://www.gfi.org/files/soti/INN-CM-SOTIR-2020-0512.pdf?utm_source=form&utm_medium=email&utm_campaign=SOTIR2019
- 65 Eat Forum (2019) Summary report of the EAT-Lancet Commission. Available online at: https://eatforum.org/content/uploads/2019/07/EAT-Lancet_Commission_Summary_Report.pdf
- 66 Neo, P. (2020) Next-gen products: Safety first as Singapore delves into regulatory framework for cell-based meat. 22 January. Food Navigator. Available online at: <https://www.foodnavigator-asia.com/Article/2020/01/22/Next-gen-products-Safety-first-as-Singapore-delves-into-regulatory-framework-for-cell-based-meat>
- 67 Cavale, S., Naidu, R. (2019) Where's the fake beef? Not at Kraft Heinz, investors worry. 12 September. Reuters. Available online at: <https://uk.reuters.com/article/uk-kraft-heinz-meat/wheres-the-fake-beef-not-at-kraft-heinz-investors-worry-idUKKCNIVXIII>

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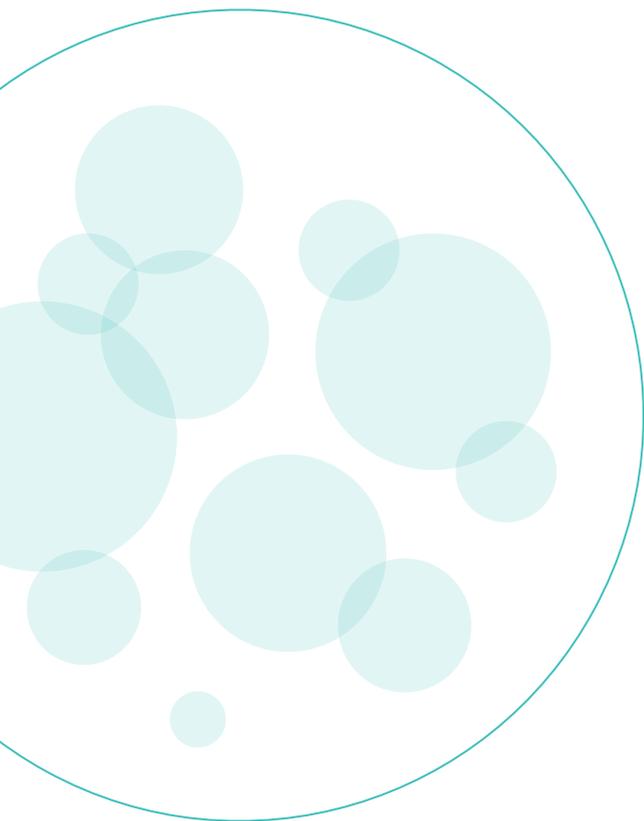
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