2026 STATE OF THE INDUSTRY:

Summaries



About the series

The State of the Industry report series is GFI's annual deep dive into the rapidly evolving alternative protein landscape. This flagship series provides a global snapshot of the industry, synthesizing company landscape and product trends, investment and sales data, new scientific advancements, and public investment and regulatory updates that highlight industry progress.

Tracking the technological and adoption readiness of the cultivated, plant-based, and fermentation sectors is a useful way to evaluate progress toward competing on price, taste, and availability with conventional meat. Readiness can be determined by assessing the progress, challenges, and overall risk across categories such as scientific feasibility, engineering viability, innovation capacity, value proposition, market acceptance, and license to operate. This series summarizes the current state of these factors using real-world developments from the past year.

Access the full suite of 2026 State of the Industry reports here.

Important notes

- All figures are expressed in U.S. dollars where the $ symbol is used. Other global currencies are clearly marked.
- The Good Food Institute is not a licensed investment or financial advisor, and nothing in this report is intended or should be construed as investment advice.
- Please note that recently published investment figures may differ from prior figures published by GFI as we and Net Zero Insights continually work to improve our dataset and reporting methodology.
- An update to the report titles: In past years, GFI titled each State of the Industry report with the year covered in report content. Starting in 2026, the report titles now reflect the publication year (content timeframe remains the same).

2026 STATE OF THE INDUSTRY:

Cultivated

meat, seafood, and ingredients



Editor's note

Cultivated meat—meat grown directly from animal cells—is a transformative agricultural innovation few people have tasted or even heard of. For now.

That's likely to change as more governments, companies, and researchers recognize the need to diversify protein production on a planet being pushed to its limits. If we are to meet growing global demand for meat while addressing some of the world's biggest challenges within the next two critical decades, we can't simply ramp up business-as-usual meat production. While multiple interventions will be needed, cultivated meat—as well as meat made from plants or via fermentation—is an essential globally scalable solution.

In the sector's first decade, cultivated meat grew from an idea to a reality just now beginning to reach plates. In 2025, similar to other innovations in their early days, the field experienced both challenges and breakthroughs. Funding constraints, regulatory roadblocks, and company closures occurred alongside major cost reductions, production innovations, and collaborations critical to scale up and affordability:

- In 2025, a handful of company closures drew headlines, while regulatory wins racked up. For example, Food Standards Australia New Zealand finalized a regulatory pathway for cultivated meat.
- While the funding environment proved challenging, unprecedented milestones delivered open-access assets like cell lines and cell growth formulations, likely saving significant R&D time and money.
- Questions about profitability surfaced, while behind the scenes, researchers leveraged AI and other technologies to streamline processes, cut costs, and optimize end products.

Then and now: Ten short years ago, the cultivated meat milestones of today may have seemed far-fetched. It can be grounding to stop and ask: how far have we come in a decade?

In 2015, just three cultivated meat companies were founded, and fewer than 10 patents were published. By 2025, the company count topped 140 with over 1,500 patents published. In the past year, the first cultivated meat product launched in U.S. retail, cultivated seafood hit menus at a handful of U.S. restaurants, and the first cultivated meat products were served in restaurants in Australia. Globally, bioreactor capacity in operation expanded. A decade in, the cultivated meat space is taking root and focusing on the fundamentals of production—bringing down costs, optimizing taste and texture, and minimizing environmental impacts.

And focus we must. Evidence that current methods of meat production exacerbate global challenges—from climate change to pandemic risk—is mounting. In December 2025, the UN Environment Programme published the Global Environment Outlook, 7th Edition. The report notes that alternative proteins have the potential to pay significant dividends for our environment.

Yes, hurdles to scaling cultivated meat production remain. This report, *Cultivated meat, seafood, and ingredients*, details headline-grabbing hurdles like early-stage funding constraints, technical and cost obstacles, and regulatory challenges. But the following pages also detail the less visible progress: cost reductions, consistent product performance, credible paths to increased scale, and regulatory traction.

At GFI, a nonprofit funded by philanthropy, we're committed to charting a path forward that feeds growing global demand for meat in restorative, resilient ways. Our annual State of the Industry series—including this report—equips food system stakeholders with knowledge of the innovations and developments that got us further down that path in 2025.

Thank you to all those who are in this work alongside us, and as such, helping to build a thriving world, fed sustainably.

Executive summary

In 2025, the cultivated meat sector experienced a mix of successes and struggles across the commercial, investment, technology, policy, and regulatory landscape. Major themes:

- **Regulatory path-to-market milestones bring new, diverse products to consumers.** Cultivated foods and ingredients, including foie gras, pork fat, and salmon, broadened the variety of cultivated products available to consumers. In 2025, a growing number of companies and research institutions worked to innovate and optimize cultivated meat products.
- **The funding environment tightened.** Investors are showing increased discretion, prioritizing companies who demonstrate progress on fundamentals like cost, taste, and scale. Cultivated meat and seafood companies raised $73.9 million in 2025, according to a GFI analysis of data from Net Zero Insights (down from $144 million in 2024).
- **Commercial production is starting to scale.** The largest cultivated meat facility in the world is now open in Sydney, Australia (details below).
- **Public investment is growing in some places, declining in others.** Governments facing supply chain constraints and product shortages are increasingly integrating cultivated meat into their national food strategies and biotechnology plans, recognizing the potential benefits to the economy, food system, and national security.

	Bright spot	*Challenge*
Commercial landscape	**Regulatory pathways are expanding:** Regulatory pathways for cultivated foods now exist in Australia-New Zealand, Singapore, and the United States, clearing the way for broader commercialization.	**Hurdles across industry, consumer awareness, and profitability remain:** Production efficiency, regulatory roadblocks, consumer acceptance, and overall profitability continue to pose challenges.
Investments	**Strengthening metrics key to industry development:** Bioreactor capacity in operation, sustained output over time, and run reliability and consistency were all strengthened in 2025. **IntegriCulture** announced that they achieved profitability by generating revenue from selling research tools and nonfood products, a common diversification strategy pursued by startups needing to demonstrate clear and early paths to profitability.	**Smaller, more targeted investments:** The three largest cultivated meat deals in 2025 were **Aleph Farms**' $29 million raise, **Mosa Meat**'s $17.6 million round, and **BlueNalu**'s $11 million in convertible notes and preferred stock financings. These deals, while significant, each rank outside the top 20 largest cultivated meat deals of all time.

	Bright spot	*Challenge*
Science and technology *Scientific feasibility*	**Bovine cells for the whole sector:** GFI announced the acquisition of eight cell lines developed by the former startup SCiFi Foods. Through a partnership with Tufts University, researchers within academia and industry now have access to the first publicly available set of suspension-adapted bovine cell lines, enabling the acceleration of commercially relevant research and saving potentially millions in R&D expenses.	**Several actions are still needed to reduce the risks associated with commercialization:** These include depositing cell lines in public repositories to increase accessibility (especially for aquatic animals), creating cell lines with desirable traits, such as adaptation to suspension, and research demonstrating the metabolic efficiency of cells in bioreactors to increase commercial relevance.
Engineering viability	**Scaling commercial production: Vow** achieved production at 20,000-liter scale at their facility in Sydney, Australia, which hosts 35,000 liters of total capacity and room for 10 more similarly sized production lines. This is the largest current cultivated meat facility in the world, placing their production near the same scale as the largest biopharma processes.	**Lack of reliable data points for the cost of equipment, facilities, and other infrastructure associated with manufacturing:** To reduce the risks associated with high implementation cost, more public knowledge will need to be generated for bioreactor and facility costs at different scales, and other equipment and operational costs, such as media preparation and sterilization, harvesting, waste management, and common consumables.
Innovation capacity	**Industry-academic collaborations:** Establishing shared pilot-facility infrastructure at research universities can also encourage industry-academic collaborations to validate processes and accelerate innovation. For example, Tufts University is opening an innovation hub on their Medford campus in 2026.	**Reducing the risks associated with slow or limited process validation:** More cultivated meat products need to be sustained on restaurant menus and, eventually, in grocery store meat cases. Companies should continue to publish research to share process validation results and help de-silo research findings.

	Bright spot	*Challenge*
Government and regulation	**China:** In May 2025, the state-owned State Development & Investment Corporation announced a commitment of over CNY 4 billion ($555 million) to advance biomanufacturing infrastructure development through investments in domestic biotechnology companies. “New proteins” feature prominently.	**United States:** The U.S. drastically scaled back all federally funded R&D in 2025. As a result, new federal investments in cultivated meat and enabling technologies in the United States declined. In doing so, the United States bucks the global trend of investing competitively in food biotechnology and biomanufacturing.

Conclusion

In 2025, the cultivated meat industry earned multiple regulatory green lights. A total of seven companies have received regulatory clearance to sell different cultivated meat products, and signals of global market expansion are emerging. As of publication, cultivated meat can be sold in Singapore, the United States, and Australia. Private investments, however, are tightening, hindering continued innovation and commercial scale up. Access to critical research tools like cell lines has been made available, but far greater access is needed. Government support is strong in some regions, but is being curtailed in others.

The underlying case for cultivated meat is stronger than ever: rising demand for meat, climate and land use pressures, and the need to diversify protein supply chains. Many governments are prioritizing cultivated meat and other alternative proteins in their national food strategies and bioeconomy plans to achieve a range of goals, from climate mitigation and food security to economic competitiveness and public health. To fully realize the planetary and public health benefits that come with mainstream adoption of cultivated meat and other alternative proteins, governments, industry, and the research community must prioritize support for innovation that can help these new foods reach more plates.

2026 STATE OF THE INDUSTRY:

Fermentation

for meat, seafood, eggs, dairy and ingredients



Editor's note

Fermentation—a process used to make food for millennia—is an emerging production method of choice for those striving to satisfy growing demand for meat in new, more sustainable ways.

Among those striving are governments, companies, and researchers who recognize the need to diversify protein production on a planet being pushed to its limits. If we are to meet growing global demand for meat while addressing some of the world's biggest challenges within the next two critical decades, we can't simply ramp up business-as-usual meat production. While multiple interventions will be needed, fermentation-derived meat—as well as cultivated and plant-based meat—is an essential globally scalable solution.

Over the last decade, fermentation-enabled protein production has evolved rapidly, from a niche concept to a global food solution deeply integrated with plant-based and cultivated meat innovation. In 2025, the field experienced both challenges and breakthroughs:

- A handful of high-profile closures and restructurings drew headlines asking questions about scale-up pathways as regulatory wins continued to quietly rack up. Several companies achieved regulatory approval in the United States and China.
- While the tightening funding environment proved challenging, significant investments were made to support commercialization and market rollout.
- Questions about profitability surfaced, while new commercial locations increased production capacity, incumbents utilized partnerships to de-risk scale up, and cost modeling clarified the path to price parity.

Then and now: Ten short years ago, the milestones of today in fermentation-derived proteins may have seemed far-fetched. It can be grounding to stop and ask: how far have we come in a decade?

In 2015, fermentation was mainly used to make inputs and ingredients for food and industrial products, like enzymes and additives. By 2025, it was producing bioidentical animal proteins and functional ingredients like vitamins, flavors, and fats. In the past year, corporations and startups partnered to advance ingredient, process, and product innovation; new facilities opened around the world to pilot and cross-pollinate techniques; several mycelium-based products launched in the United States and Europe; and fermentation increasingly featured in public investments aimed at strengthening the bioeconomy.

Today, fermentation-derived innovators focused on meat, seafood, eggs, dairy, and ingredients are zeroing in on the fundamentals of production—bringing down costs, optimizing taste and texture, and minimizing environmental impacts.

And focus we must. Evidence that existing meat production exacerbates global challenges—from climate change to pandemic risk—is mounting. In December 2025, the UN Environment Programme published the Global Environment Outlook, 7th Edition. The report notes that alternative proteins have the potential to pay significant dividends for our environment.

But we're not in the clear yet. This report, Fermentation for meat, seafood, eggs, dairy, and ingredients, details year-over-year funding declines, technical and cost hurdles, and regulatory challenges.

But the following pages also shine a light on the less visible progress: research collaborations, publicly funded infrastructure, and product launches like whole-cut meats with improved texture, reflecting an increasingly diversified and expanding sector.

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3D-printed salmon filet made from mycoprotein. Photo credit: Reno Foods GmBH

Executive summary

In 2025, the fermentation-enabled protein and ingredients sector experienced a mix of successes and struggles across the commercial, investment, technology, policy, and regulatory landscape. Major themes:

- **New product launches, innovation, and regulatory wins.** The sector saw new product launches across meat, dairy, and ingredients, plus regulatory milestones in China and the United States. In 2025, more than 163 specialized companies and a growing number of research institutions kept innovating and optimizing fermentation-derived products so consumers can enjoy the foods they love made with a lighter footprint.
- **The funding environment tightened.** Fermentation funding was down year-over-year. Companies operating primarily in the fermentation ecosystem raised $357 million in 2025, according to GFI analysis of data from Net Zero Insights (down from $632 million in 2024).
- **Production quantities are increasing and food biomanufacturing is scaling.** Facilities opened around the world to pilot, accelerate, and cross-pollinate techniques. New commercial-scale locations opened in Brazil, Canada, China, Sweden, and the United Kingdom. Several companies validated circular feedstock strategies under commercially relevant conditions.
- **Public investment for fermentation-related research and commercialization is expanding.** Governments concerned with supply chain constraints and product shortages are recognizing precision fermentation for its ability to produce specific animal proteins, like those found in dairy and eggs. Many governments—in China, the EU, India, and more—implemented wide-ranging biotechnology plans, recognizing the potential benefits to the economy, food system, and national security.

	Bright spot	*Challenge*
Commercial landscape	**Harnessing knowledge from large companies for the benefit of startups:** Partnerships with key dairy, meat, fungi, grain, and yeast makers are enabling synergies and helping grow fermentation ingredient, process, and product pipelines. In this space, startups benefit from corporations' long-time expertise in industries such as dairy, and together they build on existing knowledge to maximize viability and efficiency.	**Product availability varies across different types of fermentation-derived products:** Products made from biomass fermentation are more widely available than products made from precision fermentation.

	Bright spot	*Challenge*
Investments	**Europe's fermentation ecosystem gains momentum:** Europe is positioning itself as a strategic hub for fermentation and the broader bioeconomy by leveraging public and industry investment in infrastructure, production assets, and regulatory and permitting pathways.	**All eyes on market performance:** A handful of high-profile closures and restructurings in 2025 tested assumptions around timelines, scale-up pathways, and downside risks. These sharpened investors' focus on unit economics, sustainable demand signals, and credible paths to profitability.
Science and technology *Scientific feasibility*	**Advancing mycoprotein strains to improve productivity and quality:** Efforts to improve the longstanding mycoprotein species used in **Quorn** products accelerated in 2025. A research collaboration between **NIAB** and **Marlow Foods** (Quorn's parent company) has identified important steps toward improved strain stability, productivity, and quality at scale.	**Data standardization is needed:** Bioprocesses could be ripe for AI/machine learning (ML) process optimization. However, data standardization is needed to enable cross-sector developments over siloed in-house solutions.
Engineering viability	**Continuous fermentation systems mature:** A major signal this year came from **Pow.Bio**, in collaboration with **Bühler**, who demonstrated scalable, transferable continuous fermentation of high-value dairy proteins at 3,000-liter scale with **ATV Technologies.** The scale up achieved over threefold productivity gains and a 50 percent reduction in costs, enabled by Pow.Bio's patent-pending continuous process technology and ML–based bioprocess control platform.	**Further precision fermentation modeling is needed:** Despite progress in benchmarking production costs, further precision fermentation modeling is needed to assess cost-reduction strategies, such as continuous processes for protein production.

	Bright spot	*Challenge*
Innovation capacity	**Expanding publicly funded infrastructure:** Newly launched and expanding research centers and facilities are strengthening translational, scalable innovation. Publicly funded infrastructure plays a key role in de-risking process development and scale up for fermentation-derived products.	**IP disputes signal commercialization risk:** Recent years have seen multiple high-profile disputes in fermentation-derived products. Often, prolonged legal proceedings coincided with major business disruption or even company closures. While company exits occur in competitive markets, protracted IP conflicts around foundational technologies risk slowing sector-wide scaling.
Government and regulation	**Legislation to support innovative food products:** In December 2025, South Korea enacted the Food Tech Industry Promotion Act, establishing a legal and administrative framework for the Ministry of Agriculture, Food, and Rural Affairs (MAFRA) to support innovative food products, including fermentation-enabled products. The Act empowers MAFRA to provide direct support to businesses, offer startup assistance, facilitate access to research facilities and equipment, foster market entry, and enable co-navigation of regulatory processes.	**Banning meat-related terms for alternative proteins in Europe:** Following several months of debate and negotiations in 2025, EU policymakers agreed in March 2026 to ban the use of the word "meat" and 31 meat-related terms for fermentation-enabled, plant-based, and cultivated options, despite consistent survey results demonstrating that European consumers support the use of these terms for plant-based products.

Conclusion

The fermentation field is diversifying and expanding, with many industry players now focused on scaling. Public and private investments in R&D and manufacturing are still being made, but not at levels sufficient for continued innovation and commercial scale up. Several companies reached important food biomanufacturing scaling milestones, but IP conflicts around foundational technologies and labeling restrictions risk slowing sector growth. Many governments are prioritizing fermentation-enabled proteins in their national food strategies to achieve a range of goals, from climate mitigation and food security to economic competitiveness and public health.

The underlying case for fermentation-enabled protein is stronger than ever: rising demand for meat, climate and land use pressures, and the need to diversify protein supply chains. To fully realize the planetary and public health benefits that come with mainstream adoption of fermentation-enabled meat and other alternative proteins, governments, industry, and the research community must prioritize support for innovation that can help these new foods reach more plates.

2026 STATE OF THE INDUSTRY:

Plant-based

meat, seafood, eggs, dairy, and ingredients



Editor's note

The underlying case for plant-based meat—an agricultural innovation that has seen a renaissance in the last decade—has only strengthened: As global demand for meat continues to rise, risks to planetary and public health multiply.

Many governments, companies, and researchers are recognizing the need to diversify protein production on a planet being pushed to its limit. If we are to meet growing global demand for meat while addressing some of the world's biggest challenges within the next two critical decades, we can't simply ramp up business-as-usual meat production. While multiple interventions will be needed, plant-based meat—as well as cultivated and fermentation-derived meat—is an essential globally scalable solution.

Over the past decade, plant-based meat has proved its feasibility, but not yet its full competitiveness. While early-generation products demonstrated that plant proteins can replicate many of meat's attributes, the sector is still closing gaps necessary for mainstream adoption. In 2025, similar to other innovations in their early days, the field experienced both challenges and breakthroughs:

- While several notable mergers, acquisitions, and closures drew headlines, investments from public and multilateral players helped drive commercialization, with Europe leading the way.
- While the tightening funding environment proved challenging, new developments in sensory science brought taste parity for plant-based meat ever closer.
- While the EU passed labeling restrictions, many countries—including China, Denmark, Germany, Portugal, and Spain—are prioritizing plant-based foods in their national food strategies.

Then and now: Ten short years ago, the plant-based meat milestones of today may have seemed far-fetched. It can be grounding to stop and ask: How far have we come in a decade?

Since 2015, global retail sales of plant-based meat and seafood have tripled. The plant-based meat and seafood category was estimated at $2.2 billion in retail sales (including inflation) in 2015 and reached an estimated $6.6 billion in 2025, according to Euromonitor. In the past year, global retail dollar sales of plant-based meat, seafood, milk, yogurt, ice cream, and cheese increased by three percent from 2024; several major companies and brands leaned into the plant-based category, and increasing consumer interest in protein fueled product innovation.

Reaching taste and price parity remains a key driver for the growth of plant-based foods, and there's still work to be done. Relative to conventional meat production, the plant-based meat space is just taking root. With the right levels of support, the industry still has room to close the gaps on taste and price and to provide a compelling value proposition to consumers, which often centers around health.

The stakes are high, and accelerating mainstream adoption matters. Evidence that existing meat production exacerbates global challenges—from climate change to pandemic risk—is mounting. In December 2025, the UN Environment Programme published the Global Environment Outlook, 7th Edition. The report notes that alternative proteins have the potential to pay significant dividends for our environment.

Yes, hurdles remain. This report, *Plant-based meat, seafood, eggs, dairy, and ingredients,* details headline-grabbing hurdles like declining U.S. sales, labeling restrictions, and a difficult economic environment.

But the following pages also detail the less visible progress: the expansion of facilities producing plant-based protein ingredients and new milestones in cost and production efficiencies.

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Photo credit: LikeMeat

Executive summary

In 2025, the plant-based meat sector experienced a mix of successes and struggles across the commercial, investment, technology, policy, and regulatory landscape. Major themes:

- **Sales declines, with spots of growth.** Global retail sales of plant-based meat, seafood, milk, yogurt, ice cream, and cheese totaled an estimated $28.9 billion in 2025, increasing 3% since 2024, according to Euromonitor. Zooming in to just plant-based meat and seafood, global sales were estimated at $6.6 billion in 2025, yet the category grew in some regions and declined in others.
- **The high-protein trend is continuing.** Consumer demand for protein is pushing companies to innovate and bring new high-protein foods to market. For example, **Danone** rolled out **Silk Protein**, a high-protein blend of the brand's almond and oat milks with added soy protein.
- **The investment landscape is tightening.** Companies operating primarily in the plant-based ecosystem raised $450 million in 2025, according to GFI analysis of data from Net Zero Insights (up from $342 million in 2024). It was an especially challenging year for smaller, emerging brands—particularly in the U.S.—where ongoing headwinds in plant-based meat continued to weigh on investor appetite.
- **Scientific progress was made on several fronts, but data sharing is a must.** Crop optimization and sensory performance advances were made, but greater shared, open-access ingredient and formulation data infrastructure is needed for continued progress.
- **Many governments are prioritizing plant-based foods, others are restricting them.** Multiple governments prioritized plant-based foods in their national food strategies, while others placed labeling restrictions on plant-based meat products, making it harder for products to compete.

	Bright spot	*Challenge*
Commercial landscape	**Innovation from major food brands: IKEA** cafeterias in the UK added plant-based pork sausages to their menus. **McDonald's India** launched Protein Plus, a plant-based protein "slice" (including some whey) as an addition to any burger. **The Kraft Heinz Not Company**, a joint venture of **Kraft Heinz** and **NotCo**, released plant-based mac and cheese cups.	**Reformulations to better meet consumer expectations:** A few companies are investing in improving existing plant-based meat products to enhance taste, texture, and nutritional profiles, including meeting clean-label and health standards.

	Bright spot	*Challenge*
Investments	**Europe leads the way:** Investments from public and multilateral players have also helped drive commercialization. In 2025, the **European Investment Bank** (EIB), backed by the EU's **InvestEU** program, provided a €20 million loan to **Heura Foods** to support R&D and scale-up investments. Other large-scale financings supported production expansion, such as **MATR Foods**' €40 million raise, with debt from EIB and participation from **Denmark's Export and Investment Fund**.	**The tighter funding environment accelerates consolidation:** At least 19 plant-based companies were bought out or acquired, reflecting consolidation of product portfolios, technology stacks, and brand equity. At the same time, multiple plant-based companies paused or ceased operations after struggling to secure follow-on financing. As capital coalesces around scalable platforms and differentiated brands, companies struggling to improve unit economics or demonstrate durable demand are increasingly driven to sell assets or IP or close their operations.
Science and technology *Scientific feasibility*	**Targeted breeding and technology development:** A first-of-its-kind comprehensive review of breeding for plant-based proteins in pulse and legume crops was published by a global group of researchers led by Michigan State University, which reinforced how optimizing crops for digestibility, functionality, and flavor can reduce downstream processing complexity and costs, and ultimately add value to the consumer by enhancing nutritional value, accessibility, and sensory experience.	**Different processing strategies affect nutritional quality:** A summary paper from a team at ETH Zurich unpacked how to "process better" when it comes to plant-based foods, designing streamlined production that optimizes for taste, price, and nutrition using less processed, more complex natural raw ingredients.
Engineering viability	**Extrusion research continues to improve both performance and predictability:** A collaboration between Korea University and the University of Massachusetts Amherst found that in-line salt-solution injection can enhance fibrous network formation and structure in high-moisture plant-based meat products.	**Expanded characterization approaches:** A growing body of research focused on improving tools to better understand how ingredient and process variables translate into sensory and structural outcomes—an important prerequisite for managing process complexity. Studies demonstrated the use of time-domain nuclear magnetic resonance to profile internal structure and cooking dynamics in plant-based burgers.

2026 STATE OF GLOBAL POLICY:

Public investment

in protein diversification to feed a growing world



Executive summary

Five years in, governments have reached an inflection point

Five years since the Good Food Institute began tracking government investments in plant-based, cultivated, and fermentation-derived sources of protein, the industry and the world have changed considerably. GFI's 2021 report's cumulative total of approximately $700 million in government investments has become at least $2.5 billion as of 2025, and the 16 countries that had begun working to advance alternative proteins now number at least 33. Alternative protein sources now figure prominently in national economic and biotechnology strategies around the world, research programs increasingly include them as topics of interest, and regulatory authorities have begun dedicated efforts to clarify and facilitate the path to market. In short, governments have begun to act.

Trade tumult calls for innovation, reshoring, and resilient supply chains

Global uncertainty kicked up once again in 2025, but the progress that scientists, entrepreneurs, and policymakers have made in establishing that diversified protein sources offer benefits for the economy, environment, and food supply chain meant that these interventions were close at hand. As supply chains reacted to a flurry of new trade barriers, policymakers invested in secure domestic food supply chains through plant-based proteins, fermentation, and cultivated meat. Business support programs in Canada and France supported local farmers and producers to switch to locally grown protein crops; researchers in India, New Zealand, Spain, Switzerland, and more investigated new uses for local agricultural sidestreams; and programs in Australia, Canada, China, India, South Korea, and more incentivized construction of shared biomanufacturing facilities to help retain businesses through their development.

This turn inward coincided with a greater appreciation for the benefits that new protein options offer agricultural regions, rural communities, and farmers. The aforementioned research on agricultural sidestreams aims to benefit local farmers by creating new markets and sources of value. Enterprising governments are funding this research to ensure that sidestreams from their agricultural sectors become foundational ingredients for next-generation foods. Additionally, policymakers are working to actively include and prioritize agricultural communities in production. Projects in Canada and Germany give farmers and producers essential resources to make the most of up-and-coming food products and production systems, while an EU-backed project in the Netherlands has put a cultivated meat production unit directly on a dairy farm.

Biotechnology and biomanufacturing strategies put new protein sources in the spotlight

China and the European Union led the world in new investments in 2025, with both recognizing biomanufacturing capacity as a strategic and economic priority. China's state-owned State Development and Investment Corporation announced nearly $1 billion in investments in biotechnology facilities in 2025, specifically including food applications, while the European Union awarded over €100 million ($113 million) in loans to plant-based and fermentation companies for scaling up, in addition to tens of millions more for research across the continent. India, Japan, and the United Kingdom similarly signaled intentions to invest more heavily in infrastructure development, while Australia, Canada, and the

Netherlands directly funded the construction of shared fermentation facilities to support domestic startups. Among major economies, only the federal government of the United States markedly drew back from food biotechnology investments amid government-wide cuts to science and technology, announcing only $6 million in new research funding for plant-based, fermentation-derived, or cultivated protein sources.

Governments who include new protein production systems in their biotech strategies are ensuring that biomanufacturing capacity is capable of addressing future crises. Because biomanufacturing infrastructure can often be adjusted to produce a wide range of bioproducts such as food, fuel, medicines, chemicals, construction and manufacturing materials, and more, governments increasingly deem the sector necessary for national security, strategic readiness, and resilience to a wide range of economic shocks. However, this necessary volume of infrastructure is best maintained between crises through the production of mass-market, high-volume products that require larger production facilities and tighter safety protocols. New foods from fermentation and cultivation fit this description. Commercial production facilities can be designed with the right specifications to switch between many bioproducts, large enough to produce critically needed materials at scale, operated by a permanent, trained workforce, and financially supported on an ongoing basis by consistent, free-market demand. By investing in research hubs like the Novel Protein Bio-Manufacturing Innovation Center in China, the Cultivate at Scale facility in the Netherlands, or the Neptune BioInnovation Centre in Canada, policymakers are developing high-quality, popular consumer goods that can sustain a biomanufacturing base and create a pipeline for startups to move from research to commercial production.

New cultivated meat products cleared for sale; plant-based labeling debates continue

In 2025, Food Standards Australia New Zealand (FSANZ), who regulates food products in both countries, approved a cultivated quail product, joining Singapore and the United States as the third jurisdiction to greenlight a cultivated meat product. FSANZ also became the second jurisdiction after the United States to utilize a specific process for approving cultivated food products separate from their novel foods framework. South Korea finalized a similar process in 2024 and has received several applications, while plans to develop processes based on these examples are underway in Abu Dhabi, China, Japan, and the United Kingdom. In 2025, the United States also gave the regulatory green light to two other firsts: the first cultivated seafood product and the first cultivated pork product.

The debate over how to properly label alternatives to animal products is by no means settled, and developments cut both ways in 2025. At issue is whether products can use “meaty” terms like “sausage” or “steak” or animal-related words like “chicken” or “pork.” Crucially, research shows that consumers do not find these terms misleading when properly described as plant-based, and that these terms provide important information on taste and preparation that makes them easier to use. In jurisdictions like some European Union countries that are otherwise working hard to stimulate demand for plant-based foods to support the environment and public health, allowing the use of these terms on labels should be considered a priority.

Ongoing regionalization of investment trends, but some shared goals

Regional trends, resource profiles, and cultural perceptions continued to drive divergence in regional approaches to developing new food production systems, though some global trends emerged. While governments across the world were most likely to invest in biomass and precision fermentation, governments in the Asia Pacific region invested more heavily in cultivated meat, while those in Europe and the Americas invested more in plant-based proteins. Research grants were common across borders—sometimes literally, with several bilateral research grants announced in 2025—but Europe and the Americas tended to prefer business grants and loans to support commercial enterprise, while the Asia Pacific region typically funded new facilities directly, either as publicly operated organizations or through public and private investments. And though governments invested in new ways to produce all kinds of foods, Europe led the world by far in developing and producing plant-based and fermentation-enabled cheese.



Plant-based meat and dairy alternatives made using Kerry Ingredients. Photos courtesy of Kerry.

A changing world calls for a changing methodology

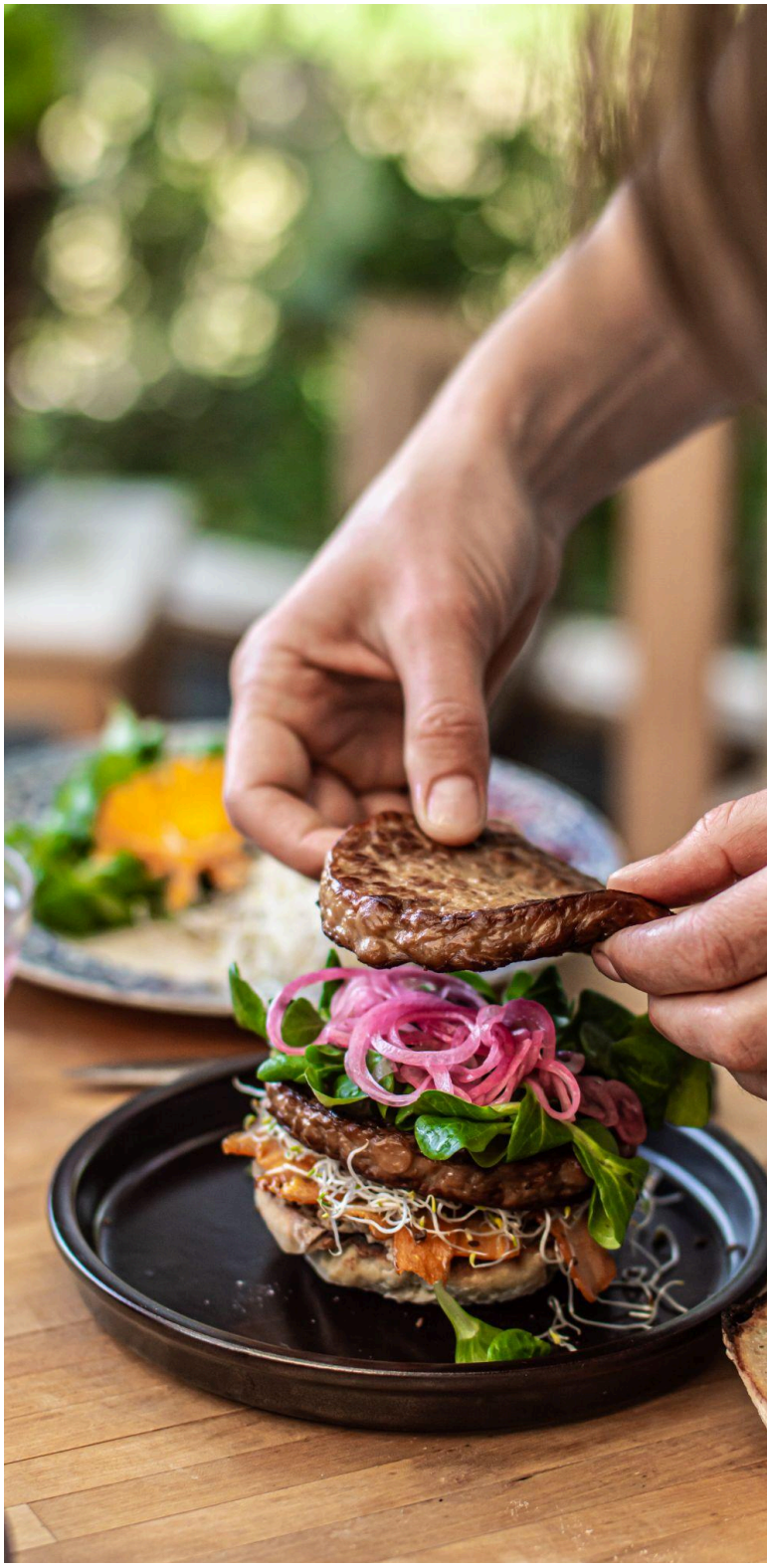
If the world has seemed to become more complex in the last five years, so too has the process of tracking and categorizing investments in alternative proteins. Companies in the sector are now receiving government-backed loans, loan guarantees, blended finance, and direct investments in addition to direct grant funding; new research often cuts across multiple technology sectors and product categories; and large commitments to build out biotechnology leadership and biomanufacturing capacity often highlight food production without specifying the exact amount of investment in it. These developments bode well for plant-based, fermentation-enabled, and cultivated protein sources as they are increasingly included in general research calls, investment portfolios, and bioeconomy plans.

However, these developments also make the clear, consistent tracking of government investment into alternative proteins more complex, and render previous methods of reporting these investments less accurate. China's large investments in broad biotechnology efforts through a state-owned corporation, for example, raise uncertainties in determining how much investment comes from public sources, how much supports companies creating alternative proteins (or upstream or downstream enabling infrastructure), and to what degree the provided investment is nonrepayable or concessional. Moving forward, these reports will feature as much detailed information on the past year's activity as before, including relevant statistics, but without pursuing a single top-line annual funding number. Much of the data underlying these statistics can be found in the Public Investment Database, which now includes over 1,000 research projects, business grants, loans, loan guarantees, initiatives, investments, and more.

Government support is necessary for a resilient, sustainable, prosperous future

Despite the changes, much remains the same. GFI's 2021 report noted: "Governments worldwide are grappling with how to feed growing populations and keep their economies strong in the face of fragile supply chains, intensifying climate events, and the looming threat of future pandemics and antibiotic resistance." These threats have become only more evident in the years since, but so too has the potential of new food technologies to address these challenges. Forward-looking governments have rallied behind plant-based protein sources to support agricultural communities and public health goals, fermentation technology to supercharge biomanufacturing capacity and valorize underused resources, and cultivated meat for point-of-need nutrition and sustainable animal proteins. All of these new protein sources can help create a resilient, prosperous food system.

Unfortunately, the gap between what is available and what is needed also remains significant. Five years ago, a Global Innovation Needs Assessment found that governments must invest $10.1 billion in alternative proteins on an annual basis to fully reap the rewards of a mature alternative protein sector, including up to 9.8 million jobs, $1 trillion in economic value, and benefits for food resilience, global health, and environmental security. Despite progress and enthusiasm from policymakers worldwide, governments' estimated investment in 2025 amounts to no more than 10 percent of this benchmark. Though broader biotechnology development programs show promise for creating the infrastructure and workforce needed for a more resilient food system, dedicated funding to increase consumer appeal and availability of new protein sources is necessary to build a future-proof food system.

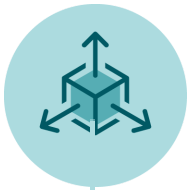


Bärta burger patties and alder smoked cold cut.
Photo courtesy of Bärta

About GFI

The Good Food Institute is a nonprofit think tank working to make the global food system better for the planet, people, and animals. Alongside scientists, businesses, and policymakers, GFI's teams focus on making plant-based, fermentation-enabled, and cultivated meat delicious, affordable, and accessible. Powered by philanthropy, GFI is an international network of organizations—working across Asia Pacific, Brazil, Europe, India, Israel, and the United States—advancing alternative proteins as an essential solution needed to meet the world's climate, global health, food security, and biodiversity goals.

We focus on three programmatic priorities:



Cultivating a strong scientific ecosystem

We map out the most neglected areas that will allow alternative proteins to compete on taste, price, and nutrition. We meet these challenges by developing open-access research and resources, educating and connecting the next generation of scientists and entrepreneurs, and funding open-access research across the sector.



Influencing policy and securing public investment

We ensure that alternative proteins are a part of the policy discussion around global health, future-resilient jobs and bioeconomies, and food security. In every region where we have a presence, we advocate for public investment for open-access research on alternative proteins, and increasingly, we work to advocate for government resources to support scale up and commercialization. We also advocate for level regulatory frameworks for assessing safety and labeling products.



Engaging with industry to advance alternative proteins

We work to replicate past market transformations by showing companies of all sizes, from startups to multinationals, the benefits of protein diversification and how alternative proteins can be profitable while meeting sustainability goals. We conduct research and share insights to educate the public on alternative proteins and champion their adoption by the food industry, including manufacturers, retailers, restaurants, investors, and more.

All of GFI's work is made possible by gifts and grants from our global community of donors. If you are interested in learning more about giving to GFI, contact philanthropy@gfi.org.

In 2026, GFI marks its 10th year. That's 10 years of impact—from a simple idea (can meat be made differently?) to a global and growing ecosystem of innovators making it happen. To learn more, check out our special 10th anniversary edition Year in Review, which marks how far the field has come and points to the important work ahead.